Chapter 1

Introduction

1.1 Introduction to the Problem

This research explores and examines the potential of using systems concepts in dealing with real and complex problematic situations. Such concepts are considered for the National Postharvest Institute for Research and Extension (Naphire), a government agency presently attached to the Philippine Department of Agriculture. The Institute has the mandate to spearhead the development of the country's grains (including, but not limited to rice and corn) postharvest industry through research and extension activities.

For the last ten years, Naphire has been conducting research and development (R and D) activities in the areas of: 1) food and feed protection, 2) facilities design and development and 3) postharvest systems analysis and development. Generated technologies are extended through its training and extension programs which are directed towards the different sectors of the postharvest industry. These include farmers, traders, millers and agricultural extension workers.
In its operation, Naphire always attempts to make its research and extension activities relevant. Though some of its R and D projects are foreign funded, Naphire largely considers national agricultural and economic policies in the development of its thrust and programs. Research programs are developed with the aim of being consistent with expressed national goals and objectives. These include:

1. Increasing the income of small farmers and the sustenance of productivity gains;

2. Improving delivery systems and the distribution of factors and return to production; and

3. Promoting rural development through increased participation of farmers and farmer's groups.

This is evidenced in the type and nature of Naphire's R and D programs. The list of Naphire's completed and current projects is shown in Appendix A.

As with other organizations, Naphire continuously attempts to be relevant and true to its mission. It involves farmers as well as individuals from other sectors in program thrust development to ensure that research studies address actual and felt needs of its clientele. Naphire also applies a systems and multidisciplinary approach to its research and extension activities in order to place research and extension effort within the context of the industry setting. As such, postharvest systems and technologies are designed and
developed not only to reduce and minimize postharvest losses, but at the same time, help farmers as well as other sectors realize better returns from farming activities.

Despite efforts to make research activities in focus and relevant to industry needs, Naphire's performance has been perceived poorly (at least at the start of this research) by the external environment. This is manifested in the critical and questioning stance taken by the national policy makers on Naphire's accomplishments for the last ten years. Policy makers who approve annual organizational resource allocations often question Naphire's effectiveness in improving the plight of small farmers.

As this questioning stance of the policy makers poses implications on Naphire's continued existence and viability, there seems to be a strong need to reflect and examine current organizational practices, and explore issues and means on how the situation can be improved. This provided the context for this action research.

The research made use of the Soft Systems Methodology (SSM) as a methodological framework, and built on the principles of Action Research in the planning of strategic actions towards organizational change.
1.2 Organization of the Document

This document is organized to demonstrate how a research thesis unfolded in an experiential learning paradigm. Following the introduction is a background of the study. It presents current views on agricultural research and provides an overview of the types of agricultural research in the Philippines. This is followed by the aims of the research (Chapter 3) and the review of relevant literature (Chapter 4). Following these is a discussion (Chapter 5) on the methodology used, and an introduction (Chapter 6) on the research methods and techniques adopted. A major chapter (Chapter 7) follows, documenting how the SSM was used in an action researching manner particularly in addressing identified problematic issues. In Chapter 8, a critique of the research methodology and approach is presented. This is followed by the synthesis of the insights (Chapter 9) and conclusions (Chapter 10) drawn from the study.
Chapter 2

Background of the Study

2.1 Current Views on Agricultural Research

The role of research in agricultural development has been underscored in the literature. Pistrup-Andersen (1982) pointed out that agricultural research paves the way for economic growth and improvement of standards of living by producing knowledge and materials that can be used as technology in agricultural production. This opinion is likewise shared by Ruttan (1982) who expressed that agricultural research brings forth technical change, releasing constraints on growth brought about by inelastic resource supplies thereby improving the climate for agricultural productivity.

From these views, promotion of improved technology appears to be the central concern of research and development activities. It promotes agricultural research as solely a technology-oriented activity where concerns are placed in the development of materials and techniques that can increase production and agricultural yield. As such, agricultural processes and farm practices are examined in the hope of
developing technologies that can improve production efficiency and reduce losses. This stresses the researcher-subject/object relationship where practices are merely studied to come up with new and better technologies. The views forwarded likewise build on the assumption that the use of developed technologies will necessarily result to substantial economic benefits to users. Evidently, these views follow the 'reductionist' and 'hard' systems approach, which assumes that the improvement of a problem component necessarily results to the improvement of other components.

Another view to agricultural research is that embraced by the Faculty of Agriculture and Rural Development at the University of Western Sydney, Hawkesbury. This view integrates and transcends current views and embraces agricultural research as a learning process. By learning, this refers to 'the process by which experience (of the world) is transformed into knowledge (about the world), as a basis for adaptation (to and of the world) (Bawden and Packham 1990). The Hawkesbury perspective sees research as a process evolving from the interactions among the researcher, the clients and the environment. As such, it promotes participative action in situation improvement activities. It pursues the collective mobilization of individual energies so that the individual's capacity to deal and act on problems can be improved. More so, the Hawkesbury perspective does not put a distinction between the subject and object of the research.
which is typical of technological research. Rather, it adopts a systemic perspective and considers emerging relationships and interactions among the client, the researcher and environment (Bawden 1990).

Though the systemic and cooperative inquiry orientation of the Hawkesbury perspective significantly differs from other research views, it recognizes the importance and significance of these other views. As such, it does not only build on the concepts of systems thinking and practice, but also considers complementary scientific method in research approaches. Unlike other current views, however, the Hawkesbury perspective considers learning as a product of research. This is not only a ‘learning’ that will help improve the practices of research and the sector clientele, but more importantly, a learning that will enhance people’s capacity to manage change by developing their ability to learn how to learn, improve problem situations and communicate effectively (Bawden and Macadam 1988).

2.2 Agricultural Research in the Philippines: An Overview

In the Philippines, agricultural research is carried out by agencies under or attached to the Department of Agriculture. These agencies operate on different fields and have various mandates. To avoid overlaps and research duplications, the Department of Agriculture maintains an office, the Bureau of Agricultural Research (BAR), with a mandate to coordinate and prioritize the Department’s research activities.
Agricultural research in the Philippines, particularly that under the Department of Agriculture, is characterized by its immediate and prospective usefulness to the agriculture sector. Most studies employ the principles of basic and hard sciences to solve problems of practical concerns (Robledo 1982, Tadeo 1991, Gallardo 1991). In Bawden's (1990) research typology, current research efforts can be said to fall in the reductionist technology and hard systems research types. As in reductionist technology research, most R and D activities are focused on how problem components can be resolved, often leading to technological breakthroughs. Outcomes of these research studies find particular application in operational management, particularly in addressing manifested problems.

On the other hand, other research projects are slanted towards the optimization of systems performance. This is manifested in the widespread use and popularity of Farming and Systems Research (FSR) (Rapusas and Quiambao 1989, Torres and Rodolfo 1990). Studies are conducted to determine the right mix and use of resources to make the farm more viable. Hard systems research, which includes FSR, attempts to improve allocative aspects of farm management (Bawden 1990).
Chapter 3

Aims of the Research

The initial broad aim for this action research was to improve the organizational practices of the Institute where the principal researcher works (Naphire). The shaping up of the research though was greatly influenced by the context where the action research was done. The context suggested the following:

1. That an action research project can be organized in a technical task-based research organization for the benefit of the organization.

2. That an action research team through action researching can introduce action research as an alternative research process in the technical task-based research organization.

2.1 That an action research team can identify issues on current practices and develop strategies towards desirable change, and

2.2 That an action research team being a part of the organization, can take part in initiating desirable change, and

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3. That the action research can be a valuable source of insights necessary to understand current organizational practices.

As the research progressed however, the research aim expanded to incorporate the critiquing of the whole research experience. This was done to improve the practice and understanding of research itself.
Chapter 4

Review of Relevant Literature

4.1 On Action Research

Action research is a growing field. From the time of its inception when Kurt Lewin described a form of research that integrates the experimental approach of social science to programs of social action (Kemmis 1990), action research has evolved into a vigorous and dynamic field. Aside from the field of education (Taba and Noel 1957, Elliott 1978, and Elliot and Adelman 1973) where action research found its initial application, it has also grown and found application in other fields such as agriculture (MacLure and Bassey undated), work and corporate organizations (Checkland 1981, Foster 1972), social work, health and community development (McTaggart 1989). The dynamism found in action research is likewise reflected in the varying interpretations practitioners have now associated with action research.

For Kurt Lewin, action research was a spiral of different activities aimed towards the systematic improvement of a social practice, and the understanding of the practice through strategic actions (Brown et al 1982). Apparently, Lewin saw practice improvement and understanding of the practice as a
continuum where one leads to the other. This is achieved in action research because of its reflective nature and participatory character. In an action research project, participants/practitioners collectively involve themselves in examining social practices of which they are a part, and plan means and actions for the improvement of their practice. For Lewin, action research is a practitioner-planned and initiated activity where participants directly and actively involve themselves in the process of reflection, observation, planning and action.

In contrast, Taba and Noel (1957) viewed action research as externally initiated. They raised concerns on the practitioners' capability to identify relevant problem issues, thus, necessitating the need for an initial diagnosis where problem issues can be identified. This diagnosis is done not by the action research group but by individuals outside of the group. The concern of Taba and Noel is rooted in their belief that the practitioners' participation in an action research process is largely affected by individual skills, attitude and personal disposition. They argued that the interplay of these factors may result in unfruitful actions as practitioners may bring in various and hazardous assumptions.

Other views on action research are those of Chein et al (1948), Foster (1972), and McTaggart (1989). Though these views did not differ significantly from that of Lewin, the differences in interpretation added new color to the already rich literature on action research. For their part, Chein et al
considered action research from a scientific setting. They viewed action research as a field which emerged to satisfy the needs of the scientist among others, who wants his work to have social relevance as well as theoretical significance. For Chein et al action research provides an opportunity for civic minded scientists to integrate and align their work towards the interest of the society. This is consistent with the views of Lewin who claimed that with action research, advances in theory and needed social change can be attained and achieved (Kemmis 1990).

Unlike Lewin and Chein et al who considered action research basically from the view point of an individual and group practice, Foster (1972) viewed action research more from an organizational setting. Foster argued that individual change alone may not be sufficient in pursuing planned organizational change. It needs to be complemented by support systems and structural change processes so that individual and group changes can be sustained. Apparently, Foster viewed action research as a way organizations can make sense of their practices, in the process developing strategic actions for their practice' continuous improvement.

McTaggart (1989), on the other hand, viewed action research in a more general sense. He saw action research as the way groups or individuals learn from their experiences and make this learning accessible to others. McTaggart advanced the concept of critical awareness to one's practice and the commitment for its improvement. Consistent with the views
of Lewin, McTaggart considered the strength of action research to rest in its nature to mobilize the individual's collective participation in deciding changes and actions for the improvement of their practice. This emphasizes that action research builds on group behaviour in effecting commitment and change.

Aside from these diverse and seemingly conflicting interpretations about action research, there also exist various modes associated with implementing action research. These are the technical, practical and emancipatory action research (Grundy 1982).

As advanced by Grundy, technical action research aims for a more effective and efficient practice. This focuses more on the group's effort and commitment towards the attainment of an identified and expressed end. In technical action research, the group need not necessarily be the author of the identified end. The group mainly contributes and makes use of their practical skills for the attainment of the expressed objectives. Thus, technical action research follows the views of Taba and Noel who consider action research as externally initiated.

Unlike technical action research which is heavily "end" orientated, practical action research considers the process of attaining the expressed end. As such, it relies not only on the practical skills of group members, but more importantly, on the members' personal wisdom. Practical action research is value laden as it questions both the "goodness" of the expressed end particularly in relation to the socio-cultural
milieu, and the appropriateness of identified means for achieving it. As such, there is often great critical interactive exchange in practical action research. Whereas, in technical action research power resides in the facilitator, in practical action research power, is distributed among members of the action research group.

Compared to the other two modes, emancipatory action research is more extensive in both coverage and intent. Emancipatory action research does not simply aim for the improvement of the practice. It also aims to emancipate and empower participants from the traditional bounds of habits, self deception, traditions and even externally imposed structures that often serve as barriers to action and learning. Evidently, emancipatory action research aims to examine both individual and personal assumptions in the light of the practice in question and the theoretical and organization structures and social relations that support the practice (Grundy 1982).

From the various interpretation of action research, irrespective of the mode, one can infer action research to be an activity where participants collectively involve themselves and participate in a spiral of activities, directed towards the improvement and understanding of a practice that concerns them. It enables individuals to act and bring about change to practices through reflective and practical assimilation of learning drawn from personal encounters and experiences. The
value of action research can be placed on how learning brings in improvements to practice and how improvement in the practice brings in new learning.

The immense richness of action research and its potential of instituting change through strategic and responsible action makes it useful for examining organizational actions. Through action researching, organizations can learn to co-evolve with their environment (Bawden and Macadam 1988) making them more effective in delivering services and in achieving their objectives. Action research provides a means by which organizations can critically examine practices as well as needs, and make decisions and actions in addressing these needs.

4.2 On Research and Policy Development

One dilemma confronting most research organizations is in defining their role in policy development. On this aspect, several views were forwarded. Among the recent and more explicit ones is that of Kemmis (1990) who stated that the role of a researcher, and research for that matter, is to serve policy makers by making an alliance and dealing in advice. To Kemmis, the researcher's work serves as a source of information which policy makers can use in deciding and effecting change. Another view parallel to this is that of Arnon (1989). He argued that research, particularly agricultural research, should consider ministries involved in agricultural planning, development and implementation as a
major client. This will give the government the capacity to introduce policy measures and change existing ones to achieve sectoral and societal goals (Pinstrup-Andersen 1982).

Central to this research and policy development function is the quality and timeliness of information made available to the policy makers. Galliers (1987) defined information as the collection of data, which when presented in a particular manner and at an appropriate time, improves the knowledge of the person receiving it in such a way that he/she is better able to undertake a particular action or decision. This is shared by Audley (1967), who expressed that relevant information is needed before a decision can be made. For policy makers, information serves as a useful basis in responding to the needs of the sectors they are supposed to serve. Information serves as the policy makers' link to the environment, and thus, is of critical importance in decision making processes.

Several approaches have been forwarded on how to deal with information especially for decision making processes. Thompson and Tuden (1959) espoused the idea of viewing information in the context of organizations or social systems. They claimed that policy makers need to be sensitive and to be aware of emerging social issues and must not simply choose but likewise act to determine issues regarding the cause and effect of relationships. As such, policy makers can have a better understanding of the issues including backward and forward effects. Thompson and Tuden suggest the expansion of the decision makers' information base to include not only the
decision makers' personal assumptions on causation but also on other emerging issues. This may necessitate the examination of historical events that can cast light on questions about past actions, as well as the present state, and in the process, help establish future states.

Another view is that of Friend et al (1974) who took information and decision making in the context of organizational relationships. They stressed the need for those involved in decision making problems to consider, not only their operating environments but also their perception about constituency pressures and the intention in contiguous policy systems. As with Thompson and Tuden, Friend et al recognized the need for those who have the power and responsibility to decide to include perceptions from different sectors and examine differing interests represented by them.

A much broader outlook to the decision making concept is that of Linstone (1984), who added technical and personal perspectives to Thompson's and Tuden's and Friend's organizational approaches. He argued that the technical perspective is necessary to provide decision makers a framework for appropriate utilization of technology for social purposes; the organizational perspective to enable decision makers to see the world in terms of the affected and affecting organization, and the personal perspective to integrate other aspects that relate decision makers to the socio-technical systems which cannot be brought out by the other two perspectives. Evidently, Linstone is forwarding the concept
of systems in decision making processes. He wanted to place policy development within a wider setting by having a greater understanding of the three perspectives. In such a manner, policy makers can have a better grasp of issues and their implications, thereby paving the way for the development of well considered policies.

Another systemic approach is Checkland's Soft Systems Methodology (SSM) (Checkland 1981). This arises out of the need to address problems that emerge from the complex interactions in human activity systems. The general stance behind the development of the methodology and soft systems research is the presence of endemic problems in human affairs which are hardly completely solved. This necessitated the development of an approach that is highly problem and process oriented (Checkland 1988) and which builds on individual collaboration in the process of problem handling.

Unlike Linstone's Multiple Perspective Approach, which takes the problem as given and aims for the balance of technical, personal and organizational perspectives in approaching a decision making problem, the SSM, as advanced by Checkland, assumes the presence of not a single problem but of a plethora of interrelated problems. These are problems perceived differently by different actors in the problem situation (Galliers 1987). Apparently, Linstone and Checkland differed in their concepts of systems. Linstone viewed policy development in the light of the three perspectives while Checkland considered it in the light of the interactions of the
three perspectives among others, and the complexities arising from it. For Checkland, the systems approach takes a problem in a broad context taking all aspects into account, and concentrates on the interactions between the different components of the problem situation. The Multiple Perspective Approach, can thus be effective in addressing systems engineering problems - that of providing efficient means to meet expressed objectives. The SSM on the other hand, can be useful in addressing issues where problems and goals are obscured, sparking disagreement among decision makers. However, one point is evident. With systems studies, the quality and range of information made available to decision makers can be improved thereby also improving the quality of their decisions.
Chapter 5

Methodology

5.1 Reason for the use of the methodology

In this study, Checkland’s Soft Systems Methodology was used because it provides an entry point for introducing action research in a technical task-based research organization. The principal researcher works in a research institution that is highly structured and where research proposals are assessed and implemented based on the urgency, growth potential and seriousness of the problem posed. The situation demands that the action research proposal be presented in the language and context of the organization. The iterative nature and flexibility of the SSM provided the author an opening to explore appreciative settings (Checkland and Casar 1986) within the organization, and define relevant issues that need organizational attention. This constituted the action research proposal which was subsequently presented and discussed with the Institute’s management.
5.2 The Soft Systems Methodology (SSM)

The Soft Systems Methodology is diagrammatically shown in Figure 1. It initially involves the building of a rich picture (Stage 1) of the problem situation. This entails the exploration of current practices and processes as well as existing beliefs and ideas in the situation. A rich picture is aspired for so as to gather as many perceptions as possible and establish as many angles from which the problem can be viewed. The central thought at this stage is the presence of interrelated problems perceived differently by different individuals. Stage 2 is the analytical stage which attempts to achieve a neutral display of concepts of structure and processes. This enables the selection of a viewpoint from which the problem situation can further be studied and explored.

In Stage 3, a root definition, which is a concise description of human activity systems is established. The root definition embraces a particular world view and describes in a certain way the hypothesis concerning the desired improvement of the problem situation. From the root definition, a conceptual model is built (Stage 4) which expresses the activities to be done in order to achieve the desired system expressed in the root definition. The modelling is done without any reference to existing structures and processes as the idea is to establish activity systems with reference to the desired system.
A comparison (Stage 5) is then made between the developed model and the problem situation. This is to initiate discussion and debate (Stage 6) among actors involved and come up with means and agreement on how to improve the situation (Stage 7).
In this research, the SSM was applied in cycles/iteration. The first cycle was in the development of the action research proposal where the principal researcher initially established a rich picture of the client organization. From a personal account, the principal researcher looked into the structures, processes and issues that were present in the organization (Stage 1); and drew issues that were of relevance to the organization (Stage 2). From the drawn issues, an issue was selected and developed as an action research proposal which was subsequently submitted and presented to the organization's management. The presentation of the action research proposal however, has two purposes: 1) to solicit other views about the problem situation thereby further enriching the initially developed picture; and 2) to win the organization's support and approval for the conduct of the action research.

On the other hand, the second cycle of the SSM was applied in the facilitation of the action research team. However, as action research members were not familiar with soft systems concept and methodology, the SSM was used in the second cycle as a framework in facilitating group processes. In the facilitation though, no direct reference was made to the SSM as it only tended to divert the research group's focus from problem improvement endeavor to knowing more about SSM.

In the second cycle, the principal researcher, together with the action research group, initially diverged on the
relevant issue identified by the organization's management. The group pictured (Stages 1 and 2) and examined their individual thoughts and ideas, and from the emerging picture, drew up an issue they felt to be most relevant (Stage 3). From there, the group engaged in a series of discussions that enabled them to identify activities and relationships between activities that address their identified relevant issue. In the process, the action research team developed conceptual models (Stage 4) which were later presented and discussed (Stages 5 and 6) with other organizational members. These discussions led to the drawing up of a line of actions directed to improve the initial situation. The Soft Systems Methodology as applied in this research is summarized in Figure 2.

As the initial establishment of a rich picture of the problem situation, and the drawing of a relevant issue by the principal researcher may prove problematic in relation to the general notion of action research (that of being largely participant-initiated), the research methodology and approach were thus critiqued and discussed in Chapter 8.

5.3 Operative Assumptions

In the study, the SSM was used in iterative cycles and in an action researching manner. The first iteration was in the development of the action research proposal which outlines the author's perception of the problem situation and how it can possibly be improved. The second iteration was in the facilitation of the action research team.
Figure 2. The action research methodology
In the first cycle, the principal researcher made use of his five-year experience in the ten-year old organization to establish a rich picture of the problem situation. In establishing the rich picture, the principal researcher reflected on past events and interactions he had with the staff and management of the organization. The initial rich picture building was based on two assumptions:

1. The organization is a problematic situation, i.e., there are issues to be addressed, and practices and processes to be improved; and

2. The principal researcher's experience and exposure in the organization is by itself a rich picture of the problem situation.

On the other hand, the use of the SSM in facilitating an action research process was built on the assumption that action researching has the potential to spark organizational consciousness which is essential in making and pursuing organizational change and action.
Chapter 6

Research Approach and Methods

6.1 Research Approach

The approach adopted in this research activity was one that draws largely on the principles of action research. The action research differs from other research approaches in terms of the researcher's closeness and involvement in the action process. Unlike other research approaches, the central idea in this action research was for researchers to be involved in examining current organizational practices of which they are a part, and to develop constructs and to take actions for the improvement of the practice. In action research, researchers become participants in relevant human groups and not merely observers on the subject of investigation. As pointed out by Foster (1972), action research aims to contribute to the practical concerns of individuals in a problematic situation through joint collaboration within a mutually acceptable ethical framework.

With action research being largely a group process activity, this research built on group dynamics in facilitating organizational action. Through group processes, the
organization examined current practices and explored and identified means to improve it.

In this research, the principal researcher took the role of both facilitator and group participant. In facilitating group processes however, shared leadership was employed. In shared leadership, all group members took ownership of group processes. In the action research meetings, group members alternately took responsibility in summarizing and synthesizing agreements and group processes. This was done before and after each meeting to enable group members to refresh and prepare each member for the day's discussion; and to allow them as well to leave each group meeting with a common framework and understanding. In this research, the action research team had the following composition:

(1) Acting Manager of the Postharvest Systems Analysis and Development Department (PHSADD)

(1) Manager of the Training and Evaluation Department (TED)

(4) Senior Research Staff

(4) Administrative and Support Staff

The team was formed by nomination, with each department manager nominating representatives to the team using the following criteria:

1. availability of the individual; and
2. potential of the individual to contribute in group processes.
The action research team met seven times and devoted four hours for every meeting.

6.2 The Research Methods

The nature of this research lent itself to research methods that are not normally used in technical and quantitative research. The research did not make use of experimental set ups common to most technical research activities, but employed methods and techniques that are compatible to the general character of the action research. As the research's focus was on group processes and action, the research generated qualitative data which were largely analyzed in a highly descriptive way.

6.2.1 Data Generation

In this research, data generated were mostly qualitative in nature. This included the ideas and opinions that organizational members contributed in the whole research process. In data generation, the methods employed were:

1. Material and document review - this involved the examination of documents and other materials related to the research (e.g Naphire Development Framework, List of Completed and Current Projects). This was useful in establishing structures and processes that were present in the organization.
2. Informal interactions - this included the day-to-day association of the principal researcher with the organization members. This was useful in unearthing issues that were unrelated if not concealed from the structures and processes that were in place in the organization.

3. Formal meetings - this included group processes that took place as planned and agreed upon by organizational members (e.g., action research meetings and meetings with the organization's management). It was in these meetings wherein formal opinions and ideas were raised and discussed in an interactive manner. These formal meetings were found useful in bringing out different perspectives among organizational members; and in defining agreements on certain issues.

4. Picture survey - this involved the running of a formal survey among action research members. This was done to determine how the action research members viewed the action research process. Unlike other formal surveys, this made use of little pictures. This was done not only to make the material light and easy, but more so, to enable individuals to integrate subjectivity and objectivity in examining the research process undergone.

6.2.2 Data Recording

In this research, data recording was done in two ways. One was by taking the minutes of formal group
processes while the other was by reflecting and keeping a record of what transpired in informal meetings and interactions. In this action research, the taking of minutes of formal group processes proved helpful in recording issues and agreements reached, while reflection on the other hand, helped in critiquing the whole research process. In the research, reflections were done at the end of each action research meeting and covered, not only the interactions in the action research group, but also the exchanges between the principal researcher and other organizational members.

6.2.3 Data Analysis

In this research, the data generated were mostly qualitative. These included the observations and reflections from the action research processes. In analyzing the data, the principal researcher drew major insights and themes from the experience undergone and related these insights with other experiences, particularly those documented in the literature. This enabled the principal researcher to compare and critically examine the process undergone.
Chapter 7

The Methodology Applied

7.1 The Development of the Action Research Proposal

As earlier described, the SSM was used in this research in iteration. The first iteration was in the development of the action research proposal where the principal researcher initially established a rich picture of the problem situation. The rich picture building was done in the light of a feeling of unease that the performance of the organization is being viewed unfavorably by the external environment. In doing so, the principal researcher looked into structures and processes, as well as issues that were present in the organization/situation. The rich picture developed was then analyzed which led to the identification of a relevant issues. This issue was however developed as an action research proposal which was subsequently submitted and presented to the organization.

The following subsections thus described how SSM was used in the development of the action research proposal.
7.1.1 Establishment of a Rich Picture of the Problem Situation

In establishing a rich picture of the situation, the principal researcher diverged on the initial feeling of concern that he felt for the organization. This was the seeming unfavorable feedback the organization receives from the external environment. In diverging, the principal researcher listed all issues and facets that were in some way related to the feeling of unease. This had been helpful in developing focal questions and in analyzing the problem situation. The result of this diverging exercise is shown in Figure 3.

To appreciate the result of the diverging exercise (Figure 3), it is of importance to have an understanding of the organization situation. This is to show the structures and processes that are present in the organization which are crucial in the analysis of the situation. This is discussed in the following subsection.

7.1.2 The Organizational Situation: A Picture of Structures, Processes and Interactions

In this study, the problem situation considered was the National Postharvest Institute for Research and Extension (Naphire). Naphire, a government agency presently attached to the Philippine Department of Agriculture, has a mandate to spearhead the development of the country's grains postharvest industry through research and extension
activities. Its primary concern is the development and utilization of postharvest technologies that will add value to the commodity and enhance farmers' earning capacities (Naphire Development Framework 1989).

The organizational structure of Naphire and its relation with the external environment is shown in Figure 4. Naphire is governed by a Board of Trustees which provides policy direction and support to its programs. The management of Naphire is vested in the Executive Director who is assisted by a Deputy Executive Director. Since 1980, when Naphire started operations, it has had five different Executive Directors and two deputies. Technical operations are undertaken by four departments working on the above-mentioned areas of activities. These are the Food Protection Department (FPD), Facilities Design and Development Department (FDDD), Postharvest System Analysis and Development Department (PHSADD) and the Training and Extension Department (TED). Naphire's operation is backstopped by the Planning and Evaluation Department (PED) and the Corporate Services Department (CSD). Each department is headed by a manager and is composed of individuals with different backgrounds and values. The head of the technical and support departments, together with the Deputy and the Executive Director constitute the Executive Committee (EXCOM) who discusses and decides issues concerning the Institute.
Naphire is based in Munoz, Nueva Ecija, 150 kilometers north of Manila. To promote better coordination and communication with other agencies, it maintains a liaison office in Manila.
To make R and D programs focus on the real needs of its clients, Naphire conducts industry consultative workshops to define issues requiring R and D attention. In the consultative workshops, various sectors in the industry are invited to discuss with researchers issues of concern to them that require research priorities. Further, Naphire conducts industry situation surveys to establish community and industry research needs. In the industry situation surveys, a multidisciplinary team goes out in the field and evaluates and assesses current industry practices. In the survey, coordination and interaction are made with the local and community sectors to ensure that conceptualized research programs would have political and grassroots support. Feedbacks from the consultative workshops, industry surveys and extension activities also serve as inputs in the development of Naphire R & D programs.

As mentioned, Naphire conducts research activities in three different areas. Knowledge and materials generated from these activities are used at times as basis for new research studies. Developed technologies on the other hand, are subjected to pilot testing where technologies are tested in actual farm conditions. In pilot testing, technologies are examined in the light of environmental and socio-political, cultural limitations and prevailing practices in a particular locality. Materials generated from pilot testing activities serve as the basis for the improvement and redesigning of the technology and
as inputs in the design of extension strategies. Extension programs which incorporate matured technologies are extended to different industry sectors which include farmers, traders, millers and extension workers.

Despite continued attempts to make R & D programs relevant and in focus, the adoption of developed technologies is still wanting. Utilization levels of developed postharvest technologies by farmers and other clients are far too low, thus, depriving them of potential opportunities. The low adoption of developed technologies cast a bad light on the way Naphire operates which was shared and expressed by the then Secretary of Agriculture, Carlos Dominguez (in conversation with Naphire's former acting Executive Director, Santiago Obien, 1988).

Like any other organization, Naphire is bidding for increased government funding. It needs support and government funding to implement its R & D programs. This becomes particularly crucial now that foreign funding for research are hard to come by. Ironically, Naphire has to work against the image that it has in the past done little for the farmers, an image that questions Naphires effectiveness and threatens its viability.

7.1.3 Analysis of the Organizational Situation

In analyzing the situation in relation to the initial feeling of unease, the principal researcher examined closely the result of the diverging exercise (Figure 3), and grouped
Figure 5. Major themes identified from the principal researcher's diverging exercise.

together related issues. The clusters of related issues are shown in Figure 5 above.
As evident, there are four major themes identified. These are themes that relate to: 1) the structures present in Naphire, 2) processes and practices adapted by Naphire, 3) expectations from the external environment and 4) low adoption of postharvest technologies.

Linking these themes with the drawn picture of the problem situation (section 7.1.2), and examining the structures, processes and practices present in the organization, the following issues became apparent: 1) Naphire's lack of strong ties with the external environment which is reflective of the organizations management, 2) mismatch of expectations (i.e. in the concept of development between Naphire and the policy sector), 3) problems on adopted structures and processes. These issues are further articulated in the following subsections.

7.1.3.1 Issues on Management

From the picture painted, one evident issue was management. For a very young organization, having five different leaders in a short span of ten years can never be claimed an accomplishment. It only indicates among others, the health of the organization, and explains to some extent, why its performance was perceived poorly by the external environment.

In any organization, management plays a crucial role. It is the management who determines the social context for the organization and identifies choice for
adjustment to societal and organizational realities. (Pfeffer and Salancik 1978). Apparently, it is this aspect of management which Naphire failed to explore in the past due to successive changes and short periods of leadership. Past directors were not able to develop a strong and close linkage with the environment and failed to cultivate a social context favourable to the organization. This is reflected in the questioning stance taken by the external environment with regards to Naphire operations.

Unfortunately, the frequent change of the 'man in the helm' leads to staff confusion and places them in a situation of lost direction. This does not contribute well in the delivery of individual functions and the achievement of organizational goals. So much energy and resources are spent speculating into 'which water the new head will bring the organization' and 'to what state of water'. Because of the short span of leadership, the staff have lost touch with their leader whom they see personifies the organization's goals and actions, as well as organizational successes and failures.

7.1.3.2 Issue on the concept of "Development"

From its inception, Naphire has functioned as a technical agency. Hitherto, it operates and serves as a source of appropriate postharvest technologies which the targeted clients can use in improving current
practices. Naphire employs hard and engineering sciences in the design and development of postharvest technologies and views technology as the hub of its R and D activities. This is evident in the type and nature of past and current research activities. Most studies are focused in the development of technologies that reduce losses while other research projects attempt to improve specific and current practices to optimize production gains. In the conduct of systems analysis, technology is seen as central and holds preeminence in the success and viability of postharvest systems.

From the way it operates, Naphire seems to have associated industry development with technological use and adoption. All its resources are placed in the development of technologies ignoring vital aspects such as the facilitation of an environment favorable to the adoption and the use of developed technologies. Naphire has not fully explored the setting up of support systems that can make adoption and utilization of developed technologies attractive.

Considering the initial feeling of unease, there is an apparent conflict in the idea of development. Naphire views development from a purely technical perspective as evident in the type and nature of its research projects. On the other hand, the external environment particularly the Department of Agriculture appears to embrace development from a social and economic
perspective. Thus, the call for Naphire's contribution in uplifting the well being of small farmers.

7.1.3.3 Issue on Structures and Processes

The relationship between management and different departments in Naphire is shown in Figure 6. As earlier mentioned, the responsibility for the management of Naphire operations is bestowed in the Executive Director and his deputy. Naphire is structured in such a way that each department has a function different from the other, but remains complementary and supportive to over all organizational goals. The support department provides means and services so that research and extension operations can be carried out efficiently and effectively. One support department, the PED, plays a dual role. The PED facilitates and assists the management in the planning of corporate ends and in the evaluation of research and extension operations. Also, the PED is involved in project-related activities such as in the conduct of consultative workshops and industry situation surveys. Outputs of these activities are forwarded to different technical departments for proposal development and implementation subject to funds availability. Furthermore, the PED initiates the critiquing of research proposals to ensure that research methodologies are appropriate and can serve as tools towards the attainment of research objectives. Likewise, critiquing is done at mid and post project
Figure 6. The relationships between Naphire management and different technical departments

implementation to ensure that projects are on track and on schedule. To complement these activities, the PED conducts annual project reviews to serve as venue for interactions between researchers, extension workers and other sectors of the industry.

In technology development, there exists a defined relationship between the three technical departments. The PHSADD through rapid rural appraisals and ex-ante
surveys, gather initial and benchmark information essential in the technology development process. This information includes socio-economic data as well as locality and community profile. This is used by the FPD and FDDD in the design of appropriate postharvest technologies. Developed technologies are passed back to PHSADD for pilot testing while matured technologies are extended to the clients through the TED.

In its operation, Naphire recognizes the need for maintaining links with the clients. As such, most of its research projects, save for some basic research studies, are carried out in the field with farmers and clients working as cooperators. The cooperators provide inputs and a setting where technology can be introduced and assessed.

The research process just described posed one issue on the research paradigm being adopted by Naphire. From the process, it appeared that there was little involvement of farmers and sectors in the research process. Sectoral involvement was overwhelmingly limited to the initial stages of the research - in project development; totally excluding them on other aspects of the research such as recommendation formulation. Evidently, Naphire’s research paradigm merely promotes researching on farmers/other sectors and on their practices, with very little being done on researching with the people.
On the other hand, the examination of the research processes together, with the framework on how Naphire operates revealed another issue. The general framework earlier discussed in section 7.1.2 is shown in Figure 7.

As evident from the framework of operation, one issue that calls for attention was the apparent absence of structures and procedures that will bring research results to the attention of policy makers. Naphire generally considers farmers, traders and extension workers as its major clients, ignoring the policy sector as another potential user of research results. In Naphire's operation, policy issues arising from research and extension activities are not brought to the attention of policy makers resulting to their inaction. It is recognized that the policy makers can facilitate technological adoption. The policy sector has the capacity to install delivery and support systems which are essential in industry development. In most of Naphire's completed research studies, the need for policy support systems were clearly recognized (see Appendix C). However, little has been done in the past to address these issues.

7.1.4 Root Definitions and Conceptual Models

From the examination of the problem situation, several potential systems arose. These include:
Figure 7  The current frame-work of operation of Naphire

1. A system to build and strengthen external links. This considered the idea of Naphire reaching out and cultivating positive relationship with other agencies through formal and informal means. This is considered essential in establishing and setting a social context favorable to the organization.
2. A system to facilitate a research paradigm shift. This forwards the idea of taking sectors as partners in the research process rather than mere clients. This will see research problems growing out of industry needs and a research process evolving with greater sectoral participation. In this paradigm, researchers will not only concentrate on identified problems but will also help sectors to articulate and approach their problems.

3. A system to advance policy issues to decision makers. This recognizes the fact that technology alone is not sufficient to spur industry development. An environment favourable to adoption and utilization of developed technologies has to be created to complement technological efforts.

Considering the image problem that Naphire is experiencing, (at the time of this research), System 3 appears to be the most relevant. By reaching out and involving itself in policy advocacy, Naphire can articulate what the organization is doing that can possibly answer questions and doubts from the external environment. More so, by engaging in policy advocacy, Naphire can facilitate the installation of policy support and delivery systems essential for the development of the postharvest industry. In the process, By being involved in policy advocacy, Naphire can likewise develop and strengthen links with the external environment, particularly the policy makers, whose support is crucial for its continued existence and
viability. By continually interacting with the external environment, as in the conduct of policy advocacy, Naphire can also level out expectations with other agencies. This is just as crucial in establishing relationships. Thus, by taking System 3 as the most relevant, the other system (System 1) can likewise be addressed. For this system then, the client, actors, transformation, embraced world view, owner and environmental constraints (represented by the mnemonic CATWOE) are:

**C**lient - NAPHIRE  
**A**ctors - Naphire staff and management  
**T**ransformation - from passive to active stance on emerging policy issues  
**W**orld view - that support and delivery systems are essential in the development of the postharvest industry  
**O**wner - Naphire management  
**E**nvironmental Constraint - manpower and other resources, skills

For this system, the Root Definition (RD1) is:

"a management owned and staff initiated system which enables Naphire to pursue an active stance on policy issues concerning the development of the postharvest industry, recognizing constraints posed by present resources."
This suggests a modification of the current Naphire framework of operation (Figure 7) and will see policy issues being advanced to concerned government bodies (Figure 8).

As this study is taken in the context of a mastersal thesis where there is no formal invitation from the would be client, the principal researcher deliberately avoided modelling the system expressed in RD1. Instead, he developed constructs for an intermediary system. The intermediary system examines and presents the problem as perceived by the principal researcher to the client organization so that the problem can be approached in an action researching way. For this system, the CATWOE is:

Client - the principal researcher
Actor - the principal researcher
Transformation - ideas of the principal researcher to spur organizational action
World view - communication is a vital aspect in bringing an agenda to the attention of the client
Owner - the principal researcher
Environmental constraints - time, distance separating author and the organization
Figure 8 The general framework suggested in relevant system 3

For this system, the Root Definition (RD2) is:

"a system owned and managed by the principal researcher which provides ground for communication and discussion of issues he perceived to be vital so that it can gain Naphire support and spur organizational action."

From this root definition of an intermediary system, a conceptual/facilitation model was developed. This is shown in Figure 9.

The model suggests that to be able to communicate the principal researcher's ideas and move the organization to action, a meeting together with the Naphire management is strongly necessary. This is because management holds the key, not only to organizational action, but also to
resources essential in the carrying out of the action. If the situation is to be improved, the ownership of the problem by the organization's management is vital.

7.1.5 Comparison Stage: Current practice against proposed framework

The comparison of current practice and proposed framework is done together with the Naphire management (the Executive Committee). The summary of what took place in this meeting is shown in Table 1.0.
Table 1. Summary of the meeting with Naphire management

<table>
<thead>
<tr>
<th>Attendance</th>
<th>Issues Discussed</th>
<th>Agreements</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. S.C. Andales</td>
<td>1. What the action research was all about (i.e. its objectives, methods and techniques to be adopted.</td>
<td>1. establishment of the action research team (ART); 2. use of official time, four hours per wk, for the ART's meeting; 3. use of facilities and access to documents; 4. management support to the activities of the ART; 5. recognition of activities to be done outside of Naphire</td>
<td>- comparison was done by juxtaposing Figures 8 and 13 - discussions resulted in improvement of situation picture - severe critique on the methodology - critique however resulted to an interesting exchange of opinion - lapse in present framework acknowledged - conduct of AR was approved - selection of AR members was by 1) availability and 2) potential of individual to contribute</td>
</tr>
<tr>
<td>Engr. G.P. Jimenez</td>
<td>2. The compatibility of action research with other studies being conducted by Naphire.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engr. R. Manalabe</td>
<td>3. The seriousness of the problem posed.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ms. A. C. Bermundo</td>
<td>4. The differences of perspectives about the problem situation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ms. D. Samaniego</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ms. R. Quitco</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mr. A. A. Apaga</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engr. R. Lagunda</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mr. L. S. Geron</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The meeting by itself was a revelation of the differences in perspective of different individuals. It showed how culture and mind set influences the creation of individual opinions and even actions. For instance, one individual in the group criticized the seeming shallowness of the research proposal commenting that:
"it (the proposal) merely presents an issue in a general manner, and lacks the natural ingredients of the traditional proposal"

The meeting likewise pointed out how 'power' can influence the course of the research. In the meeting, one individual commented though in a facetious manner;

"what if we do not approve the conduct of the action research, what will happen?"

These were hard and difficult comments which only showed how culture and power interplays in the conduct of action research. Important as they are, these aspects are discussed lengthily in Chapter 8.2.2

In the group meeting however, the comments made generated considerable amount of discussion and interaction. It led to the clarification of what the research was about, and how it differed from other research projects particularly those conducted by Naphire. More so, the discussion that ensued resulted to the further enrichment of the situation picture initially drawn by the principal researcher.

In the discussion, the management likewise recognized that indeed, little effort had been made in reaching the policy sector and in advancing policy issues. Naphire had largely considered farmers and other sectors as its major client, failing to extend relevant issues to policy makers.
In the discussion, the potential benefits of moving to the new framework was realized and so were the challenges. By involving itself in policy advocacy, Naphire can communicate and improve links with the external environment particularly to the sectors where it derives its resources. By reaching the policy sector, it can communicate the impact and importance of its undertakings which can further justify Naphire's existence. As the new framework suggests the exploration of new frontiers, of areas where Naphire has little experience of, the management agreed to the formation of a group who will look into the issue further (Appendix E).

7.2 Action Research on Policy Advocacy

This section describes what transpired in the action research group. As members of the action research team were not familiar with SSM, activities in the group were done without deliberate referral to SSM. However, to provide insights on how the SSM was used especially in the facilitation of the action research process, discussion in this part of the document made use of the stages of SSM. The principal researcher transferred the action research team's output into SSM's language to provide the connection between the competencies developed in the academe and the experiences acquired in the field. The minutes and reflections on the action research processes is shown in Appendix F. A summary of the minutes of these meetings however is shown in Table 2.
Table 2 Summary of the Action Research Meetings

<table>
<thead>
<tr>
<th>meeting 1990</th>
<th>attendance (number)</th>
<th>agenda</th>
<th>what was achieved</th>
<th>comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oct. 11</td>
<td>10</td>
<td>1. initiate the group on the reasons for the formation of the team; 2. discuss w/ the group the feasibility, focus of group formation</td>
<td>1. realization of the importance of addressing the issue; 2. agreements on who will facilitate, when and where to meet and how long.</td>
<td>-it was evident that members place high expectations on the principal researcher as he is supposed to be more knowledgeable on systems - one member even suggested for the principal researcher to manipulate the group as he sees right.</td>
</tr>
<tr>
<td>Oct. 15</td>
<td>7</td>
<td>-brainstorm and diverge on the idea of policy advocacy</td>
<td>-rich picture of individual ideas -identification of dominant views -selection of a relevant issue</td>
<td>-no spontaneous discussion -some members appear to be shy -senior personnel dominates exchanges</td>
</tr>
<tr>
<td>Oct. 22</td>
<td>7</td>
<td>-discuss on what to be done on the identified relevant issue -clarify vague terms -identify activities in relation to the identified relevant system</td>
<td>-agreements on operat'l terms -examination of the drawn mind map</td>
<td>-discussions becoming exciting as members begun to assert their views (need for statistical test) -exchanges were still lopsided</td>
</tr>
<tr>
<td>Nov. 5</td>
<td>7</td>
<td>-an understanding of issues and factors that serve as constraints to being involved in policy advocacy</td>
<td></td>
<td>-some members come to meeting late giving several valid reasons -discussion much better now, less stifled compared to previous meetings</td>
</tr>
<tr>
<td>meeting (1990)</td>
<td>attendance (number)</td>
<td>agenda/purpose</td>
<td>what was achieved</td>
<td>comments</td>
</tr>
<tr>
<td>---------------</td>
<td>----------------------</td>
<td>----------------</td>
<td>-------------------</td>
<td>----------</td>
</tr>
<tr>
<td>Nov. 12</td>
<td>6</td>
<td>- discuss the relationships between the identified major activities - identify and discuss subactivities for each major activity</td>
<td>- the development of the policy advocacy model</td>
<td>- this meeting frustrated me because I still have to approach some members just to come; it appears that some of them were given task that runs in conflict with the schedule of the action research - discussions however were spontaneous - the meeting started not as late as before - interactions are well spread though some members still prefer to respond upon questioning</td>
</tr>
<tr>
<td>Nov. 19</td>
<td>6</td>
<td>- discuss how model can be operationalized and how it can be sustained</td>
<td>- identified support systems essential for the eventual involvement in policy advocacy</td>
<td></td>
</tr>
<tr>
<td>Nov. 26</td>
<td>7</td>
<td>- review the developed policy advocacy model - discuss how team output will be presented to management</td>
<td>- agreements on who and when to present the action research output</td>
<td>- some members appear to be daunted being given the task of presenting the exercise to the management - members acknowledge the worthiness of the whole exercise</td>
</tr>
</tbody>
</table>
7.2.1 The Action Research Team: A picture of individuals with different ideas and perceptions

In the action research, the first meeting revolved around the presentation of the rationale for group formation. Individuals who were directed to form part of the action research group were briefed by the principal researcher on the reasons for the formation of the group. The issues which were initially identified in the meeting with the ExCom were presented and discussed with the group to give action research members an overview of the problem. In the first meeting, the action research group likewise discussed and agreed on the mechanics of group operation. This led to the nomination and selection of the principal researcher as group facilitator.

The first meeting of the action research team was particularly interesting because it laid bare the team member's expectations especially from the principal researcher. Apparently, members of the action research team chose him as group facilitator because they felt that they can learn something from him.

"we allow you to manipulate us and the processes that need to be done because you are more familiar with this systems methodology"

This is the statement of one of the action research members. Though there could have been problems in the way the individual phrased his thoughts, what he meant was clear. He saw the principal researcher as an authority and a figure he can learn from. Like power and culture issues,
action researching with individuals who are not familiar to action research raises implications. These are discussed in Chapters 8 and 9.

In the succeeding meetings, the action research team embarked on a series of group processes that enabled them to identify a relevant issue and model the policy advocacy system.

When encouraged to diverge on how to pursue policy advocacy, there appeared to be highly divergent views among action research members. The result of this diverging exercise is shown in Figure 10.

7.2.2 Analysis of the Result of the Action Research Team's Diverging Exercise

In analyzing the result of the diverging exercise, the action research team looked into the forwarded concepts on policy advocacy. These include:

1. The initial conduct of studies to verify the viability and applicability of developed technologies. This is to make sure that developed technologies and research results for that matter can really be adopted in real world situations. It was argued that studies showing potential economic gains for the country need to be verified thoroughly and quickly prior to policy recommendations.
Figure 10. Result of the action research team's diverging exercise
2. The regular conduct of extension activities directed to policy makers. This calls for an intensive policy education program on postharvest issues to inform decision makers on pressing postharvest issues that requires their action. This takes the assumption that policy makers will act and install supportive measures once there are sufficient information on which to base decisions.

3. The conduct of consultative workshops from which policies will evolve. This will be participated in by representatives from various sectors who will discuss among themselves conflicting interests and agree on measures how different interests can be resolved. Naphire, as envisioned, will serve as a convenor and agenda maker. The agenda however, will be based on issues arising from completed research studies.

4. For Naphire to develop first an understanding of the activities that need to be taken, and to implement and carry out these activities with interest and rigour. This idea integrates other ideas previously mentioned which are by and large externally directed. The idea supports the examination of relevant internal activities so that externally directed activities can be carried out and sustained.

In the action research group, the ideas forwarded generated a tremendous amount of discussion and exchange among members. A close and critical examination of the ideas however, revealed two prevailing perspectives on
policy making. One embraced policy making as a top to bottom approach where policy emanates from government planners and implemented by different agencies; while the other was the bottom to top approach where concerned sectors participate in the policy making process.

7.2.3 Relevant Systems and Root Definitions

Assessing the action research group's discussion and expressing it in SSM's language, four relevant systems appear to arise. These are:

1. A system to validate developed technologies. This considers the idea of an expanded on-farm testing to ensure that developed technologies suit actual farm conditions, and bring better economic returns to users. The idea was to demonstrate the benefits of using the technology so that policy makers can easily be convinced for the need of installing supportive policies.

2. A system to develop extension programs for policy makers. This recognizes the lack of adequate programs directed towards policy makers. The idea here was to bring policy issues emerging from completed research studies to the attention of policy makers.

3. A system to conduct industry-wide policy workshop. This suggests the holding of policy conventions with sectoral representations where participants can talk about and discuss relevant policy issues. The aim is to
come up with a mutually agreed policy framework that can serve as a guide in the participants' respective operations and actions.

4. A system to develop understanding on policy advocacy. This emerges from the apparent diversity of perspectives among action research members on policy advocacy. It was taken that if Naphire is to pursue policy advocacy, it needs to work and operate from a single, commonly agreed framework.

As the action research team engaged in serious interactions, discussing the merits of the approaches forwarded, they realized at one point that the biggest issue was their differing opinions. The group can not seem to agree on how to pursue policy advocacy and this hindered the group in moving forward. The action research group became aware that the lack of a common understanding on policy advocacy can likewise become a problem to the organization unless a singular operational perspective on policy advocacy is developed. As such, they considered the development of a single operational framework on policy advocacy as the most relevant. This is System 4. Thus, for this system, the CATWOE and relevant root definition are:

Client - Naphire management
Actors - the Action Research Team
Transformation - from a diverse to a single operational perspective on policy advocacy
World View - that an institutional understanding on policy advocacy is essential if Naphire is to pursue policy issues

Owner - the Action Research Team

Environmental Constraint - time, member's commitment to the group

The Root Definition (RD3) for this system is:

"an action research team owned and operated system which provides information to Naphire management so that management can install changes and procedures that would enable the Institute to pursue policy advocacy from a single operational perspective".

7.2.4 Conceptual Models

From the root definition, the principal researcher developed a model that facilitated the achievement of the transformation expressed in the root definition. This model however, was largely based on the action research group's initial understanding of issues that need to be considered if Naphire is to involve itself in policy advocacy. These were the questions highlighted in Figure 10. The model is shown in Figure 11.

As can be evident, the model suggests an activity system which the action research team needs to engage in so as to develop a single operational perspective on policy advocacy. It initially involves the establishment of an understanding on policy advocacy, so as to unify diverse
Figure 11. The conceptual model for system 4 (RD3)
perspectives on the issue. This involves the further exploration of individual ideas and the reconciliation of these ideas to come up with operational terms.

As the action research team possesses a recommendatory character, the team needs to examine as well the potential constraints if the Institute is to fully involve itself in policy advocacy (activity system 2). These constraints are in the areas of integration, operationalization and sustenance of policy advocacy related activities. This involves the examination of current practices and processes to see how policy advocacy can fit in to the present structure, or how the present structure can be modified and improved to accommodate policy advocacy. In activity system 2, operational constraint and support systems to sustain policy advocacy were identified.

The third activity system is the development of an operational framework on policy advocacy. This involves the further exploration and establishment of relationships between identified activities. This calls for the mapping of feedback mechanisms that are essential for the effective interactions between activity systems. This takes the view that policy advocacy is not simply the execution of identified activities but the dynamics emerging from the interaction between activities.
As policy advocacy is built on interactions, it possesses a character different from each activity system but reflective of activity interactions. The picture of how each activity is related and the inputs and outputs for each activity system constitutes the operational framework or model for policy advocacy. This operational framework is to be presented for discussion to Naphire management and will serve as the basis for decisions and actions on policy advocacy.

7.2.5 The Policy Advocacy System

In coming up with the policy advocacy model, the group went through the activities as outlined in Figure 11. The group initially discussed and established operational definitions of vague terminologies. After which, they examined the factors that pose as constraints in Naphire's involvement in policy advocacy. Having established operational definitions and having discussed the constraints, the group proceeded then in the modelling of the activity system.

In modelling, the action research group went back to the mind map on policy advocacy (Figure 10) and clustered related activities together (see Appendix F). From this process, three main activity systems were drawn and include: 1) the monitoring of the external environment, 2) study of policy related issues and 3) articulation of policy issues.
This section thus outlines the policy advocacy system developed by the action research team. The model details individual activities as well as the relationship between activity systems.

To place the model in context, it is worthwhile to discuss basic definitions arrived at by the action research team. These definitions were formed after a series of lengthy discussions.

Definition 1: That "policy" is the explicit or implicit intentions of the government to accommodate conflicting parties/concerns and the expression of these intentions resulting in the action or inaction of other agencies.

Definition 2: That "policy advocacy" is the conscious and concerted effort to study and articulate sound and well meaning policy options to concerned agencies. It is a conscious effort since it has to consider past and current situations and different sectoral concerns, and concerted as it has to be taken in an institutional context.

Definition 3: That policy advocacy in an institutional context refers to the integration of the context and processes of relevant activities, the understanding of the relationship between respective actors and processes, and the effective implementation of defined activities within the individual actors mental framework. This indicates
that policy advocacy is not merely a set of independent activities but a whole composed of different but interrelated activities.

The policy advocacy system is shown in Figure 12. It involves three major activity subsystems namely 1) subsystem to monitor external environment, 2) subsystem to study emerging policy issues and 3) subsystem to articulate policy issues.

7.2.5.1 Subsystem to monitor external environment

From the group's perspective, the monitoring of the external environment is essential to establish trends and behaviour of sectors in the postharvest industry. These information are critical and viewed to be of potential great use in policy development. This subsystem and the activities comprising it is shown in Figure 12.a.

In the monitoring of the external environment, there are three identified major activity systems. These are:

1. The tracking of the performance of the external environment. This entails the identification of target sectors and the activities they engage in; the establishment of measures of performance and the collection of related information. As can be seen from the model, the tracking of the performance of the
Figure 12 The conceptual model for policy advocacy
Sub subsystem to track performance of ext. env.

identify
- target sector
- farmers
- consumers
- market

establish indices of performance
- practice
- profitability

gather information
- practice
- operation

Sub subsystem to examine gathered information

Study facts/figures
- look for trends
- analyze consequences
- establish context

Define relevant issues
- sustainability
- welfare

Develop proposals for action
- policy study
- info. gathering

Act on decision

Sub subsystem to process information

Decide on appropriate means
- workshops
- publications
- meetings

Act on decision
- organize information
- execute decision

Figure 12a  Subsystem to monitor external environment
external environment can be pursued by increasing and expanding institutional networks which include sectoral groups and other organizations. Data and materials from different sectors will be collected and stored in a data bank for future analytical use and reference. Newspapers, which provide daily accounts of agriculture and economic news can serve as good material sources for following economic and market information.

2. Examination of gathered information. This is the analytical stage of the activity. Gathered information will be studied in the light of its implications to the postharvest industry in particular and the agriculture sector in general. This can provide a picture from which relevant issues can be drawn and which can serve as basis for decisions and actions. Decisions and actions include, but are not necessarily limited to 1) the expansion of information gathering; 2) identification of area for further studies; and 3) convening of workshops and meetings with other agencies.

3. Dissemination of processed information. Irrespective of decision and action in the analytical stage, processed information will be conveyed to Naphire staff and management. This is to promote industry literacy among Naphire personnel. This can be in the form of an industry monitor which will present behaviours and trends in the industry. The monitor is to be disseminated on a regular basis.
7.2.5.2 Subsystem to study policy issues

In the policy advocacy model in Figure 12, another major activity is the review of policy issues, including issues emerging from completed research and extension activities. A critical review is found necessary to enable Naphire to fully assess implications of proposed policies. This subsystem is composed of three sub-subsystems and is shown in Figure 12.b.

In studying policy issues, there are three identified main activity systems. These are:

1. Conduct of policy studies- as envisioned, policy studies will have to embrace a systemic approach. This is because the postharvest industry is a vast and complex system consisting of interlocking operations and composed of individuals with conflicting concerns and interest. This complex nature of the postharvest system requires then a holistic perspective in viewing problem issues. As the SSM embraces this wide and holistic perspective particularly in addressing problematic situations, it will be used and adopted as the methodological framework for policy studies.

2. 'Echo' findings to a wider critical mass. In this activity system, the idea is to have a large audience critique and inject different perspectives to the outcomes of policy studies. This is meant to open up
Figure 12b Subsystem to study policy issues
issues which may have been overlooked in the conduct of policy studies. The differences in perspectives can further enrich the picture painted in the policy study and would be of great use in selecting a policy line to be embraced by the institute. As envisioned, the critical mass will be composed of Naphire management and senior personnel from different departments.

3. Develop action plans- in this activity system, action programs in line with the selected policy will be developed. The action program will outline how selected policy can be pursued and the structures, processes and resources that goes with it. The policy and the accompanying action program will be prepared and packaged so that it can be understandable even to the uninitiated. Also, as the action program may require inter-office collaboration and resource allocation, the feasibility of implementing the program will likewise be studied. The program and the result of the feasibility study will be echoed back to the critical mass for presentation and discussion.

7.2.5.3. Subsystem to articulate policy issues

This activity system involves the articulation of developed policy lines and action programs so that issues can get attention and support from policy makers. This subsystem as shown in Figure 12.c is composed of three major activity systems. These are:
Figure 12c Subsystem to articulate policy issues
1. Development of extension materials. There are three types of materials which need to be developed. The first is the pre-extension material which will establish information needs and biases of policy makers. As recognized, policy makers differ in thrust and approaches, i.e., congress and executive departments, which need to be considered in the preparation of extension materials and strategies. The extension materials and strategies will be packaged to accommodate identified needs, so that it can be of use to policy makers. Post extension materials will likewise be developed. This will consider measures and indices on how effective extension activities were carried out. Information from these will be used in improving the practice of policy advocacy.

2. Familiarize policy makers on policy issues on postharvest. This activity takes the more formal means of extending materials. This will see the implementation of developed strategies and aims to bring policy issues to the attention of policy makers. This will provide policy makers information from which they can base decisions and actions.

3. Influence policy makers. This involves a less formal means of extending materials and gathering support. The idea is to increase Naphire's participation and involvement in formal and informal activities organized by different sectors in the external
environment. This will improve Naphire's visibility and promote interactions with other sectors and agencies. It is recognized that through increased visibility and involvement, greater contact can be made with policy makers, thereby creating opportunities for influencing them.

7.2.5.4 Conceptual Models and Reality: A Comparison

The models (Figures 12, 12.a, 12.b, 12.c) which were earlier discussed provide in a graphical way the action research team's ideas on how the problem situation can be improved. The models embody the group's thoughts on some structural and procedural measures that Naphire can explore in instituting change so that it can address the problem it presently faces. In a general way, the models provided a framework for discussion.

In this research, the developed conceptual models were presented and discussed in two fora: one with the Naphire Technical Review Committee (TRC) and the other with the Naphire Management Committee (ManCom). The TRC is the group that screens and critiques research output before it is disseminated and published. The group examines whether the conclusions of the study are logically coherent, and whether project recommendations are tenable and valid. Thus, it is with this group that the questioning and challenging of
research assumptions occur. The Mancom on the other hand, is the body that deliberates and decides on proposed operational or procedural changes that concerns the whole Institute. As such, its thrust coverage is different from the TRC. The TRC examines and proposes while the ManCom decides and approves.

In the presentation of the action research output to the TRC, discussion revolved more on the feasibility of adopting the developed models. In this level, the different systems and subsytems of the developed conceptual models were critically examined to see whether it can be integrated within the present organizational structure. Moreover, in this first level discussion, organizational practices were examined and compared with current organizational practices. On the other hand, discussion with the management committee focused on the development of plans of action that would enable Naphire to be involved in policy advocacy activities.

In the meeting with the TRC, a model to model comparison was made. Each activity system and subsystem expressed in the developed policy advocacy model was examined in terms of 1) presence of the activity system in current state of operation and 2) differences with the present system. The result of the meeting with the TRC is summarized in Table 3.
<table>
<thead>
<tr>
<th>Activity System</th>
<th>Present Y/N</th>
<th>If Present What?</th>
<th>Difference</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Monitoring of external environment</td>
<td>YES</td>
<td>-conduct of consultative workshops</td>
<td>-proposed system stresses the need to expand coverage to include policy areas. This, for some reasons, is not being done at the moment. -purpose is not only for project dev't but also to promote industry literacy among staff.</td>
<td>-observed strengths of the model was it highlights the interconnectedness and relationships between activities. -the challenge realized was on how activities can be sustained</td>
</tr>
<tr>
<td>Study of emerging policy issues</td>
<td>YES</td>
<td>-conduct of policy studies</td>
<td>-proposed system advances systemic perspective on policy studies unlike the present practice which largely resembles a socio-technical study -proposed system advances critical thinking on policy studies</td>
<td>-in the discussions, differences in perspective were apparent -individuals appear to justify present structures (why despite the presence of mechanisms task are not being completed) -the group recognized the merits and strenght of the proposed model</td>
</tr>
<tr>
<td>Articulate policy issues</td>
<td>NO</td>
<td></td>
<td>-stresses the need to bring policy issues emerging from completed research studies to the attention of policy makers -recognizes the role of policy makers in developing the postharvest industry</td>
<td>-in the discussion, rationalization using technical knowledge was evident, -some individuals appear to protect present structures as proposed model questions to a great extent the way they operate</td>
</tr>
</tbody>
</table>
In the meeting with the TRC, the developed models were readily acknowledged as a potential operational framework. This was because present practices showed the absence of formal mechanisms that examine and advance policy issues to the attention of policy makers. The nearest involvement Naphire had were in isolated policy studies which many regard as lacking in rigour. In the TRC's opinion, present studies on policy concerns cannot stand as the basis for policy formulation because they merely resemble a techno-socio economic study. Policy studies, as currently conducted only gather benchmark information and do not forward, in any way, frameworks that can be used in making policy decision.

In the discussion, the TRC also noted some strong and fine features of the developed models. Unlike present practice which take policy study in isolation, the developed models consider policy studies in relation with the other two equally important activities- the monitoring of the external environment and the articulation of identified policy issues. In essence, the models present policy advocacy as a continuum of three important activities where success depends, not only on how individual activities are executed, but more so, on how relationships and interactions between systems are cultivated, and how information is exchanged.
Although the TRC recognized the need for Naphire to be involved in policy advocacy, and appreciated the potential of the developed model, the TRC forwarded issues that have to be addressed, if ever Naphire finally decided to really get involved in policy advocacy. These were issues that concern manpower capability and present expertise.

7.2.5.5 Planned Actions for Situation Improvement

The charting of plans for situation improvement was discussed and deliberated at the management committee level. This was done at this level because deciding and intituting changes goes beyond the authority and function of the TRC. Nevertheless, discussions were still in focus because most of the TRC members also form part of the management committee. The management committee includes all division chiefs, department managers and the Deputy and Executive Directors.

In the management committee meeting, a great time was spent discussing the issues that emerged in the TRC meeting. Little discussion was placed on whether to take policy advocacy as a regular activity because management has already expressed intention of doing so. This was evident in their approval to implement the action research.
In the light of the issues that emerged in the TRC meeting, the Naphire management collectively decided to take the following actions. These were directed towards preparing Naphire for its eventual involvement in policy advocacy:

1. Consideration of policy studies and analyses as a priority area for the next five years;

2. Making use of the developed models as operational framework for policy advocacy. This also embraces the structural and procedural implications suggested in the model;

3. Sourcing and provision of funding for well developed proposals on policy concerns;

4. Immediate involvement in policy advocacy by initially hiring consultants to assist the Institute in policy studies;

5. Assessment and addressing organizational needs in relation to policy advocacy activities;

6. Encouragement of greater sensitivity and critical thinking among Naphire staff by giving more space for individual creativity;

7. Integration of policy related fields in the Institute's Manpower Development Program; and
8. Sending of staff for training and other related programs so that they may acquire economic and analytic tools essential for policy studies.

This plan of action drawn by the Naphire management may not immediately and directly improve the problem situation. However, the management is confident that by being involved in policy advocacy, it can improve ties with policy makers and enhance the organizational image of Naphire.

7.3 Outcomes of the Action Research: A Summary

As mentioned earlier, this action research was prompted by an initial feeling of concern for the seeming unfavorable feedback Naphire is receiving from the external environment. The research arose out of the need to examine current organizational practices, and explore means so that the negative external perceptions, particularly those coming from the policy makers, can be improved.

From the research, one evident outcome was a clear understanding of the organizational situation. The research identified three issues which could have contributed to the seeming unfavorable perception. These include:

1. Failure to establish a societal context by which Naphire can operate. This is largely due to the frequent turn over in the Naphire leadership;
2. Mismatch on the concept of 'development'. Naphire views development mainly from a technical perspective while policy makers view it from a socio-economic perspective; and

3. Lack of organizational mechanism that forwards emerging policy issues from completed research projects to the attention of the policy makers.

Of the three, the third issue was considered the most relevant because it immediately addresses the concern raised. By being involved in policy advocacy, Naphire can establish links with decision makers, and in the process, articulate what it is doing. With policy advocacy, Naphire can likewise facilitate the installation of support and delivery systems only policy makers can enact, which is essential in promoting the continued adoption of developed postharvest technologies. The utilization of developed technologies is argued requisite if Naphire's work is to bring economic benefits to its clients. Naphire recognized that unless there is a concerted effort between research organizations and the policy makers, the development of the postharvest industry will never be complete. As such, Naphire in its most recent planning conference (July 1991) affirmed to take policy advocacy as a priority area of concern for the next five years. It will seriously involve in the conduct of policy related studies, and in the extension of policy issues to decision makers.

Another outcome of this action research is an organizational awareness on other ways of implementing research. Clearly, the action research introduced to Naphire, a
technical task-based research organization, a research approach that builds largely on member participation in group processes. The importance of this to R and D programs is discussed in Chapter 9.3. As a result of the action research, Naphire started to 'open windows' to other mode of researching. This is evident in Naphire's decision to encourage creativity and critical thinking in the conduct of research projects.
Chapter 8

Discussion:
A Critique of the Research Methodology and Approach

The preceding chapter described how the SSM and Action Research were employed in addressing a problematic situation. As presented, the SSM was used in iteration: first, in identifying a relevant issue which was later used in developing the action research proposal; and second, in the facilitation of the action research study. As the whole research exercise, taken in the context of a masteral thesis, raised both ethical and operational questions, attempts are made at this juncture to examine and draw learnings from the approaches taken.

8.1 The Soft Systems Methodology and the Use of it

To any beginning practitioner, the use of the SSM may in itself prove problematic. Though the methodology used in relation to this research shows potential and utility in mobilizing organizational action towards change, its use and actual application is not without problems. The principal researcher experienced difficulties which are largely related
to what Warmington (1980) considered as goal dilemmas, ethical dilemmas and problems of role definition and ambiguity. The difficulties and problems encountered however, were contingent on the particular situation where the methodology was introduced and applied.

8.1.1 Rich Picture Building and Situation Analysis

At this stage of the methodology, one problem encountered was in defining who does the rich picture building. The SSM with its emphasis on the analyst-client relationship suggests the mutual exploration of the problem situation by both the analyst and the client in order to generate multiplicity of perspective. In this research however, rich picture building was done in a rather different way. From a personal account, the principal researcher initially established a rich picture of the organization where he works, and made use of the situation picture in developing an action research proposal. Unlike in most soft systems studies where the analyst enters into the situation by client invitation (Checkland and Scholes 1990a), the principal researcher in this action research stepped into the situation/organization through his own initiative and action.

In developing the action research proposal, the principal researcher established first a rich picture of the organization. This was done in the light of an initial feeling of unease that the organization's performance was
not getting favorable feedback from the external environment. In the rich picture building, the principal researcher made use of his experiences in the organization, both as a researcher and a planning officer, in examining structures, processes and issues that abound in the situation. From the rich picture developed, the principal researcher drew issues that were of relevance to the organization and developed it as an action research proposal.

From the principal researcher's judgment, the approach of initially developing an action research proposal was highly called for, since he was not only coming from within (being himself part of the organization), but likewise, coming from the outside as well, since he was introducing new concepts and approaches to researching. To a great extent, the initial identification of relevant issues which can likewise be viewed as researchable problems, helped capture the interest of the client organization. Moreover, as the client organization largely operates from a reductionist and hard systems perspective, the incorporation of a research focus in the proposal facilitated the integration of action research in the language and operational context of the organization.

Though such an approach proved useful, particularly in getting the support of the organization, it raised at the same time, some ethical and operational questions. What right has the principal researcher have to identify an issue
in behalf of the organization? How sure was the principal researcher that the picture established was right and a complete account of the situation? These are but two of the many questions that can be posed.

Admittedly, it can hardly be argued that the initial rich picture established was complete. For one, it only embraced the perspective of the principal researcher based on his own experience in the organization and discounted other potential perspectives. Such a dilemma however, was addressed by presenting the drawn picture and relevant issues to other organizational members- particularly the organizations management. This was designed to strike organizational awareness on the issues posed and solicit as well other perspectives about the problem situation. To a great extent, the discussion that ensued from the process contributed much to the understanding of the situation and the further enrichment of the situation picture.

Considering the epistemological assumptions where the SSM was built, conducting an initial rich picture may not prove ethically problematic at all. The SSM recognizes the diversity by which the problem situation can be viewed, and the principal researcher's view was one legitimate way. Von Bullow (1989) fully subscribed to this expressing that in SSM:
"it is taken as given that no objective and complete account of the problem situation can be provided. . . because 1) the social world is by far too complex to be matched by a model as one to one and 2) . . .people attach different meanings to the same social phenomena. (p. 36)"

With the initial rich picture building and the drawing of relevant issues, what the principal researcher achieved was a framework that facilitated the integration of action research within the operational context of the organization. The need for a conceptual framework was recognized by Warmington (1980) who expressed that action research must have a clear conceptual framework that is acceptable to the researcher and which may have to be imposed on the research on the initiative of the researchers. As experienced, a conceptual framework in action research provides a certain structure in the research process, which can otherwise be viewed as extremely fluid.

On the other hand, the rich picture building together with the action research team (section 7.2.1) was likewise problematic. In this rich picture building, the action research group diverged on the identified relevant system and pictured their individual thoughts and ideas. However, unlike in the initial rich picture building where problems were ethical and goal-related, problems with the team were more in role perception and definition.

In the action research team, particularly at the initial stages, some members were reluctant to take initiatives and participate in group exchanges. Some
members waited to be asked before contributing while others simply begged off and declined. From the group process, it appeared that action research members were more comfortable contributing on issues that bordered within their respective departmental concerns, rather than on broad general concerns. As must be noted, the action research team was composed of individuals coming from different departments that address different concerns. As such, their backgrounds and interests varied from each other. Apparently during the initial stages, a role crisis was present in the team. Members were acting merely as representatives of their own unit and not as participants to a problem improvement endeavor. In addressing this situation, the principal researcher, together with the team, discussed with each other the expectations and role of being one in the team. This enabled the team members to understand the role and expectations associated of being one with the team.

What role must members bring to the team then? As experienced in this research, action research members need to embrace the full meaning of participation. Being a participant in an action research means sharing and taking part in the whole research process. As McTaggart (1989) placed it, participation means sharing in the way the research is conceptualized, practised and brought to being in the life world. In this research, though there was little participation of action research members in project conceptualization, there was however, evident ownership in
ownership in the production of knowledge and in the improvement of the practice. The action research team and the organization in general clearly recognized the issues in the situation which propelled them to purposeful actions. Thus, participation in research conceptualization can also be taken in the context of problem recognition and group resolve for practice improvement.

As experienced in this research, rich picture building and the techniques of doing so need to consider the nature of both the problem and the situation. If what is to be pictured is an ontological problem or notional systems, Checkland's (1981) suggestion of looking into structures, processes and power relations may prove helpful. However, if what is to be pictured are individual thoughts, issues and epistememes, the creation of an atmosphere favorable for individual participation is what is called for.

8.1.2 Root Definition and Conceptual Models

Exploring these stages of the methodology was likewise difficult. One constraint met was the compositon of the action research team who were all unfamiliar with soft systems concepts and methodology. As the explication of the SSM and its finer details can only divert team focus from problem improvement endeavors, root definition building and conceptual modelling were done in a different light. With the action research team, modelling was done in a straight forward manner. There were no formal
establishment of root definitions nor the listing of CATWOE. Rather, what was done was the listing of all activities and the relationship between activities necessary in addressing the identified relevant issue.

In conceptual modelling, it is important to recognize the relationship between the actors who do the modelling, and the individuals the models are constructed for. This is in preparation for the set of actions that will eventually be taken to improve the situation. In Checkland's SSM, this requires the articulation of who the clients are, the actors and the owners of the model.

In this research however, the articulation of who the client, actors and owners of the developed model was not truly necessary because the relationship between the team and the supposed client was already defined from the outset. The action research team, who took the role of an analyst, assumed a recommendatory position in relation to the client, who in this regard was the organization's management.

In the conceptual stages of the SSM, another challenge encountered was in containing modelling within the realms of the conceptual world. As experienced, there was always tension between placing modelling in the abstract conceptual world and relating it to activities in the real world. The tendency among members, as they were unfamiliar with the concept, was to list activities related to the actual situation. This forfeited the very concept
behind the methodology which was to establish mental images that can be compared with the actual situation. In order to put the modelling exercise in perspective, one that is within the realms of the abstract conceptual world, a process conscious facilitator is needed.

On the other hand, in making use of the CATWOE, one dilemma experienced was in identifying the research clientele. This was experienced when the principal researcher expressed the outcomes and experiences with the group in soft systems language. In this action research, the principal researcher was initially at a lost in defining who the clientele was, apparently because several clientele can be identified. As commonly described, the client is the one who would benefit from the research. With this definition, one can draw up potential several clientele and include:

1. The principal researcher who needs to complete the action research in partial fulfillment of course requirements;

2. The Faculty of Agriculture and Rural Development, Hawkesbury, who can benefit in showing that their espoused paradigm and methodology works;

3. The organization itself (Naphire)

Indeed, by focusing on the research, one can draw up a list of potential beneficiaries. However, as experienced, the real research clientele is the one directly related to and who could benefit from the expressed desired
transformation. Thus, as experienced in this research, there were different clientele from different expressed transformation.

8.1.3 Comparison and Debate for Feasible Change

The utility of developed conceptual models to the situation improvement effort can be considered as no more than a tool. In SSM, conceptual models are used to stimulate and structure debate among concerned individuals in order to achieve consensus for improving the situation (Jackson 1990, Checkland and Scholes 1990b). Thus, in SSM, the problem resolution process comes about when actors begin to talk and agree on the set of action that needs to be taken in order to improve the situation. The conceptual models in this sense merely provide a framework or an alternative perception from which the problem situation can be compared.

In comparing conceptual models with the problem situation, several problems may arise. As experienced, the problems in this stage largely concern the HOW and WHO of the process. In comparing developed conceptual models with the problem situation, it is helpful to be keen and sensitive to existing structures and channels in the particular situation since this may shape the form and mode of comparison, and determine who to involve in the comparison exercise. This suggests that the HOW of this stage needs to be placed in the context of the situation as well.
In this research, comparison and debate were done at two levels with each level addressing different concerns (section 7.2.5.4). This was done to contain the comparison exercise within the formal channels and structures present in the situation. In the organization where the research was conducted, two committees were in place: 1) the Technical Review Committee who examines all research studies; and 2) the Management Committee who approves courses of action upon the recommendation of the review committee.

In comparing developed conceptual models together with the TRC, there were evident clashes in perspectives. This was expected as it was a multidisciplinary group composed of specialists who assess research undertakings from their respective disciplines. Some members questioned the utility of the developed conceptual model while others challenged its value. These differences in perspective can be traced to what Mingers (1980) claimed as differences in experiencing the world. Mingers held the view that

"experiences of the world are mediated or interpreted in terms of one's purposes, knowledge, values and expectations which have developed in a particular way through previous experiences. (p. 44)"

Though the review committee members came and discussed from different perspectives, the resulting critical exchanges nonetheless opened up new views to individual members. It likewise convinced the review
committee for the need for certain actions. This moved the TRC to endorse action research output to the management committee. This experience affirmed that in order to institute change, some views need to be challenged. As Davies and Ledington (1988) expressed, conflict is just as essential if one is to stimulate innovative change.

In the second level discussion, where comparison was done together with the organization's management, exchanges were mostly placed on operational and strategic concerns. Accordingly, as management has the power and authority to institute change, decisions about actions towards change were made at this level. As in the discussion with the TRC, discussion with the management committee also resulted in conflicts in ideas and perceptions. The differences in opinion however contributed greatly in defining strategic actions. By strategic, this refers to actions whose effect to the situation may not be immediate and forthcoming but were considered favorable in the long term. Aside from strategic actions, the comparison and debate stages led to the formation of tactical and reformative actions designed to improve the situation.

In the research, strategic action was evident in the management decision to be involved in policy advocacy and integrate policy studies in its line of research activities.
Though the benefits of this for the organization cannot immediately be realized, its an action that can further the organization's involvement in industry development.

Tactical actions on the other hand, were those directed to support strategic actions. In a sense, tactical actions are more operationally focused than strategic actions. In the research, tactical actions were reflected in the management's decision to adopt the developed activity system as framework for policy advocacy; and the immediate installation of essential support systems. This included the hiring of consultants who would initially assist researchers in policy related studies.

Reformative actions were those designed to encourage changes in reorientation and the expansion of staff perspectives. As such, reformative actions were inwardly directed and introspective. These actions were designed to create situations that force new attitudes and behavior to people involved (Beer et al 1990). In the research, reformative actions were manifested in management's decision to explore new approaches in research methods and in encouraging creativity and critical thinking in research approaches.

These observations, the types of action that arose from comparison and debate for feasible change is parallel to what Checkland considered as areas for change in a problematic situation. These were structural, procedural and attitudinal changes. Structural changes include
elements that do not change in the short term while procedural changes include elements that are dynamic. Attitudinal changes, on the other hand, include not only attitudes, but also changes in influence and expectations that relates to particular situations (Checkland 1981).

In conducting a comparison and debate for feasible change, it was found important to cast effort to a wider audience. When comparing through an interactive exchange as was done in this research, it is essential to involve the owners and would be actors of the defined system. In the research, what was compared and debated upon was the developed policy advocacy model in relation to the problem situation. This was the conceptual model for RD1 (Figures 12, 12a, 12b, 12c). As experienced, the involvement of actors in the developed model in the comparison and debate exercise facilitated their understanding of the problem situation and the appropriate line of action needed to improve the situation. Moreover, as members themselves participated in defining the actions needed, their commitment to planned changes was ensured.

8.2 Action Researching in a Technical Task-based Research Organization

As experienced in this research, introducing and doing action research, particularly in a technical task-based research organization was daunting and challenging at best. It meant working with a system that is highly structured and
with a mind set that is largely biased to technical rationalities. The challenge for the principal researcher was not only on how to integrate action research in the operational context of the situation but even more so, on how to deal with the pervading mental, cultural and structural barriers that often impinge on action and learning.

8.2.1 Introducing Action Research

In introducing action research, particularly in a situation where there is no formal invitation, it is necessary for a practitioner to pay attention to some issues that may affect the course and nature of the research. These include the assumptions that a practitioner/researcher brings into the research and issues that are inherent and characteristic of the situation.

In introducing action research, it is important that a practitioner prior to research involvement, spells out the assumptions he brings into the research. This is so as assumptions affect in a significant way the nature and direction of the research. As in this research, the principal researcher has always wanted to see the organization of which he is a part of, to evolve into a dynamic agency and function as an effective agent for change. By being dynamic, this refers to the organization's tenacity to adapt to the demands and challenges of the times; and by effective, to the organization's capacity to meet the needs of the sectors it is mandated to serve. The principal
researcher also believes that by its character and nature, action research can serve as a powerful framework for raising individual and organizational consciousness about practices and actions. The principal researcher contends that the raising of individual and organizational consciousness is essential in mobilizing organizational action towards change.

As earlier argued, it is likewise important to integrate and place action research within the broad operational context of the organization or situation. In introducing action research, it is more strategic to initially tackle issues that are related and of interest to the concerns of the organization as a whole, rather than addressing and improving individual or group concerns which are not compatible with organizational concerns. With this, management interest and support which is essential in instituting required support systems can be won. As argued by Foster (1972), effecting organizational change requires not only individual or group change, but equally so, support systems and structural change processes that are supportive of individual and group change.

In this research, what was done was to initially seek management approval for the conduct of the research. This necessitated the preparation and presentation of the action research proposal in a manner that was compatible with the language and form prevailing in the situation. This
immediately highlighted the concern of the research endeavor and caught the interest and support of the organization. Had it been presented in another way, where problem/issue identification would be integral to the research process, the proposal might have been received in another way.

In starting an action research, it is not absolutely necessary for a practitioner to have a "full" understanding of the concept. This is even doubtful given the conflicting interpretations on what constitutes action research (section 4.1). He only needs to internalize though, the ideals and values of action research. As experienced in this research, what is essential in starting an action research is a framework the researcher can refer to in the process of research. Towards this end, Checkland's SSM was found helpful.

8.2.2 Implementing Action Research

In conducting action research together with uninitiated individuals (individuals who do not have any idea on what action research is), it is important that a practitioner be conscious of his role in the action research process. The task for him is not to define action research but rather, to allow the group members to search and explore that they may find in the process the meaning of the
research. This necessitates facilitation skills on the part of the practitioner to ensure that members participate and take part in the research process.

In the facilitation of an action research group or any group processes for that matter, a facilitator needs to be conscious and sensitive to issues that are inherent to the group, as well as with issues that arise from group interactions and exchanges. The facilitator in a sense, serves as the processor of the cognitive, affective and social exchanges that occur in group processes (Williams, 1990). As experienced in this research, where the principal researcher served as both participant and facilitator, there are three important issues which has to be considered in group facilitation. These include:

1. Needs of the Group - In encouraging participation in group dynamic activities, it is important that legitimate needs of group members are met. Legitimate needs refer to those that relate to group processes which include but are not limited to material, physical and emotional needs. As in this research, the approval for the conduct of the research was initially solicited from the organization's management as members may not feel comfortable participating in group processes in the absence of official sanction. Though this approach may pose serious questions, especially with regards to the general nature of action research, (that of being largely participant-initiated and directed), the approach in a way have galvanized the group
to work together. As the principal researcher felt, the exhibited enthusiasm and interest to learn of action research members, could not have been the same, had there been no formal sanction and support coming from the organization's management. As Checkland and Scholes (1990a) acknowledged, individuals should use the methodology in a way comfortable to them and in relation to situations about which they are concerned.

In the facilitation of an action research, the facilitator also needs to create space for group determination. Rather than imposing structures and processes peculiar to traditional facilitation approaches, it is important to allow group members to decide by themselves how they are going to work and operate. By letting members to define and determine their own operational framework, a sense of commitment and responsibility can be impressed. These are critical for the sustainability of the action research group.

In action research, material needs of the group have to be addressed. As experienced in the weekly meetings, group processes can become intellectually exhausting and emotionally draining especially towards the end of each session. Individual energies reach low levels which have great effects on individual participation and contribution. As it is the facilitator's role to keep group processes
going, he needs to be keen and sensitive as well, to discern when group performance is slowing down and address it in an appropriate manner.

2. Group Culture - in action research, the facilitator needs to recognize and to be conscious too of group culture. Culture, as expressed by Davies (1988) provides:

"the framework whereby members meaningfully interpret actions as being correct or incorrect in relation to their understanding of the organization. (p. 14)"

In this action research, there was an initial reluctance from some group members to contribute and participate in group processes. Members were holding back from participation, allowing the principal researcher to lead and dominate group discussion. It appeared that some members were looking to the principal researcher as the group leader, being the one who initiated the research. Some members, on the other hand, thought that the principal researcher have many ideas to share from which they can learn. Interestingly, such group attitude can be attributed to a dominant culture. In general, Filipino people tend to look up to their leaders, seldom being challenging and critical of them. Though this may to some extent explain group members action, it greatly hindered participation in group processes.

In the facilitation of an action research, the facilitator must likewise attempt to understand prevailing
mindsets in the situation. In this action research, another dilemma faced by the principal researcher was the group's dependence on technical rationalities in approaching problem situation. This can be due to the technical nature of research studies by which most of the action research members were exposed to. Some of the action research members were bent to establish statistical correlation of forwarded individual claims, and build subsequent decisions from the rule of acceptance and rejection. Although it was clear that the action research focus was an organizational practice which can be resolved through an argumentative process of consensus formation (Ulrich 1988), some members were still disposed to run statistical tests to refer decisions from. Nonetheless, in the process of discussion, practical reason prevailed completely eliminating the need for theoretical/statistical examination.

In action researching, the challenge for the facilitator is on how to motivate individuals that they may overcome cultural barriers to learning. Although the facilitation approach a practitioner may take cannot be generalized as it can vary from individuals and situations, it should be one that considers yet permits the challenging of the prevailing culture.

3. Power - In the facilitation of an action research, power is another issue that a facilitator needs to be conscious of. As Williams argued:
"in action research, power issues need to be recognized and worked with to reach an understanding of where the power lies and what influence that power may exert in the action research outcome. (p.84)"

In the context of this action research, it was clear from the very start that power issues were at play. These power issues were largely related with the WHAT, HOW and WHERE of the research. As experienced, the sensitivity of the facilitator on these power issues was important particularly in placing the research within the practice of action research (McTaggart and Singh, undated).

In this action research, the first power issue encountered was in defining the WHAT of the research. In the research, the organization's management clearly played a great part in identifying the relevant issue which the action research team worked on. Evidently, the involvement in the action research of the organization's management was from a position of power. It was the management who initiated the formation of and bestowed "power" to, the action research team to work on the identified relevant issue. Thus, from the outset, the relation of the action research team to the organization's management was defined. The action research team was formed like an ad hoc body and compelled to embrace a recommendatory role.

Interestingly, this mobilization of differential power resources by interest groups is a critique often hurled against Checkland's SSM. As Jackson (1990) argued, power
differentials hinder true and genuine participation. As in this research, the intent for participation of action research members can be questioned as they did not come to the research on their own. Likewise, it can be argued that members participated only out of management directive for involvement and participation in the action research process. Though these arguments are sound and largely coherent, it must be realized that power differentials are inherent to organizational life. This is due to the hierarchical manner by which organizations are structured and organized. In this research, the power issue was taken as given and integral to the system. In the context of the research, what was found essential was the recognition of this power issue and its relationship to the whole research undertaking.

In the facilitation of an action research, a facilitator also needs to be conscious of the power that members bring into the research group. As experienced in this research, this power issue, when not checked, can largely determine HOW the research will likely go about. Action researching in an organization brings together individuals who by themselves are also differentiated by power. This refers to the power hats individuals wear in the organization (Williams 1990). As experienced, members who in terms of organizational hierarchy occupy high positions tend to dominate group discussion while those who wear smaller hats, on the other hand, tend to simply listen and agree. Furthermore, the domineering and assertive personalities of
those in position sometimes intimidate other group members resulting/forcing them to an uncalled or rationalized silence. This is unfortunate since it isolates members, not only from participation, but more so from the sets of relationships on going in the research (Hunt 1972). From the experience, power differentials when not constructively addressed, also limit individual contributions to group processes and inhibit individual potentials for growth. Indeed, in situations where the social space for interactions are curtailed, the dialogical discourse (Ulrich, 1988) which is the essence of SSM and action research becomes heavily lopsided in favor of the power figures. In such cases, the challenge for the facilitator was not only of motivation, but also, of ensuring that opportunities for participation are distributed among, and taken by the group members.

The third power issue is the one that shapes WHERE the research is going. This refers to the group's collective power to act and decide as they deem right and proper on issues that confront them. This power, though reflected in the group, is built on the individual's capacity and willingness to involve in an interactive process. As experienced, this power issue was largely related to the way the other two power issues were addressed. The clearer the understanding of the group's position in relation to the power external to the group (management), and the greater the opportunities for participation and interaction, the greater the collective power will be. In the action
research, collective power became evident in the latter part when the group members started to blend in. This was manifested in the depth and degree of individual participation.

In this action research, the principal researcher played a dual role. He was involved both as a facilitator of group processes and as a team participant. As experienced, assuming dual role demanded greater challenges. In assuming a dual role, it is important for a practitioner to be conscious of his ideas and the way he forwards it. He must present his ideas in a manner that invites challenging and critiquing, otherwise, they will only be taken and embraced as gospel truths by the research group. In assuming a dual role, the concept of shared leadership (Rowe 1989) was most helpful. In shared leadership, the facilitator spread the responsibility over group processes to other members of the group. In the research, shared leadership was facilitated by allowing group members to lead group processes as in the recapitulation and synthesis of group discussion. As experienced, shared leadership enhanced group identity, making all members equally responsible to the outcome of the research. Likewise, shared leadership improved individual participation and increased individual awareness on group processes. As Rowe expressed it, shared leadership enables participants to grow personally by developing new abilities and enhancing individual self esteem.
8.2.3 "Ending" Action Research

One idea behind action researching is to make individuals become aware of their practices or practices that concern them; that they may continually and systemically explore means for understanding and improving it. As this suggests a never ending flux between sense making and making sense; between experiencing and making meaning of these experiences (Bawden 1990), it brings to focus the question of "how does one end action research?" or "does it need to be ended at all?"

In action research, certain stages may give the impression that the research have ended. As in this research, the principal researcher had to leave the research group thus, giving an impression of research completion. This may not necessarily be so. As earlier mentioned (section 8.22) the challenge for one who introduces action research is to help individuals explore and develop their own meaning of action research so that they can learn and internalize the process. The internalization of the philosophies behind action researching is essential for the continued and conscious improvement of individual practice.

In this research, participants viewed action research in different ways. Some viewed it as a process where participants come together and discuss problems of common concerns while others saw it as a way of accomplishing assigned tasks. On the other hand, some members viewed it as the process of exploration and taking
action in understanding and improving a practice or situation. Though members' perception on action research varied and were widely divergent, participants were one in recognizing the potentials and usefulness of action researching particularly in examining and addressing organizational practices. More so, they found the action research as a truly enriching experience where they learned more about their organization, their research and theirselves. These were captured in the statements made by the action research members in response to a picture survey. The survey was conducted to solicit member's opinion about the action research undergone. The results of this survey, which had the following excerpts, are shown in Appendix G.

On the Utility of Action Research:

"It (the action research undergone) makes people as well as the Institute (Naphire) dynamic and responsive to the changing environment. For survival amidst social and societal forces."

On Member's learning from the Action Research:

"It (the member's learning) is about the reality where we have to step some more beyond our lives in order for our research to be recognized and be useful."

"I realized the importance and advantage of working as a team... as we are able to share or participate and express our ideas from our heart and our mind."
Action Research as a Framework for Organic and Systemic Change

The enormity of insights drawn from this action research encouraged the principal researcher to expand and see how these insights relate to bigger concerns. The principal researcher felt that learnings drawn from the experience can be of significant use in further understanding and improving group processes on which most organizational activities are built. From his perspective, the outcome of this action research was not only a set of organizational actions designed to improve the problem situation, but much more so, knowledge on how to act and mobilize actions particularly in planning and effecting desirable changes.

9.1 Action Research and Group Processes

As was evident from the research undertaken, central to action researching is a group process where individuals collectively engage in the reflection and observation of concrete experiences and in the planning and taking of actions towards change. This group process and the inherent participative nature and reflective character of action
research makes it a potential framework in pursuing organic and systemic change. This refers to changes that an organization as a whole may have to take to improve organizational practices. This includes not only structural, procedural and attitudinal changes, but more specifically, changes to the cognitive rules and reasoning that are used in planning and implementing actions (Argyris 1991). Provided that culture and power issues are constructively addressed, action researching can promote coordination and commitment, which are essential in implementing change programs.

In action research, coordination is enhanced by allowing individuals to become aware of their roles in the group as well as the role of the group in the context of the organization. By role, this refers to the combination of expectations on the individuals performance (Hunt 1972). By allowing members to become aware of their roles and the expectations that go with it, as was done in this research, members learn to establish a framework by which they can constructively and interactively work. This minimizes unproductive conflicts which often serve as stumbling blocks in change processes. In a supportive atmosphere where members freely communicate and support each other, individuals learn more about theirselves, their peers, their experiences and their shared objectives. This increases the individual's awareness and understanding about the responsibilities associated with the role which are essential in achieving shared objectives. This was evident in the action research when one group member expressed that the whole
action research experience enabled him to understand the activities being undertaken by individuals from other departments.

As experienced though, cooperation in action research does not necessarily mean absence of conflict. In fact, conflict abounds in the whole action research process, especially so when individuals start to associate different meanings and perceptions on arising issues. Rather than serving as stumbling blocks, conflicts in action research are used to clarify issues and highlights differences in perspectives. Conflicts serve as building blocks for better understanding and appreciation of issues. In action research, conflicts that arise from the diversity in perspectives make the group more effective in terms of having more ways of looking into the problem, more suggestions for solutions and more analysis and criticisms of suggested plans (Shumsky 1956). However to harness the potential in conflicts and action research for that matter, where conflicts are used in a constructive way, members need to embody a particular kind of action - one that underlies preferences for group interaction and exchanges. Members need to embrace the values of action research which attempts to bring deliberate changes to personal and professional practice through authentic and strategic acts (McTaggart and Singh, undated).

In achieving shared objectives as that in change programs, commitment is as important as coordination and cooperation. Commitment is essential in maintaining and
sustaining initiatives, effort and cooperation (Beer et al 1990) that coordinated action demands. In this research commitment can be viewed at two levels. First, in the action research member's commitment to partake and involve in group processes; and second, in the organization's management to pursue planned organizational change. At the group level, commitment to group processes was fostered by allowing members themselves to develop the group's operational framework. Group members collectively discussed and agreed on how group processes were to be carried on, thus, incorporating individual concerns and needs in the process. Though tardiness and absenteeisms were observed in some group meetings, these were largely attributed to other demands of the system of which the action research group was a part. Some action research members were compelled to forego action research meetings in favor of other unprogrammed task demanded of them. In order to foster commitment to officially sanctioned processes, organization management must likewise show full commitment to support the sanctioned group processes.

At the organization level on the other hand, commitment to planned changes was hard to state. For one, the principal researcher left the organization before any evident action in line with the planned changes begun to manifest. However if the organization's seriousness to pursue policy advocacy is taken as a yardstick, the organization then showed strong commitment to planned changes. In its planning conference (held in July 1991), the organization affirmed to
take policy advocacy/analysis as one priority area for the next five years. Building on this, it can be argued that commitment at the organizational level was promoted when a sound understanding about the problem and the need to improve it was achieved. This was facilitated when the organization's management was encouraged to be involved and take active roles in the research process.

From the action research experience, it can be argued that commitment to group processes was promoted when a shared understanding of the WHAT, HOW and WHERE (section 8.22) of the research, and the responsibilities associated with it were achieved.

9.2 Opportunities in Action Research

Aside from action research's potential to foster coordination and commitment, action research also opens up opportunities for greater organizational learning. This is facilitated by the deliberate and critical reflection built in the action research process. To a great extent, reflection in action research enables an individual (or group of individuals) to critically examine his practices, the theories he employs and the values he embraces that commonly governs action. This includes concepts, rationalities and habits that are normally used in making decisions for actions. As experienced, reflection in action research promotes critical consciousness which serves as a great source of learning. Critical
consciousness is the mode where individuals examine the way they think and act leading to deliberate and purposeful changes (McTaggart and Singh, undated).

Through action researching several opportunities can be opened up. These are opportunities that relate to how an organization can improve prevailing practices. These opportunities are generally in the line of:

1. Planning and pursuing organizational objectives in a collective and coherent way. With the participatory thrust of action researching, organizational members can take part in the forming and shaping up of desired organizational objectives. By active participation in the planning process, organizational members can define their role in the light of organizational expectations; and act to support and complement other organizational endeavors. In action research, participation in the planning process is highly linked to participation in taking action. This differs from the traditional planning process where individuals merely contribute to idea formation. In the context of action research, participative planning enables individuals to be conscious, not only of the ends that need to be achieved, but much more so, of the processes that need to be undertaken to achieve expressed ends. It highlights the relationships between individuals, processes and structures in light of planned organizational objectives. Moreover, as action research builds on group processes where individuals
collaboratively work and interact, relationships between individuals and groups of individuals can be improved. This is crucial in attaining planned objectives.

2. Promoting organizational efficiency and effectiveness. Through action researching where individuals reflect on concrete experiences, organizational members consciousness about individual and organizational practices can be raised. It opens up opportunities for better understanding of how the organization operates, its character and culture and its needs for improvement. This awareness is essential in examining and improving structures and processes that impinge efficiency and effectiveness. As organizational members partake in identifying needs for improvement, their commitments to change programs can be enhanced. Furthermore, through action researching, organizational members can forge better relationships with each other which is crucial to the success of every organizational endeavor.

Though these opportunities may appear great and overwhelming, these can only be realized when organizational members and the organization as a whole begin to think and operate in an action researching manner - one conscious of the changes demanded of them. As McTaggart and Singh advanced,

"Values need to be worked through in a particular situation. This can not be achieved unless action researchers are reasonably articulate ... about the substantive changes they are committing themselves to and about their reasons for doing so. (p.415)"
9.3 Action Research and Agricultural Development

The preceding discussion showed the utility (Chapter 7.0) and potential (section 9.2) of action research in mobilizing organizational action towards change. It highlighted the processes by which group coordination/ cooperation, commitment and critical consciousness vital to change processes were raised. As change and improvement are highly associated with development, as one can not talk of development without change (Zeeuw de 1988), it may be worthwhile to examine how action research relates and complements current country (Philippines) efforts on agricultural development.

9.3.1 Action Research as an Alternative Framework for R and D Activities

Integrating action research to formal R and D effort offers benefits which are hardly achieved in other research models. Foremost to this is the better understanding of the complexities of the agricultural system. This is facilitated by the very nature and character of action research, where researchers deliberately step back and view problems in more systemic ways. As such, relationships between issues become more apparent enabling one to draw strategic and well thought plan of actions. This is contrasted with the traditional research process where agricultural problems are viewed and addressed by components. Though the compartmentalized approach in solving agricultural problems produced significant results
as exhibited in the leaps in production levels, it also propelled some undesirable effects. The most serious of these are the marginalization of small farmers and the severe labor displacement (Roling 1990) brought about by the use of developed technologies. Indeed, experience showed that improvement in a single component does not automatically lead to the improvement of the whole system (Sriskandarajah et al 1991). Action research with its systemic complexion provides a framework that considers not only relational aspects with and between systems and its environment, but more specifically with the properties that are emergent to the system as a whole.

Through action researching where researchers and farmers/clientele collaboratively engage in a purposeful effort of improving problem situations, a more stable and sustainable relationship between sectors is likely to emerge. This is a relationship that is built on mutual respect and which recognizes the multiplicity of ways by which problem situations can be observed. This will likewise facilitate the integration of indigenous knowledge held by farmers and the rural sectors; and the institutional knowledge held by researchers and extension workers. The integration of these two types of knowledge can help enrich sectoral understanding about respective practices, particularly on how each other decides and takes actions. This can be used as a guide in making and taking actions toward change. This recognizes that human decisions and actions are influenced by subjective factors.
that are commonly ignored in traditional research approaches. As farmers and farming communities are involved in planning and decision making processes about change, their organizational capacity and skills can likewise be improved. This is essential in pursuing sustainable agricultural development. With the government providing the general framework for development as well as support programs and required delivery systems, action research can provide the means for tapping grassroots initiative and action.

However, integrating action research to current R and D effort requires the examination of the concept of participation. To harness the potentials of action research, current R and D concept of participation needs to be placed beyond the traditional practice which only engage farmers and other sectors in the formulation of research agenda. Though such practice was instrumental in defining relevant areas for research, it limited sectoral participation to problem identification and project development. The focus remains largely on identifying issues of concerns rather than on the way people learn and deal with identified issues. Action research, with its concept of participation promotes researching with people rather than researching on or on behalf of the people (Bawden and Packham 1990). This calls for greater sectoral participation in the whole research process right from project identification to recommendation formulation. This will facilitate the involvement and participation of farmers and other sectors.
in the taking of action along the lines of the forwarded recommendations. In action research, farmers, researchers, and other concerned sectors are drawn into a novel participative exercise that promotes and builds collaborative learning. This will improve the relevance and effectiveness of agricultural research.

By its nature, action research cannot address the whole schema of research areas. It may find difficulty in basic research studies that require scientific and technical skills, but may find extreme usefulness in development research that involves grassroot participation and involvement (i.e., the revitalization of farmer groups and cooperatives). However, action research can be used by those involved in basic and technical studies as a framework by which they can operate and learn from each other's experiences. This will enhance individual or group communication and facilitate information exchange.

9.3.2. Issues in Action Researching

As earlier discussed, action research approaches situation improvement activities in a systemic way. Unlike traditional approaches where problems are broken down and approached by components, action research considers the wholeness of the problem situation and recognizes the complexities inherent in it. These complexities are manifested in the way individuals associate meanings and take actions on agricultural issues. In action researching,
participants examine all aspects as well as the interrelationship between aspects. This includes subjective and personal assumptions held by farmers and other sectors which are normally ignored in traditional research but were claimed to be critical in understanding agricultural issues. As Bawden and Packham forwarded,

"...in the face of ever increasing complexity, dynamism and chaos... agriculturalist must learn how to deal with both objective and subjective relationships between such systems and their environments. (p. 8)"

This calls for an integrative and adaptive research paradigm that promotes collaborative action and learning; a paradigm that enhances problem solving capacity of groups and individuals.

Though action research promises great potential in mobilizing grassroots initiatives and action, there are some attendant difficulties that need to be addressed if it is to be integrated within the mainstream of R and D activities. Foremost is the way by which present research studies are undertaken.

By its nature, action research may prove difficult to professional researchers who are trained to work and operate based on specialized knowledge. With action research where focus is on cooperative inquiry and action, professional skills need to be augmented to include those related to facilitation and community development work. Researchers must learn to enthuse and empathize with
people so that they may gain the confidence and respect of the community. These are essential in establishing meaningful relationships that promote collaborative work. Likewise, researchers must develop communicative and facilitation skills so that they may generate critical discussions and interactions from group processes. This would allow the surfacing of issues as well as perspectives on how issues are viewed, enabling the group to better understand each other's perspective. These issues may not necessarily be a technical component as to what is normally assumed with traditional research projects; but soft issues that borders in the relationships within human activities. As Ashby (1984) argued, professional researchers must be able to establish a relationship with village people wherein both sides interact by learning and teaching together on equal footing. However, this requires the examination of prevailing values embraced by professional researchers and the institutions of which they are a part. Researchers must learn to appreciate research, not only as a means for scientific inquiry and source of technologies with pragmatic utility, but much more as a process where individuals learn to deal and take actions on issues confronting them in a cooperative and purposeful way.

Other issues requiring attention are the structures and processes that normally govern and influence research selection and operation. Being part of a technical research
organization, the principal researcher believes that current structures and processes do not fully complement the demands of action researching.

Unlike traditional research studies, action research does not start with clear and defined research objectives, much more a carefully developed research design and methodology. Action research embraces a very fluid nature and adapts itself to the demands of the situation. In action research, objectives are set in the research process itself and in collaboration with the people; while methodologies are planned in consideration of group culture and norms. Because of this nature, action research may find difficulty in sourcing funding and financial support. Despite its potential to promote sectoral participation and commitment to planned developmental change, action research proposals are likely to suffer from the absence of clear research objectives and lack of methodological rigor which are used as measures for research selection and funding (Maclure and Bassey, undated).

To address this, research institutions who recognize the potentials of action research must lend itself to action researching; and articulate the values embedded in the approach. Articulation must be directed primarily to agencies whose support is nonetheless crucial in project funding. Support can be generated though by ensuring that action research proposals are aligned to the country's broad developmental goals.
Another attendant issue to action researching is the manner by which research projects are monitored and evaluated. Clearly, action research facilitates a social process that enhances group learning and action in effecting change. As this differ significantly from conventional research projects, in terms of both means and ends, monitoring and evaluation of action research projects may require a different mode and procedure. As action research is a group-owned and initiated activity, the group can also be mobilized in developing measures as in the monitoring and evaluation of the project itself. Though it can be argued that such an approach can jeopardize research integrity, it can on the other hand, enhance a sense of responsibility and learning.
Chapter 10

Conclusions

From the action research experience, it can be argued that one of SSM's pragmatic strength is its methodological nature. Being a methodology, it provides a framework for a systemic analysis of the problem situation without imposing rigidities and structures typical in methods and techniques. The methodology is flexible and fluid, enabling one to start at any stage appropriate to the situation. As such, it gives one enough creative space to integrate methods and techniques that are compatible to the situation.

Unlike other methodologies, particularly those within the field of reductionist science, the SSM recognizes the complexities that abounds in the real world situation. These are complexities that arise due to the differing opinions and perceptions individuals associate to issues in the problem situation. Instead of summarily zeroing in on a problem issue, the SSM initially explores the situation. This is based on the assumption that the problem situation is a mixture of
operationally based problems and soft problems that arise from the complexities of the social situation (Stowell and Allen 1988).

Another strength of the methodology is in its participatory character. It collectively engages individuals in the exploration of the problem situation and builds on interactive exchange in defining and taking action towards change. As was done in this research, the methodology made use of conceptual models to strike a constructive debate among concerned individuals on the actions that have to be taken to improve the situation. The participation of individuals in the exploration and examination of the problem situation facilitated the surfacing of different perspectives and raised the individual's awareness of different problem issues. Furthermore, the involvement of individuals in defining courses of action raised individual commitment to planned actions for change.

One weakness of the SSM however is that it does not fully articulate the values of action research. The methodology though built on a reflective and participative inquiry and action, mainly provides a framework on how the problem situation can be improved in an action researching way. The SSM does not lend much in expressing and articulating the philosophies from which the whole methodology is built. For one, the methodology acknowledges the differences of perceiving the world and that complexities resulting from these differences can only be addressed by coming together
and discussing and agreeing on purposeful actions. Though the philosophies underlying the SSM can be clear to its proponents (consultants) and the initiated, the methodology may be seen by the uninitiated as mere sequential stages that have to be followed and undertaken. As such, change in world views and perspectives among individuals are not facilitated.

From this research experience, the SSM might likewise be viewed as an instrument in perpetuating existing power structures in the organization. For one, this action research considered power structures as given and integral in the organization's operation. However, this was only so because power differential was not an issue identified in relation to the initial feeling of unease.

In action researching, several issues have to be considered. Foremost of these are the assumptions (operational and personal) that a researcher brings into the research. Prior to the conduct of the action research, it was found important that a researcher must clearly state his assumptions since they greatly influence the form and course of the research. As experienced, the clarification of operational assumptions helped determine the boundaries of the research while the elucidation of personal assumptions helped reinforce the researchers motivation for doing the research. To a great extent, the outright clarification of assumptions helped the researcher in making use of the methodology in relation to the situation.
In the conduct of action research, particular attention has to be placed on the intrinsic character of the situation. This becomes crucial when conducting research together with individuals who are not familiar with the concepts of action research. From the experience, the integration of action research in the broad operational context of the organization helped significantly in winning organizational interest and support. By placing research methods and techniques within the language of the organization, organizational members were able to relate to the research easily. This however necessitates sensitivity and familiarity to structures and processes that are present in the situation.

From the experience, it was observed that at the heart of action research is the group process. Participants collectively engage in interactive exchanges aimed at reaching consensus and agreements on how the situation can be improved. Crucial to group processes however, is group facilitation. As experienced, group facilitation determines the extent and depth of member participation. In facilitating action research, there are three key issues that a facilitator needs to be conscious of. These include group needs, group culture and power issues in and out of the group. As observed, the failure to consider these issues can result to lopsided agreements in favor of the articulate and the power figures.
From the research, the potentials of action research were likewise recognized. It was noted that through action researching, group cooperation, commitment and critical consciousness can be raised. These were considered vital in pursuing organic and systemic change; and in promoting a grassroot-initiated sustainable agricultural development.
PLEASE NOTE

The greatest amount of care has been taken while scanning the following pages. The best possible results have been obtained.
List of Naphire's Past and Current Projects

Past Projects

A. On and Off Farm Operations

1. Grain Quality Deterioration in On Farm Level Operations
2. Utilization of Solar Energy for Grain Drying
3. Paddy Deterioration from Procurement to Storage
4. Training and Evaluation of Rice Hull Fired Furnaces for Grain Drying
5. Maize Deterioration at Off-farm level Operations
6. Assessment of Paddy Loss in Storage
7. Maize Deterioration at On-farm Level of Operations
8. In-store Drying in Bulk High Moisture Grains in the Humid Tropics
9. Paddy Loss Assessment at Farm Level Operations
10. Improvement of the Philippine Peanut Post-production Industry: Phase I
12. Drying of High Moisture Grains in the Humid Tropical Climate

B. Pest Infestation and Quality Deterioration During Storage of Grains and Legumes

1. Insect and Mite Pest and their Control in Commercial Storage
2. Rodent Pests and their Control in Commercial Storages
3. Integrated Use of Pesticides in Grains Storage in the Humid Tropics: Grain Admixture
4. Kinetics of Decay of Candidate Pesticides for Integrated Pest Control Program
5. Effects of Controlled Atmosphere on the Quality of Stored Grains
6. Long Term Storage of Grains Under Plastics Covers
7. Control of Aflatoxin in Maize
   a. Maize Production and Postproduction Systems
   b. Mould and Aflatoxin Build-up in Maize
   c. Technology Performance Verification
8. Controlled Atmosphere Storage Technique
C. **Socio- Economic Constraints**

1. Socio-economic Study on the Utilization of Mechanical Grain Dryers
2. Socio-economic Factors Affecting the Utilization of Postharvest Equipment in the Maize Industry
3. Reduction of Milling Losses in Village Level Rice Milling
4. KAISA- A Case Study of a Farmer-Based Enterprise

D. **Lack of Improved Facilities and Practices**

1. Design and Development of a Low Cost Shelled Maize Dryer
2. Development of an Improved Mobile Corn Sheller
3. Design and Development of Corn Crib for the Humid Tropics
4. Study on the Physics of Bulk Storage for Paddy
5. Pilot testing of an Improved Corn Sheller

E. **Policy Study**

1. Study on the Alternatives to Highway Paddy Drying in Central Luzon

F. **Training and Extension**

1. University Training on Grain Postharvest Technology
2. Strengthening of the National Training Center in Postharvest Technology

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Appendix A


A. Training and Extension

1. For Farmers and Farmer Group's
   a. Communication Support on Grains Postharvest Technologies
   b. Naphire-Land Bank Technology Dissemination Scheme

2. For Non-Government Organizations
   a. Naphire-NGO projects on Grains Postharvest Extension

3. For the Government Sector
   a. Communication Support on Grains Postharvest Technologies
   b. Adoption of Naphire Technology for the National Food Authority
   c. Agricultural Extension Services/ Municipal Agricultural Officers' Assessment
   d. Grains Postharvest Technologies Apprenticeship/Training for State Colleges and Universities

4. For the Private Sector
   a. Grains Postharvest Technologies Training for the Confed
   b. Extension-Demonstration of the Integrated Pest Management Components

5. For Manufacturers
   a. Industrial Promotion Projects

6. Others
   a. Trainors' Training on Mycotoxin Prevention

B. Postharvest Systems

1. Development of Farmers' Grain Processing Center
2. Towards Improving the Role and Efficiency of Farm Household Members (with Emphasis on Women) in Post production Activities
3. Policy Study for the Regulation of Khapra Beetle
4. Pilot Testing of Controlled Atmosphere Storage Technology
5. Pilot Testing of Low-cost Shelled Maize/ On-floor Paddy Dryer
6. Legumes and Nutrition, Philippines (Phase 1)
7. Impact Evaluation of Mobile Mechanical Sheller in Selected Areas
8. Groundnut Philippines, Phase II
9. Control of Aflatoxin in Maize, Phase II
11. State of the Art (Mungbean and Cowpea, Coffee and Cacao, and Black and Red Pepper)
12. Policy Imperatives for the Development of the Rice Milling Industry
13. Pilot Testing of Improved Village Rice Mill
14. Postharvest Loss Assessment in Rice
15. A Profile of the Coffee and Cacao Post Production Industry
16. Pilot Testing of Farmers' Grain Processing Center Phase II
17. Systems Study on the Economics and Impact of Paddy Handling Adoption in the Philippines
18. Impact Assessment of Postharvest Technology
19. Strengthening of Farmers' Level Grain Center
20. Postharvest Loss Assessment in Corn
21. Improvement of the Existing Paddy and Rice Grading System

C. Food Protection

1. Efficacy of Volcanic Ash
2. Integrated Use of Pesticides
3. Field Application of Diatomaceous Earth
4. Botanical Insecticides as Grain Protectant Against Storage Pest of Maize, Mungbean and Peanut for Small Farm Operation
5. Total Weight Loss Assessment for Grains Storage
6. Fungi and Mycotoxins in Asian Food and Feedstuffs
7. Development of Standard Sampling Technology
8. Outdoor Storage of Grains in Plastic Enclosures in the Hot and Humid Tropics
9. Minimizing Pesticide Residues in Stored Grains by the Use of Mixture at On-farm Level
11. Simple and Rapid Technology for the Field Monitoring of Aflatoxin
12. Effects of Phosphine on Milling Quality
13. Self-regulated Atmospheres to Prevent Fungal Damage on Moist Paddy
14. Chemical Control of Mycotoxin in Corn
15. Discoloration of Coffee Beans, Causes and Control
16. Importance of Storage Practices in Black and Red Pepper, Mungbean and Cowpea
17. Browning of Soybeans in Storage
18. Prevention and Control of Aflatoxin in Food and Feedstuffs.
19. Development of Grades and Standard for Mycotoxin

D. Postharvest Engineering

1. Design and Development of a Mobile Farm Flash Dryer
2. Design and Development of Corn Harvester
3. Design and Development of Grain Moisture Meter
4. Development of Appropriate Bulk Handling Systems at On-farm Operations
5. Multi-purpose In-store Grain Driers for Cooperatives
6. Adoption of Agro-Waste Pyrolyzer for Postharvest Operations
7. Improvement of Existing Rice Hull-Fired Furnace for Grain Drying
8. Soybean Postproduction Industry (Phase II)

9. A Proposal to Set up a Naphire Postharvest Facility Pool
10. Design and Development of a Passive Dryer for Legumes at Farm Level of Operation
11. Bulk Handling of Paddy and Rice Milling
12. Peanut Seed Viability
A. RESEARCH TITLE: TOWARDS BETTER UTILIZATION OF RESEARCH STUDIES WITH POLICY IMPLICATIONS: A SYSTEMS APPROACH

B. PROPOSENT: LIDUVINO S. GERON

C. CONTEXT OF THE RESEARCH:

Research as an activity involves a deliberate effort to study a situation and produce in the process, knowledge and materials that can explain and improve the situation, and contribute to the public knowledge as well. Research, as articulated by Bawden (1990) are of four types: 1) basic research, which tries to explain some observed phenomena where explanation can serve again as new grounds for further research; 2) applied research, which seeks the improvement of a component of a problem situation; 3) hard systems research, which focuses on the optimization of systems performance; and 4) soft systems research, which deals on the improvement of complex problem situations.

Public supported research, particularly in the Philippines, are of the applied and hard systems type. This is because resources for research are limited and are deemed best channelled on activities that will likely bring immediate returns and benefits to targeted clientele, or the sector involved. For instance, in the agriculture sector, research concerns are focused on problem areas that can help enhance agricultural development. Farming systems and postharvest
research are being carried out with the twin aim of increasing agricultural productivity and improving the economic well being of the farming sector.

However, most of these research studies are localized in nature. Research activities due to scant resources are conducted in just a few selected localities making research findings specific to the environment where the research was conducted. It becomes particularly hard to draw general statements from the research, and even harder to apply it in different environments, as responses from different variables from one locality to another vary. Climatic factors and other socio-economic and political variables may intervene, producing a totally different result. Ironically, research studies are often used as basis for policies. Significant findings from research projects are taken at face value and translated into policy statements without considering possible implications when tried or applied in a different environment. Given the situation, application of research results becomes a problem.

Often, in drawing policy statements, considerations are just placed on the economics of adapting the technology. Other factors such as institutional arrangements/acceptability, support systems, etc., are not incorporated in the analysis. This research will thus attempt to study how to approach completed research studies with policy implications using the soft systems methodology.
D. THE METHODOLOGY

In this research activity, a systems based methodology shall be adapted. This is the Soft Systems Methodology (SSM) which has been proven useful in solving real world problems (to be discussed fully in Chapter 4 of the thesis). The methodology explores appreciative settings in a problematic situation and uses models as constructs to represent purposeful human activity.

As shown in Figure 1, the methodology shall initially involve the creation of a rich picture, describing the situation where the perceived problem lies. A broad context of the situation is thus taken (Stage 1).

The picture will then be analyzed (Stage 2) in a neutral way so as not to distort the problem in any particular form. Analysis will largely focus on structures and processes and will cover systems analysis, social system analysis and analysis of power. This will lead to the creation of several viewpoints regarding the problem.

From the set of viewpoints, a particular viewpoint that is relevant in bringing about improvements in the problem situation will be selected. (Stage 3). A root definition which is a concise description of human activity system and which embraces a particular world view shall then be established. The root definition describes in a particular way the hypothesis concerning the desired improvements of the problem situation.
A conceptual model (Stage 4) will then be worked out based on the established root definition. As must be pointed out, a root definition is simply an account of the desired system while the conceptual model is an account of the activities the system must do to reach the desired system state.

The developed model will then be compared (Stage 5) to the real situation as seen in stage 2. This is necessary so as to define (Stage 6) desirable changes which will be the basis for action (Stage 7).

E. RESEARCH BOUNDARIES

The study by itself will largely focus on postharvest research being conducted by Naphire. This will mainly involve completed research studies and exclude isolated research efforts done in the academe.

F. FORMATION OF A CRITICAL QUESTION, THEORY OR FOCUS FOR RESEARCH

The problem besetting the Philippine postharvest industry was greatly felt and became apparent in the early 60’s and late 70’s when the country experienced a production boom. Production per unit area increased with the introduction of high yielding varieties, improved cultural management and increased availability and effectiveness of production inputs. These factors, however, consequently create bottle-necks in the postharvest operations of grains.
With the increase in production, handling and storage facilities/practices in both on-farm and off-farm level became inadequate. Postproduction problems become more serious during the main crop harvest as it coincides with the wet season. This results to severe quantity and quality losses.

To offset these concomitant problems, efforts have been placed to improve wet grain handling and postharvest practices and equipment. This has been the province of Naphire's activity for the past eight years. Farm dryers have been developed to answer wet handling problems while farm practices and techniques have been evolved to improve traditional handling methods. Similarly, disinfection techniques were developed to arrest storage problems.

Despite the potentials of developed postharvest technologies, much has been left to be desired. The technological solutions on postharvest problems are not picked, if not rejected at all due to: 1) lack of recognition by the clientele on the economic benefits that adoption of the postharvest technology will bring to them; 2) lack of capacity of clientele to invest in developed postharvest technologies; and 3) lack of appropriate responses from policy makers on postharvest issues. The last one has a deep implication in as much that through policy interventions, extension and financial support can be effected. Policy as defined, is the implicit and explicit intentions of the government and the expression of these intentions entailing specific patterns of activity or inaction by government agencies.
The relaxed position currently being taken by policy makers on postharvest issues can be due to limited materials and information from which policy decisions and actions can be drawn. This is unfortunate as the benefit of research and extension activities cannot be fully achieved in the absence of supportive policies. Legislative actions and procedures have to be instituted to ensure achievement of targets and objectives. However, before recommendations can be forwarded to policy makers, a critical analysis must first be done on research results with serious policy implications. This, however, cannot be achieved in the absence of a framework for analysis.

G. THE EMANCIPATORY OUTCOME
   Or THEORETICALLY INFORMED PRACTICE INTENDED

The research is likely to generate significant emancipatory outcomes. These are in the areas of: 1) research, as an activity; and 2) Naphire, as an institution.

With the development of a framework for approaching policy issues emerging from completed research projects, promotion and utilization of research results can be better understood. Extension efforts can be placed in the context of the current socio-economic conditions and existing institutional structures.

The development of the framework will also enable Naphire to have greater influence in policy formulation and implementation on postharvest issues. This is important as postharvest concerns, despite its immense potential to
compliment productivity efforts, have often been taken lightly. This could have stemmed from the inability of Naphire to translate some research findings into comprehensive policy statements that can create impacts, particularly in the postharvest industry. The involvement of Naphire in policy extension can likewise improve its image among policy makers who in the past, have been critical of its performance.
POLICY IMPLICATIONS IN NAPHIRE’S COMPLETED STUDIES

PROJECT TITLE

1. Development of a Viable Drying System For Commercial Milling Operations in the Philippines

POLICY IMPLICATIONS

1. Local manufacturers should be encouraged further to perfect or improve the performance of their product to encourage prospective investors to patronize and adopt locally manufactured dryers.

2. Lending institutions should be urged to provide financing for postharvest facilities/equipment like mechanical dryers, threshers and the like, at minimum interest rates and reasonable interest rates and reasonable payment scheme(s). This would encourage millers with limited capital to invest and innovate through acquisition and utilization of technologies developed.

3. Aggressive nationwide campaign and promotion of mechanical dryers, particularly in the mill level should be initiated by pertinent government institutions.

2. Study on the Physics of Bulk Storage For Paddy

1. the establishment and operationalization of a silo management system to ensure success in the operation of metal silos.
3. Insect and Mite Pest and their Control in Commercial Storage

1. Drastic modification of the present control storage and relevant practices as:
   a. new alternative for malathion should be sought.
   b. better aeration and ventilation for warehouses so as to bring down inside temperature.
   c. avoidance of mix storage in warehouse to avoid and prevent lesser grain borer and other insect specimen from adapting and expanding their host range.
   d. high levels of hygiene and sanitation in warehouses should be maintained, this will prevent natural sources of infestation by other pests in the warehouse.

2. The information derived from predicting the storability of rice and corn also serves as guide post for warehouse managers and policy makers in developing a stock management program through which deterioration due to long storage can be predicted, checked and averted. This can be done through the establishment of a distribution scheme that is based on priorities.
4. A Socio-economic Study on the Utilization of Mechanical Dryers

1. The development of a practical grading system appropriate for farm level to provide a more rational basis for trading and marketing practices.

2. The establishment of a supportive pricing scheme incorporating quality grading factors to encourage farmers to produce good quality grains. Price differentials for wet and dried grain should be commensurate to the cost and time spent in drying.

5. Reduction of Milling Losses in Village Level Rice Milling

1. Setting up of a comprehensive village milling development program where focus is on:
   a. improvement of grains wet handling practices.
   b. rehabilitation/improvement of existing steel huller mills
   c. delivery of necessary infrastructural services
2. Institutional reforms in rural villages

3. For the government to partly subsidize the rehabilitation of steel huller mills as improvements may not be attractive to individual millers. Improved mills profitability is highly sensitive to level of mill operation.

4. The enactment of a graduated penalty licensing scheme based on milling recovery.

6. Groundnut Industry  
   (Economics)

   1. Development of a favorable market environment to establish a well balanced market and achieve a certain degree of equity among producers.

7. Control of Aflatoxin in Maize (Phase 1)

   1. The formulation of government policies and programs to support the implementation of Maize Aflatoxin Control System:
      a. implementations of stringent grading and screening procedures for aflatoxin in maize, can deter or minimize the entry of highly aflatoxin contaminated grains into the corn trade channels.
Appendix C

8. Pilot Testing of an Improved Mobile Corn Sheller

b. working out of a pricing system for corn to provide incentives for farmers to produce good quality grains.

9. Paddy Loss Assessment at On-Farm level of Operation

1. Make available easy financing packages so that adoption of the mechanical corn sheller can be enhanced.

1. Nationwide program, seminars and trainings for farmers to develop awareness of the serious economic implications of postharvest losses in the income of small farmers and the rice industry in general.

2. Private sectors or government agencies should be encouraged to support and provide loans to farmers, farmer groups/association who are willing to avail of postharvest equipment. Loans should be availed in long term, low interest and payment in kind basis.

3. Price incentives for good quality rice should be developed and adopted to encourage farmers to improve postharvest operations.
10. Study on the Alternatives to Highway Paddy Drying in Central Luzon, Philippines

1. The development of incentives for mechanically dried grains

2. The integration of drying facilities in the list of requirements prior to the issuance and renewal of business permits

3. The installation of delivery and support systems for the acquisitions and use of drying facilities
Figure 13. Framework of Naphire's operation as initially perceived by the principal researcher
October 10, 1990

TO: DR. JOSHUE FALLA
    MR. ROLANDO TIONGSON
    MS. MIRRIAN ACDA
    MRS. ANGELITA BERMUNDO
    MS. HEIDI DUPLAN
    MR. EDGARDO MANERO
    MR. MARCELO LAGASCA
    MR. MARITESS TABCIAN
    MR. CARLOS ENCARNACION
    MR. LIDUVINO GERON (Facilitator)

FROM: THE EXECUTIVE DIRECTOR

Establishment of the Action Research Team

Relative to the Institute’s thrust of pursuing Research Result Utilization, an Action Research Team is being formed of which you will be a part. The team will explore approaches on how to effectively address policy issues emerging from completed researches. In relation to this, you are invited to attend the first meeting on Oct. 11, 1990 at the NAPHIRE library, 8:30 am to discuss the feasibility, focus and logistic of forming such a group.

SILVESTRE C. ANDALEE Ph.d.
Executive Director
MINUTES OF AND REFLECTIONS ON
THE ACTION RESEARCH PROCESS

REFLECTIONS

5 October 1990

- It's nice to be back! Though the ruins from the earthquake are still evident which made somehow this homecoming sad, the opportunity of interacting and communing once again with friends and officemates thrilled me.

- The sharing of experiences with my friends and officemate have indeed brought me mixed feelings - of happiness and frustrations. In one sense, I am happy because individuals can talk about their feelings on what is happening or what they perceive is happening, and frustrated, on the other sense, because it appears that they seldom or never at all get to voice these sentiments out especially in formal channels and assemblies.

- I had the strong feeling, which can hardly be confirmed, that their reluctance to speak out are consequences of pressures in and out of themselves. As it appears, individuals chose not to be openly critical so as not to get the ire of the 'powers that be' who they say have not really encourage critical suggestions and comments.

- Nothing has changed! These are the words that creep in the grapevine in reference to the way the organization works. Interestingly, these penetrating words were often spoken in a tone of frustration by individuals who have placed great expectations, not only to the management but on the whole organization.

- It really feels bad to hear and see things happening where individuals are silently shouting something and no one dared to listen and be bothered at all. Well, it must be because the shout is a muted one and that it is oriented in the wrong direction. . .In one sense though, I also feel glad hearing their comments because they were expressed out of genuine concern for the organization. Though some may view the words going around the 'rumor mill' as senseless bad talk, I am more inclined to take it as a tongue-tied cry worthy of attention.
-This first hand experience only shows what Checkland considers the complexities of human activity systems. Indeed, the organization functions out of the interactions of individuals who in one sense perceive things and associate meanings differently. Unless there is an honest and committed effort from all sides to communicate sensibly, such undercurrents can never be addressed. This is unfortunate because it somehow affects individual productivity and efficiency.

-The week past also enabled me to have short informal chats with the Executive Director and the head of the Department where I belong. Unsurprisingly, both expressed reservations on the utility, scope and approach of the course I am taking. I guess their reservations were reflective of the reservations I initially had during the initial stages of the program. It stems from the tension created when the traditional didactic approach to learning (which is the present paradigm of education in the Philippines) is compared with the experiential action orientation of the Hawkesbury approach. By comparison, what becomes prominent is the distance separating the two. This is unfortunate because what is missed is the link between the two, that each paradigm actually reinforces and complements each other.

Based from this initial discussion, I think I will have an interesting research!
MINUTES:

8 October 1990  Presentation of the Action Research Proposal to the Naphire Management

Attendance:

Dr. S. C. Andales  Naphire Exec. Director
Engr. G. P. Jimenez  Mgr. TED
Engr. R. Manalabe  Mgr. FDDD
Ms. A. Bermundo  Acting Mgr. PHSADD
Ms. D. Samaniego  Mgr. CSD
Ms. R. Quitco  OIC, FPD
Mr. A. Apaga  Acting Mgr. PED
Engr. E. Lagunda  OIC. GSDiv.

This meeting was called in order to:

1. Present the action research proposal and solicit other views about the problem situation posed in the proposal;
2. Win the support and approval of the organization for the conduct of the action research.

In the discussion, issues that arose were on:

1. What the action research was all about (i.e. its objectives, and the methods and techniques to be adopted);
2. The compatibility of action research with the other research studies conducted by Naphire;
3. The seriousness and veracity of the problem posed;
4. The differences of perspectives about the problem situation.

After a lengthy discussion, the management agreed for the conduct of the action research allowing the:

1. Establishment of the action research team;
2. Use of official time, four hours per week, for the action research team’s meetings;
3. Use of Naphire facilities and access to past and current records;
4. Availability of management for interviews and other related activities upon appointment; and

5. Recognition of related activities that are to be done outside of Naphire premises.

In identifying the members of the action research team, the management made use of the following criteria:

1. availability of the individual; and
2. seeming potential of the individual to contribute in the action research process.
REFLECTIONS

9 October 1990

-The meeting with the Naphire management was at best a challenge and a test of patience! It was a gruelling one hour discussion where I took mostly a defensive stance as they alternately questioned the whole concept of the proposed research.

-As I see it, the discussion was fired by the seeming incompatibility of the action research with the traditional research studies being done by Naphire. Majority of those present in the meeting were looking for a more explicit statement of the research problem, other than being merely a problem improvement effort. To most of those present in the meeting, any good research proposal should have the problem statement, the list of research objectives and the outline of the research methodology.

-I know I will have problems with this. It is not going to be an easy one! Though I have endeavored to come up with a research focus so that it would be much easier for Naphire, a technical research organization, to relate with it, the effort still appears to be short. I guess its because I did not really make a clear outline on what methods and techniques will be employed except that it will have to be formed by the group itself.

-The way I see it, one reason why I had a hard time winning management support was due to the preconceived notion of what a good research proposal is. Management seems to have been accustomed viewing and examining proposal based from a set of standards, that anything that fails to meet it is deemed poor and inferior.

-Though I used to view research proposals in that sense as well, I now realize that such an approach is too limiting. I guess its because the concept of 'good' is highly relative and thus, proposals need to be viewed in context. . . By sticking to the 'good old standards', the opportunity of making good proposals into better ones becomes sharply narrowed.
The meeting with the Naphire management gave me initial insights on how culture interplays in the conduct of action research. I guess, through time and continuous exposure, Naphire had assimilated a highly technical orientation in reviewing research projects and proposal for that matter. This made it extremely difficult for me to introduce and try 'new' concepts to researching particularly those that build on social action and exchange.
11 October 1990 First meeting of the action research team

Attendance:
Mr. R. Tiongson Ms. M. Acda
Dr. J. Falla Ms. H. Duran
Engr. E. Manebog Ms. A. Bermundo
Mr. C. Encarnacion Ms. T. Tacbian
Mr. M. Lagasca Mr. L. Geron

This meeting was called to:
1. Initiate the group on the reasons for the formation of the action research team; and
2. Discuss with the group the feasibility, focus and logistics of group formation.

In the meeting, there were several concerns raised by the group. Among which were:

1. The seriousness of the problem issue identified;
2. The diversity of the action research group's composition; and
3. Finding a common time;

Through interactive exchange, the group realized:

1. The importance of addressing the issue as it poses serious implications on Naphire's viability and existence;
2. That the issue was pressing and immediate;
3. That the problem/issue concerns the whole Institute and thus had to be addressed in an institutional manner; and
4. That the alternative approach (e.g., conducting a weekend workshop) raised towards addressing the identified issue was not feasible as it would deprive individuals the opportunity to reflect on the whole research process. Besides, the management was not very keen on such an idea as it would entail additional cost.

The meeting ended with the whole group agreeing to meet every Monday 1:00 to 5:00 pm.
REFLECTIONS

12 October 1990

On Myself
- In this meeting, I am more relaxed than in the previous one (with the management). I was able to express my ideas much better unlike during the meeting with the management where I think I have stammered.
- The reason for this feeling I guess was, with the action research team, I did not have to sell the concept of action research, as its conduct was already approved. The challenge for me in this group was merely on how to communicate in a clear manner what the research (focus) was all about. This was different in the meeting with the management where I had to show the merits of the research and the approach, or at least the merits of trying it.
- Another reason I guess was the difference in group orientation. In the meeting with the management the discussion was more critical unlike with the action research team where atmosphere is more cordial.

On Processes
- In this meeting, I did not express at all the values and philosophies from which the whole concept of action research is built. Though at one instance I got tempted to do it, I decided not to, because such might affect their whole perception of the action research.
- To some extent, what I wanted to do is for them to find and develop their own meaning of action research, one that is based from the research experience and not from any established definitions. I guess this is a step in the right direction if action research is really to be integrated in the practice.

On the Group
- In this initial meeting, the group appeared to show great enthusiasm. All of them came on time and in full force (100 percent attendance)! I do not know if they came because they were directed to or simply out of their interest. Possibly both.
- In the meeting, the group realized the problem concern being passed to them, but appeared not to be excited as it means additional work on top of the present ones. Some even raised concerns that they might be doing the research for me as they very well know that I am doing a masterial program.

- In the meeting, it was evident that the group members are placing expectations on me. They saw me as one who's being trained on systems concepts that they would like to entrust the whole group processes to me. One member even suggested that I manipulate the group process as I am more familiar with systems methodology.

- That really sounded tempting but I guess I am in the action research team practically for the same reason as they are - to know and learn about action researching.

On Process
- The way I see it, there is an issue behind the formation of the action research team that requires serious articulation. In this action research, members came to the group in response to a directive urging them to get involved and to participate. The approach is surely inconsistent with some views on action research which forward action research largely as participant-initiated.

- But how does one start an action research in a technical and highly structured organization? Somehow one needs to come up with an approach that would be effective and less problematic.

- In this research, going through the management appeared to be the most logical approach because firstly, the practice to be examined is that of the organization, so in some sense, it needs the ownership of the management. Likewise, the participation /involvement of management, though not necessarily in the actual action research meeting can facilitate the installation of support systems that can be needed in implementing actions towards change.
15 October 1990  Second meeting of the
Action Research Team

Attendance:
Ms. T. Tacbian     Dr. J. Falla
Ms. H. Duran      Mr. R. Tiongson
Ms. M. Acda       Mr. L. Geron
Mr. C. Encarnacion

The main concern for this meeting was:

1. To brainstorm/diverge on the idea of policy advocacy.

Note: To facilitate brainstorming activity, individual members were initially given a sheet where they can write their ideas on policy advocacy. These ideas were then pictured as a mind map which expanded as the group discussed. The mind map is shown in Figure 10.

This meeting resulted to:

1. A rich picture of the action research group’s ideas on policy advocacy;

2. Identification of dominant views on policy advocacy. These were:

   a. policy advocacy as the conduct of studies to verify the viability and applicability of developed technologies;
   b. policy advocacy as the conduct of extension activities directed to policy makers;
   c. policy advocacy as the conduct of consultative workshops (with sectoral representation).

3. The selection of relevant issue (the need to come up with an understanding on policy advocacy).
REFLECTION

17 October 1990

On Myself
-I am really anxious to get the research going! As such, I spent the week past preparing for the other day's meeting. . . How shall we start? How am I to facilitate? What shall we need?
-As I went through thinking and preparing for the meeting, heaps of questions arose. Somehow, these questions enabled me to come up with approaches and techniques that were compatible with the group.
-I was sort of frustrated in the meeting because the discussion that ensued turned out different from my expectations. Prior to the meeting, I was hoping that interactions would be as lively as the previous one where we discussed the logistics of group formation. Unfortunately, this meeting was different. The discussion was not spontaneous!

On Group Processes
-In the meeting, there is less interaction as compared with the previous meeting. Some members appeared to be shy while others seem to enjoy dominating the floor!
-There is little if any encouragement being given by members to other members so that they can participate. The meeting appeared to me like a religious ritual where one speaks while the rest listens. . . Could this be a problem of facilitation? I guess it is!

On Techniques
-Somehow, the meeting was fruitful because the group was able to come up with a picture of individual ideas on policy advocacy. Though the discussion was not as lively as aspired, the picture still embodied the group's ideas. In the meeting, everyone was given the 'brush' and allowed to 'paint and place his ideas in the canvas'.

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In this sort of brainstorming exercise, allowing members to first write their ideas on a sheet of paper certainly helped a lot. It enabled individuals to organize and write first their thoughts before going through the usual process of seeding out together with the group. The approach prepared the individuals and gave them the confidence to speak out and contribute.
22 October 1990  Third meeting of the action research team

Attendance:

Engr. E. Manebog   Mr. R. Tiongson
Mr. C. Encarnacion  Ms. T. Tacbian
Mr. L. Geron        Ms. H. Duran
Dr. J. Falla

In this meeting, the following activities were done:

1. Discussion on what to do on the identified relevant issue;
2. Clarification of vague terminologies;
3. Agreements on the definitions to be embraced; and
4. The examination of the drawn mind map and the identification of the clusters of activities.

In relation to the need to come up with a common understanding on policy advocacy, the group decided to draw and agree on common definitions for vague terms. In the discussion, two definitions of policy were forwarded. These were:

1. Policy as a contract or agreement between two conflicting parties on how to settle disputes and differences of concerns; and
2. Policy as the explicit or implicit intention of the government and the expression of these intentions entailing specific patterns of activity by government agencies.

Upon discussion, the group agreed to embrace policy as:

The explicit or implicit intentions of the government to accommodate conflicting parties/concerns and the expression of these intentions resulting to the action or inaction of other agencies.
This meeting likewise resulted to the drawing of clusters of related activities. These activities fell on three major activities namely:

a. The monitoring of the external environment;
b. The study of policy related issues; and
c. The articulation of policy issues.

The cluster of related activities are shown in Figure 14.
Activity 1. The monitoring of the external environment

- submit policy recommendations to law making bodies;
- package results of policy studies to an easily comprehensible material;
- ensure a strong political will to enact and enforce policies;
- intensive policy education program;
- furnish policy makers and enforcers copies of policy recommendations;
- convene policy workshops on postharvest issues (with policy makers as audience);
- influence policy makers;
- invite policy makers in the critiquing of policy recommendations;
- launch a policy awareness campaign;
- strengthen linkages with other sectors;
- find ways and means on how to find policies to other agencies;
- invite policy sectors to a policy workshop

Activity 2. Conduct of Policy Studies

- build /use experience for future actions;
- prioritize and study emerging policy issues;
- ensure that technologies are socially acceptable;
- critical review of projects with policy implications;
- ensure the applicability of developed technologies;
- review of policies related to postharvest industry;
- integrate policy needs in project development.

Activity 3. Policy Articulation

Figure 14. Major themes identified from the action research team's diverging exercise
REFLECTION

23 October 1990

On Myself

-During the week past, I spent a considerable amount of time examining some issues that arose during the past meetings. Though not related in the actual focus and subject of the research which is policy advocacy, I saw these issues impinge on the whole research process. As such, it requires serious attention on the following:

a) on how I perceived the difference in my feelings during the meeting with the management and the first meeting of the action research group. Initially, I thought that the reason was due to the difference in orientation. The management was critical while the action research team was passive and compliant. Though this is true, I have a feeling it is more than this. I guess the 'power' exhibited in that meeting had somehow clouded my thinking! This could have been the reason why I stammered. I guess this is always the case when power is placed in the equation.

b) on the difference between the two meetings of the action research team. As I examined what could have possibly gone wrong in the second meeting, where there is less interaction as compared with the first one, I saw nothing but the difference in the focus of the meeting. In the first meeting, focus was on the logistics of group formation. As such, everyone appeared to have something to say especially so when discussions bordered in relation to their Department's concern. Individuals from the support group participated when support needs were being discussed. This was different in the second meeting where policy advocacy was the topic of discussion. . . I do not know how to express this but there appears to be a problem in role perception!

On Group Processes

- In this meeting, the technical orientation of group members became apparent. As it appeared, they would like to test the issues that arose from the diverging exercise to a greater number. The group wanted to know whether the issues that were generated are shared by a larger number.
Personally, I guess this is that some of the group members wanted in the selection of a relevant issue from a subset statistical test.

Somehow, this particular experience shows how experience can shape one's thinking that often one's actions. I guess the inclination of the group statistical tools in making decisions is largely in their exposure in the field of technical research.
05 November 1990  Fourth meeting of the Action Research team

Attendance:
Mr. L. Geron          Ms. M. Acda
Engr. E. Manebog      Ms. H. Duran
Mr. R. Tiongson       Dr. J. Falla
Mr. C. Encarnacion

In this meeting, the group embarked in identifying activities related to the identified relevant issue (the lack of a common understanding on policy advocacy, and thus, the need to come up with a singular perspective).

Aside from the clarification of vague terminologies, the group likewise nominated and discussed in detail the:

1. examination of factors/ issues that serve as constraints to being involved in policy advocacy; and
2. the development of an operational framework on policy advocacy.

In examining issues that pose as constraints to Naphire's eventual involvement on policy advocacy, the group discussed the following:

1. constraints for the integration of identified activities (e.g., present resources, present structures, processes employed, thrust of different departments);

2. operational constraints (e.g. thrust of the Institute, manpower skills and expertise);

3. required support systems to overcome the identified constraints (e.g., management support, funding for policy related studies, hiring of consultants, staff training).

Due to time constraints, the group was not able to discuss and develop the operational framework for policy advocacy. The group, however, agreed to continue and have it as the subject of discussion for the next meeting.
REFLECTION

7 November 1990

On Myself

-The past meetings (especially the one last week) I guess, have pulled me into one important concept which for a long time had already been hovering around. This is the concept of change!

-In that meeting where there was a great discussion on whether to embrace statistical tools in relation to the research, a great contradiction was also happening inside me. As a facilitator who in some sense has some control (and power) over group processes, I wanted to impose a decision for the group that such a tool is not needed. Deep inside, I know that what is in question is a practice the organization needs to deal with, and I just can not see any reason how statistical analysis can help. However, I can not impose this decision because in one sense, I also like the group to realize it themselves, that not all problems can be approached in one similar way. Yes, probably in technical studies, the rule of acceptance and rejections would apply, but not in soft areas such as this.

-This brings me to the concept of change. I guess for change to occur, there must first be a realization that such a change is called for. But how does one facilitate this realization? I guess participation in the process of exploration is necessary. One can not make a realization for another.

On Group Processes

- The group interaction in this meeting is much better now than in the previous ones. I guess the approach of allowing some members to take ownership of some group processes enabled them to be really responsible to group processes.
12 November 1990  Fifth meeting of the Action Research Team

Attendance:

Mr. C. Encarnacion  Ms. H. Duran
Ms. T. Tacbian  Dr. J. Falla
Mr. R. Tiongson  Mr. L. Geron

In this meeting, the group discussed the relationship between the major activities identified. Further, the group identified and discussed the activities that goes with each major activity system. From the group's discussion, what unfolded was the policy advocacy model shown in Figures 12, 12a, 12b and 12c.

As envisioned by the action research team, the monitoring of the external environment will have for its output the following:

1. a comprehensive listing of agency networks, their thrusts and programs;
2. an industry monitor that shows updates, behaviour and trends of different sectors of the industry;
3. an analysis of the postharvest industry showing policy lapses and needs; and
4. a shopping list of issues for project development.

As agreed, these outputs will be fed back particularly to the actors of the other two major activities. These will provide the basis for their respective actions.

On the other hand, the review of emerging policy issues will have the following outputs:

1. policy options for a certain policy issue;
2. a policy line to be embraced by Naphire; and
3. action plans for developed policy thrust.
As in the previous activity, these outputs will serve as inputs to the actors of the other two major activities.

In the extension of policy issues, the group expect the following outputs:

1. an action plan for pre- and post-extension activities;
2. an informed and educated policy sector; and
3. better linkages with policy sector.

Again, these outputs will serve as inputs to the actors of the other two major activities.
19 November 1990  Sixth Meeting of the Action
Research Team

Attendance:

Dr. J. Falla          Ms. H. Duran
Ms. T. Tacbian       Ms. M. Acda
Mr. C. Encarnacion   
Mr. L. Geron

In this meeting, the group discussed how the model can be operationalized and how it can be sustained. Evidently, the group felt that the operationalization of the policy advocacy model would require support from the management. This includes:

1. The strengthening of PHSADD's and the expansion of the functions of the PED, TED and Naphire's executives to include activities related to policy advocacy;
2. Funding for policy studies and related activities; and
3. Procedural changes in interdepartmental communication and exchange;
   a. conduct of an in-house workshop by the PHSADD so as to familiarize concerned staff on developed policy options, and at the same time, serve as a ground for critiquing;
   b. the development and timely update of industry concerns through the periodic release of an industry monitor. This will not only promote industry literacy among Naphire staff but also provide basis in the development of policy lines;
   c. the sharing of experiences and relevant information gathered from the PED's, TED's and executives' interaction with the external environment.

4. a supportive organizational environment that would allow creativity in the design and conduct of Soft Systems research which include policy studies; and

5. an initiating system that would prepare Naphire staff and management in policy advocacy activities. This is in the form of a two-day in-house workshop where participants will be given the opportunity to discuss individual roles and responsibilities relative to policy advocacy activities.
26 November 1990  Seventh Meeting of the Action Research Team

Attendance:

Mr. L. Geron  
Dr. J. Falla  
Engr. E. Manebog  
Ms. H. Duran

Mr. C. Encarnacion  
Ms. T. Tacbian  
Mr. R. Tiongson

This meeting took shorter than the other meetings! In here, the group reviewed the developed policy advocacy model and discussed how it will be presented to the Naphire management.

In the meeting, there were two options drawn. These include:

1. Mr. L. Geron seeking an audience with the Naphire management and presenting the policy advocacy system as is. In the meeting, reservations were raised against this approach. As Mr. Geron is making use of the research exercise for a masteral thesis, the action research output might be viewed merely as results of an academic research!

2. One member of the action research team will present the action research output to the Naphire management. Though this is a feasible alternative, nobody wants to take the responsibility. Members were not confident if they can articulate the results of a seemingly messy exercise!

In the group discussion, action research members likewise questioned the timing of the presentation. Members felt that presenting it immediately might not create an impact as management and the whole Institute is busy meeting yearend requirements. As such, the group suggested that it be presented early the following year so that the individual who will be presenting will have enough time to prepare. With this arrangement, Dr. J. Falla agreed to present the research output in behalf of the group.
1. I am confused! I have nominated Philippine experience as my topic for this morning but somehow I have realized that it would be impossible to talk of my Philippine experience without reference to my experiences here and (vice versa)! Together, I believe my experiences here and in the Philippines comprise one big experience in action research which I would like then to discuss this morning. I just hope that you will find this useful as you embark too, in that seemingly mythical action research!

2. In doing action research, I have been very clear from the very start of a personal assumption I hold dearly until now - that is, the organization where I work can evolve into a dynamic agency, reaching out all sectors and serving as an effective instrument for change. By dynamic, I mean being able to cope up with the challenges of the times (no matter how turbulent it is); and by effective, being able to meet the needs of the sectors the organization is mandated to serve. As I later realized, action research has the potential of sparking organizational consciousness which is essential for making strategic organizational action. This is because of the highly reflective nature and participative character of action research.

3. As many of you may now know (after several presentations), I work as a planning officer in a government organization whose main concern is the development of the Philippines' grains postharvest industry through research and extension activities. This organization, Naphire which stands for National Postharvest Institute for Research and Extension, was established in the early eighties when postharvest problems became serious and apparent. Michael was quite right when he pictured last week that in developing countries such as the Philippines, postharvest losses is a major concern. This is
so because tremendous amount of grains are lost annually due to poor handling and postharvest operations. These operations include harvesting, threshing, drying, milling and marketing. As the losses associated with these operations are indeed alarming, practically negating some gains the country have had in the production aspect, Naphire have been developing and extending appropriate postharvest technologies designed to reduce and minimize postharvest losses.

4. Even as I prepare the action research proposal, I am already beleagured and swamped by problems. The first and the biggest I guess, was the personal battle I had with action research. To me, accepting action research was not easy. Though literature points out the merits of action research, I found it difficult to accept it in view of the type of research studies that Naphire does. I guess, my technical orientation prevails in me most of the time, always negating whatever merit literature points out about action research. I believed then, that action research was too sociologically orientated making it hard to fit in the technical nature of research projects that Naphire does. . . and worst, I can not see myself, a technical man by background, fitting into a sociologically orientated type of research.

Another problem I guess, which can also be viewed as consolation depending on where you are, was the seemingly varying interpretations on what action research is. As I went through the literature, a number of interpretations were revealed. For instance, Lewin saw action research as practitioner-planned and initiated activity, directed towards the improvement and understanding of practitioner's practice. This is contrasted with the views of Taba and Noel who saw action research as both externally initiated and directed. There's another one who argued that personal/individual change alone as espoused by Lewin is not sufficient enough to really effect improvement of a practitioner's practice. He claimed that it needs to be complemented by structural change processes so as to sustain and support individual change. . . Apparently, even individuals who are considered as experts in the field can not seem to agree on what action research is all
about. As I did not have any intention of joining this seemingly academic intellectual melee (on what action research is all about), I just decided to go along and see how things will go through!!!

Aside from the seemingly lack of a unifying definition on what action research is, there also seems to be a lack of clear cut guidelines on how to go about with action research. Except for the spiral of activities such as reflection, observation, planning and action, there also seems to be a lack of generality in executing this. As I gathered from the literature then, executing these activities was conveniently left to anybody's imagination.

As I open up myself, trying to be more accommodating than my previous antagonistic attitude (basically because I really do not have a choice but to go through this action research), I have realized that the diverse interpretation forwarded about action research, and the varying opinion accompanying it may not be actually meant to confuse me or any starting practitioner for that matter. With a light heart, I saw now the differing opinions on action research as a canvas where the richness of the whole field is painted. This I failed to capture when I still have that heavy heart. With a change in attitude, I have realized that I am not actually confused at all. I just don't have yet a meaning, a personal meaning on what action research is all about. It comes to me that for one to be really involved and appreciate action research, one should bring both his heart and mind, body and soul in the whole exercise. To me, this makes action research different from the traditional research studies that I have been exposed to.

This realization though, have not relieved me from that initial feeling of awe in implementing action research. I know that I will be working and implementing action research in a technically orientated organization where prevailing mind set is highly biased on technical innovations. The challenge to me then was to come up with a proposal that lies within the language and context of Naphire's broad operational goals, and which can be done in an action researching way. In coming up with a proposal, particularly if it is to be submitted for financial support by an organization whose orientation is more
on the technical aspect, I learned that one needs to know how to package his ideas well so that it would sound technically inviting.

5. Towards this end, the Soft Systems Methodology has been helpful. Building on my experiences with the organization and using the SSM as framework, I initially established a rich picture of Naphire. In here my experiences both as a researcher and a planning officer, as well as my exposure, friendship and conflicts with Naphire staff and management have helped a lot in examining current structures, processes and practices. I did the rich picturing in the light of a problem I feel Naphire is experiencing. Within justifiable grounds (I should know, being the planning officer) I felt that Naphire is experiencing an image problem particularly from the external environment. Despite Naphire's effort to put its research projects on target to the actual and felt needs of its clientele, Naphire's performance has still been perceived poorly by the policy sector. From the policy makers' viewpoint, Naphire is not addressing the needs of the small farmers and have done little in improving their plight. As this perception can be severely disastrous, mainly because policy makers allocate and distribute financial resources to government agencies, I felt the strong need to look on Naphire's organizational practices and see if there are issues that can possibly explain these perceptions, and if there are, what can be done about it. The situation indeed demands for an action research where members of the organization will have the opportunity to make sense of their practices, and make sense out of this making sense!

By examining current structures, processes and practices in Naphire, I was able to identify three big issues in the problem situation. These were:

a) issue on management- because of the relatively quick turn over of leadership, having five directors in an organizational life of ten years, Naphire was not able to establish a social context favorable to the organization. Because of the relatively short stay of leaders, a healthy linkage with the environment had not been established.
b) issue on development - there seems to be a conflict on the idea of development between Naphire and the policy sector. Evidently, Naphire views industry development clearly from a technical perspective. This is apparent from the kind and type of research studies it has done and are currently doing. Policy sectors on the other hand, view development from a social perspective - thus the call for Naphire's contribution in uplifting the well being of small farmers.

3) issue on structures and processes - current structure show the absence of formal mechanisms that would bring to the policy sector issues regarding the industry. Apparently, policy sectors are not fully aware of what Naphire has been doing in the past as in the present! In the same manner, Naphire has done little, if ever there is, to involve the policy sectors in industry development. Though the opportunity exist as exhibited in the number of policy recommendations emerging from completed research projects, Naphire has not really attempted bringing policy recommendations to the attention of the policy makers. As such, policy issues are not given adequate attention contributing to the slow paced development of the industry. Slow paced industry development on the other hand, reflects poorly on Naphire because it runs contrary to its mandate - that of accelerating the grains postharvest industry.

6. Personally, and in the context of a research thesis where one needs to operate within time constraints, issue number three is the most relevant. It calls for Naphire to advance policy issues and engage other sectors, as the policy sector, in developing the postharvest industry. It recognizes that technology alone is not sufficient to spur industry development, but more so, requires delivery and support systems that can encourage and facilitate industry development.

7. Having identified this, I started developing the action research proposal that would see how Naphire can possibly be involved in policy advocacy. It attempts to mobilize organizational consciousness and action in instituting changes towards that identified end. At this point, one will possibly question the appropriateness of identifying by myself the most relevant issue. He may further ask whatever happened to the idea of action research as practitioner-planned and initiated
activity? All I can say, and I may be wrong, is that action research can become a personal journey. Faced with a problem of coming up with a proposal that can be both relevant and yet interesting to my organization, I need to decide somehow. As I have implied earlier, the present organizational culture would not allow me to just come in and introduce a research which can be viewed as highly fluid and structureless. The situation demands that I put a structure on the project and selecting a topic, an issue if you may, facilitated it so. If I may add, the proposal that has been developed was receive quite interestingly by Naphire management who agreed in the formation of a team who would look into the issue in an action researching way.

8. In an action researching manner, the action research team explored means on how Naphire can be involved in policy advocacy. In conducting action research, particularly with individuals who do not have any conception of what action research is, it is important for any practitioner to be wary of some pitfalls which could drag the whole research process. These include:

   a) if you're doing action research in an organization, it would be helpful to get the support of those who are in position and in power. As I have experienced, it is equally important to tell management what the research is all about and how it differs from the traditional research that the organization often does. By doing so, I collected some kindred support from individuals who are more dynamic and open to new approaches, and trite remarks from those who are less susceptible to change. At least, I get to know who among those in position I can rely on and who I need to talk more!

   b) In doing action research, it is important that the group themselves determine how they are going to operate. This way a sense of commitment and obligation can be impressed on each member. Unfortunately, this did not quite work out well as exhibited by member tardiness and absenteeism. It is worth noting though, that this attitude is not out of their own will, but rather, because of some structures and processes that everybody operates in.
c) in the action research team, it is important to recognize and be sensitive to the culture and power structures in the group. In my case, the group members were just too accommodating that they would allow me to lead and dominate the group. They initially thought that I have some interesting ideas to share and they were just too willing to abide. Though I can see the reason for this attitude which is well embedded in the Filipino culture - that of being so trusting with leaders, I can also see how this run against the very idea of the concept I am trying to introduce - that of allowing individuals to examine practices and in a collective fashion plan for its improvement!

Similarly, a practitioner who is involved, both as a facilitator and a participant, need to be careful and cautious in group dynamic exercises. From my experience, a practitioner who is a facilitator at the same time needs to be very cautious in expressing his own ideas, otherwise, this will remain unchallenged and readily be accepted by the group.

d) As earlier mentioned, the practitioner/facilitator needs to watch out for the power structure in the group. In my experience, members of the group, who in terms of organizational hierarchy occupies position, tend to dominate discussions and attempt to make decisions for the group. Others, on the other hand, who belong to the ranks tend to simply agree. In an action research, such a situation can be disastrous because members are not being given the fair chance to speak out and express his ideas. Others tend to get intimidated too by the domineering personalities of individuals who are in position, that they tend to simply listen and agree. The challenge for a practitioner/facilitator then, is how to police and bring discussions to focus.

e) One also needs to be sensitive to the needs of the group. In my experience, as the action research team normally had four straight hours a day of discussion, I found it necessary to ensure that snacks are provided and taken cared for. The group walk to the cafeteria helped each member loosen down a bit which is essential for the next round of discussions.

All of the above issues, I guess, pose implications on the practitioners' ability to facilitate. In organizing/implementing the action research, my biggest contribution, I guess, was in
the facilitation of group dynamics and in providing order and focus to discussions. The outcomes and models developed were largely group ideas and a collective output. The developed models in a way, represent the action research team's ideas on how Naphire can engage in policy advocacy activities. It also provides operational definitions so that Naphire can pursue policy advocacy from a singular perspective.

9. The models developed were subsequently presented to Naphire management. Comparing with current practices was easy because in the first place, there's nothing to compare it with. As mentioned earlier, a formal mechanism that would link Naphire to the policy sector is absent in the present set up. As such, the acceptance of the model as an alternative system gets immediate and favorable response with Naphire management. In line with this, Naphire management drew actions in preparation for its eventual involvement in policy advocacy.

10. In the context of what I did, action research can be said to have evolved just like in ripples. From an initial exploratory rich picture building, it expanded to involve a group of individuals (the action research team) who further explored organizational processes and developed models on how the desired system can be achieved. The group expanded then to include Naphire management who eventually drew actions directed towards the improvement of the situation.

11. At this point, you might ask "have the action research made a dent in improving the practice of the organization? My answer is, I do not know, but I surely hope so! It will all depend on how serious Naphire management will take the decisions drawn during our last meeting. What I am sure though, was the organizational awakening for the need to involve policy makers in its extension activities. However, if the support given by management on the action research exercise and the interest shown by Naphire management in the whole research process is to be the gauge, then I can say that Naphire is on its way (in improving the practice).

12. If you wonder what sort of action research was this, I would say that it was envisioned and started to be a technical action research and graduated to a practical action research.
Initially, the aim of the action research team was just to complete the task passed by the management - that is, to develop a system that would enable Naphire to engage in policy advocacy. As the team goes, members did not just apply technical knowledge but likewise built on their personal perceptions, values, if you will, on the appropriateness of certain actions. It is the incorporation of the participants' personal wisdom that made the whole exercise look like practical action research. If there are learnings drawn by the participants from the whole exercise, it is hard to know. However, members have expressed great appreciation on the process and saw the importance of group effort in the examination and planning of actions everyone would be/is involved in.

On the part of the management, I guess they are quite satisfied on the outcome of the research and seems to be determined to pursue policy advocacy as part of the organization's activities. The organization also appreciated the critique placed on the practices and have vowed to consider raised issues in the Institute's planning conference.

13. At a personal level, I guess the research experience enabled me to come to terms with myself on what action research is all about. I finally found a meaning, a personal meaning of what action research is. To me, action research is research in a traditional sense (based on my conception on what traditional is) but one with a conscience and a heart and which is directed towards the improvement and understanding of a practice that concerns the practitioner. This may sound shallow and rhetoric at best, but lest I be misunderstood, allow me to expound a few points.

Action research appeals to me as traditional because like other research studies, it involves observation, planning and action. These activities, I guess, are the things we usually do when we conduct research projects in Naphire. We initially observe the current state of the industry, define issues and plan for actions. These actions usually come in the form of research proposals which examine in detail, the issues previously identified. I guess what makes action research different is its reflective and participatory nature.
As I have observed, most traditional and technical research studies seldom engage in reflections. Researchers merely go through the implementation of activities outlined in the proposal with the aim of simply achieving stated research objectives. They carry out activities mindless of the processes being done, thereby, missing out some learnings that can possibly be drawn in the process. As I have experienced, reflection enables one to see his way clearly through the whole research exercise, and allows one to constantly and consciously examine prevailing assumptions (be it personal or operational). As such, it makes the research effort more in focus because it provides leeway for research direction and redirection. By engaging in collective reflections, which is evidently absent in most technical research projects, the team can forge better relationship with each other which is crucial for the success of the research (be it action research or otherwise). Further, by collective reflection, one begins to understand the nature and character that emerge in the group, thus, providing more chance and opportunity to examine and improve it. I guess that through reflection, a safeguard mechanism can be built in the traditional research processes that would ensure wisdom would play part in research development and implementation activities.

From my experience, another point of difference between action research and traditional technical research is in the concept of participation. In the former, participation takes place in the whole research process unlike in the latter where participation is largely concentrated in the earlier part - in project development. What strikes me about action research was that participants gets to participate in the process of deliberation and even in recommendation formulation unlike in traditional technical research studies where deliberation/discussion is largely dominated by scientists and researchers. In traditional technical research, there seems to be a monopoloy of knowledge by technical experts that they take upon themselves the responsibility of formulating recommendations in behalf of other sectors. There is minimal if any, sectoral participation in research processes much more so in recommendation formulation. I guess, for research to be truly relevant, at least for development research programs, it
needs to involve sectors in the whole research process. This would not only create opportunity for participation but would also expedite extension process.

In conducting an action research, the greatest challenge for a practitioner is on how to encourage participation and to ensure that everyone gets the fair chance of expressing his ideas. As such, and I have mentioned this earlier, the practitioner needs to be sensitive to the needs, the culture and the power structures present in the group. More so, he needs to be equally aware of his role in the group and to act this role with great gusto if you wish.

14. How does action research contribute to organizational development then? This brings me back to my personal concern of seeing Naphire evolve into a more dynamic agent for change.

I guess, through action research, opportunity can be created for:

a) improving individual and organizational skills and practices, as well as improving interpersonal relationships between individuals or group of individuals (whether formal or otherwise). To me, these aspects - the skills and interpersonal relationship between individuals, are very crucial in pursuing organizational objectives.

b) stirring organizational consciousness and awareness on different structures and processes that can either impinge or promote, not only organizational efficiency but also interpersonal relationships and group dynamics.

c) understanding the organization, how it operates and function, particularly in relation to its external environment.

d) developing an organizational understanding on what change is all about and directing means and resources towards a collectively identified direction for desirable change. From this standpoint, it can also expand its understanding on what development is all about, and thus, pursue development not just from a single technical perspective but more so, on how it interrelates with other perspectives (viz; organizational and socio cultural perspectives).
15. At this point, I must admit that I am still confused! I still do not know what to place in my discussion in the final document. There are so many things to write and just as many are the things not to write! Somehow though, this presentation has helped me in sorting out some of my thoughts that I can now see a little structure on my previously fragmented thoughts! Thank you!
27 March 1991

Dear Egay,

Greetings!

It has been a long time since we had discussions in the action research group. I am sure that by now a lot of things have happened. I feel then that this is the most appropriate time for us to look back and assess what transpired (in the action research group) and relate it to our individual practices. By practice I mean, the way we deal with our works or simply "the way we do what we do".

Attached here is a material which I hope you will find time filling up. As you will notice, I have made use of little pictures in expressing points. This is done to make the material light and easy. However, beneath the apparent superficiality of the material are concepts from which we can understand and inform our practice. I request then that you take serious consideration of this. I am attaching too a summary report of the action research just in case you can not see your way clear. As I am planning to include the questionnaires in the appendix, could you make a note on this page expressing your approval and return this to Vicky together with the questionnaires. Thank you and all the best.

With warm regards,

[Signature]

Lidyino S. Geron
INSTRUCTION: Please answer each question seriously and thoughtfully. There is no right or wrong answer so just be yourself (negative answers will NOT be taken negatively, THANKS).

1. Which do you think best describe your feelings about the action research process as a whole? WHY?

a)  
I am happy about it because it will help in putting the institute technology to paper channel and be useful to the industry through policy formulation.

b)  
I am not sure about it because


c)  
I feel bad about it because


2. How did you find EACH STAGE of the research process?

Stage A: being directed to participate in the research process


Stage B: negotiating with each other on how to work and operate.


Stage C: the action phase; working as a team!


Stage D: the breaking up, at last it is over!

3. In your opinion, what do you think was the outcome of the action research?
   a) Boobie's Masteral Thesis
   b) An intervention strategy which Naphire can use to institute change
      [Diagram]
      Yes
   c) A greater understanding and appreciation of the process undergone; an understanding of why we do what we do
   d) Nothing, only confusion!

4. How did you feel being part of the action research team?
   a) Such a waste of time!
   b) Good enough! It kept me occupied.
c) I enjoyed being part of the team; being able to participate and express my ideas.

d) I was struck right in the heart, I realized the importance and advantage of working as a team.

5. From the experience, how would you best describe action research?

a) A process where participants discuss and approach a problem of common concern

b) A process where participants explore and examine current practices and think of means of improving it.

A process to complete and accomplish assigned task.
6. From your choice in no. 5, of what use do you think could action research be to you and to Naphire. You can make use too of little pictures but please do provide explanation.

7. From the action research, what sort of learning did you get? Again you can make use of little pictures in expressing your point. Please provide explanation.

8. Lastly, how did you find this questionnaire? Paint your own picture.
27 March 1991

Dear Joe,

Greetings!

It has been a long time since we had discussions in the action research group. I am sure that by now a lot of things have happened. I feel then that this is the most appropriate time for us to look back and assess what transpired (in the action research group) and relate it to our individual practices. By practice I mean, the way we deal with our works or simply "the way we do what we do".

Attached here is a material which I hope you will find time filling up. As you will notice, I have made use of little pictures in expressing points. This is done to make the material light and easy. However, beneath the apparent superficiality of the material are concepts from which we can understand and inform our practice. I request then that you take serious consideration of this. I am attaching too a summary report of the action research just in case you can not see your way clear. As I am planning to include the questionnaires in the appendix, could you make a note on this page expressing your approval and return this to Vicky together with the questionnaires. Thank you and all the best.

With warm regards,

Liduvino S. Geron
INSTRUCTION: Please answer each question seriously and thoughtfully. There is no right or wrong answer so just be yourself (negative answers will NOT be taken negatively, THANKS).

1. Which do you think best describe your feelings about the action research process as a whole? WHY?

a) I am happy about it because it will determine successful planning since the process makes use of empirical data/operations and not merely on trial-and-error.

b) I am not sure about it because

________________________
________________________
________________________

(c) I feel bad about it because

________________________
________________________
________________________

2. How did you find EACH STAGE of the research process?

Stage A: being directed to participate in the research process

________________________

Stage B: negotiating with each other on how to work and operate.

________________________

Stage C: the action phase; working as a team!

________________________

________________________

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Stage D: the breaking up, at last it is over!

3. In your opinion, what do you think was the outcome of the action research?
   a) Boobie's Master's Thesis - Part 1
   b) An intervention strategy which Naphire can use to institute change - Part 2
   c) A greater understanding and appreciation of the process undergone; an understanding of why we do what we do - Part 3
   d) Nothing, only confusion!

4. How did you feel being part of the action research team?
   a) Such a waste of time!
   b) Good enough! It kept me occupied.
c) I enjoyed being part of the participate and express

\[ \text{\ldots} \]

d) I was struck right in the heart, I realized the importance and advantage of working as a team.

5. From the experience, how would you best describe action research?

a) A process where participants discuss and approach a problem of common concern

b) A process where participants explore and examine current practices and think of means of improving it.

\[ \text{Experience/ Practice} \]

c) A process to complete and accomplish assigned task.
6. From your choice in no. 5, of what use do you think could action research be to you and to Neophire. You can make use too of little pictures but please do provide explanation.

7. From the action research, what sort of learning did you get? Again you can make use of little pictures in expressing your point. Please provide explanation.

8. Lastly, how did you find this questionnaire? Paint your own picture.
27 March 1991

Dear Mav,

Greetings!

It has been a long time since we had discussions in the action research group. I am sure that by now a lot of things have happened. I feel then that this is the most appropriate time for us to look back and assess what transpired (in the action research group) and relate it to our individual practices. By practice I mean, the way we deal with our works or simply "the way we do what we do".

Attached here is a material which I hope you will find time filling up. As you will notice, I have made use of little pictures in expressing points. This is done to make the material light and easy. However, beneath the apparent superficiality of the material are concepts from which we can understand and inform our practice. I request then that you take serious consideration of this. I am attaching too a summary report of the action research just in case you can not see your way clear. As I am planning to include the questionnaires in the appendix, could you make a note on this page expressing your approval and return this to Vicky together with the questionnaires. Thank you and all the best.

With warm regards,

[Signature]
Liduvino S. Geron

[Signature]
Approved

[Signature]
4-22-91
INSTRUCTION: Please answer each question seriously and thoughtfully. There is no right or wrong answer so just be yourself (negative answers will NOT be taken negatively, THANKS).

1. Which do you think best describe your feelings about the action research process as a whole? WHY?

   a) I am happy about it because we were all involved in the discussion process. Also, members of the action research group were free to presenting their ideas about the subject matter.

   b) I am not sure about it because

   c) I feel bad about it because

2. How did you find EACH STAGE of the research process?

   Stage A: being directed to participate in the research process

   Stage B: negotiating with each other on how to work and operate.

   Stage C: the action phase; working as a team!
Stage D: the breaking up, at last it is over!

3. In your opinion, what do you think was the outcome of the action research?
   a) Boobie's Masteral Thesis
   b) An intervention strategy which Naphire can use to institute change
   c) A greater understanding and appreciation of the process undergone; an understanding of why we do what we do
   d) Nothing, only confusion!

4. How did you feel being part of the action research team?
   a) Such a waste of time!
   b) Good enough! It kept me occupied.
c) I enjoyed being part of the team; being able to participate and express my ideas.

d) I was struck right in the heart, I realized the importance and advantage of working as a team.

5. From the experience, how would you best describe action research?

a) A process where participants discuss and approach a problem of common concern

b) A process where participants explore and examine current practices and think of means of improving it.

A process to complete and accomplish assigned task.
6. From your choice in no. 5, of what use do you think could action research be to you and to Naphire. You can make use too of little pictures but please do provide explanation.

For me the action research made me understand right approaches in policy advocacy. NAPHIRE would also be benefited because of the dissemination of the institute's thrust programs to its clientele especially to the government's policy maker.

7. From the action research, what sort of learning did you get? Again you can make use of little pictures in expressing your point. Please provide explanation.

Being assigned in a support department for almost 9 years I have a limited knowledge about "RESEARCH" but when I was included as one of the members of the action research team important activities were undertaken by researchers were imparted to me.

8. Lastly, how did you find this questionnaire? Paint your own picture.
27 March 1991

Dear [Name],

Greetings!

It has been a long time since we had discussions in the action research group. I am sure that by now a lot of things have happened. I feel then that this is the most appropriate time for us to look back and assess what transpired (in the action research group) and relate it to our individual practices. By practice I mean, the way we deal with our works or simply "the way we do what we do".

Attached here is a material which I hope you will find time filling up. As you will notice, I have made use of little pictures in expressing points. This is done to make the material light and easy. However, beneath the apparent superficiality of the material are concepts from which we can understand and inform our practice. I request then that you take serious consideration of this. I am attaching too a summary report of the action research just in case you can not see your way clear. As I am planning to include the questionnaires in the appendix, could you make a note on this page expressing your approval and return this to Vicky together with the questionnaires. Thank you and all the best.

With warm regards,

[Signature]

Liduvino S. Geron
INSTRUCTION: Please answer each question seriously and thoughtfully. There is no right or wrong answer so just be yourself (negative answers will NOT be taken negatively, THANKS).

1. Which do you think best describe your feelings about the action research process as a whole? WHY?

   a) [Smiling face] I am happy about it because the ideas generated is a pool of the best ideas each of the member possess, thus an effective approach.

   b) [Blank face] I am not sure about it because

   c) [Sad face] I feel bad about it because

2. How did you find EACH STAGE of the research process?

   Stage A: being directed to participate in the research process each member is encouraged and agreed to participate in the discussion and to be one among the actors.

   Stage B: negotiating with each other on how to work and operate.

   Stage C: the action phase; working as a team!
Stage D: the breaking up, at last it is over!

B 3. In your opinion, what do you think was the outcome of the action research?

a) Boobie’s Masteral Thesis

b) An intervention strategy which Nephire can use to institute change

c) A greater understanding and appreciation of the process undergone; an understanding of why we do what we do

d) Nothing, only confusion!

C 4. How did you feel being part of the action research team?

a) Such a waste of time!

b) Good enough! It kept me occupied.
c) I enjoyed being part of the team; being able to participate and express my ideas.

d) I was struck right in the heart, I realized the importance and advantage of working as a team.

5. From the experience, how would you best describe action research?

a) A process where participants discuss and approach a problem of common concern

b) A process where participants explore and examine current practices and think of means of improving it.

A process to complete and accomplish assigned task.
6. From your choice in no. 5, of what use do you think could action research be to you and to Naphire. You can make use too of little pictures but please do provide explanation.

7. From the action research, what sort of learning did you get? Again you can make use of little pictures in expressing your point. Please provide explanation.

8. Lastly, how did you find this questionnaire? Paint your own picture.
INSTRUCTION: Please answer each question seriously and thoughtfully. There is no right or wrong answer so just be yourself (negative answers will NOT be taken negatively, THANKS).

1. Which do you think best describe your feelings about the action research process as a whole? WHY?

   a) I am happy about it because ____________
      First place ART research team are all participating in effective organization to pursue policy advocacy in the operation of National research work in the successful of this study.

   b) I am not sure about it because ____________

   c) I feel bad about it because ____________

2. How did you find EACH STAGE of the research process?

   Stage A: being directed to participate in the research process
      I am so proud about it bec. I am selected as one of the ART team to share my ideas to help the community as well as the Institute.

   Stage B: negotiating with each other on how to work and operate.
      All are cooperative.

   Stage C: the action phase; working as a team!
      The ART research team have a positive reaction about the study.
Stage D: the breaking up, at last it is over!

I think it the time to say goodbye
and return to the Institute.

3. In your opinion, what do you think was the outcome of the action research?
   a) Boobie’s Masteral Thesis
   b) An intervention strategy which Naphire can use to institute change
   c) A greater understanding and appreciation of the process undergone; an understanding of why we do what we do
   d) Nothing, only confusion!

4. How did you feel being part of the action research team?
   a) Such a waste of time!
   b) Good enough! It kept me occupied.
c) I enjoyed being part of the team; being able to participate and express my ideas.

I was struck right in the heart, I realized the importance and advantage of working as a team.

5. From the experience, how would you best describe action research?

a) A process where participants discuss and approach a problem of common concern

b) A process where participants explore and examine current practices and think of means of improving it.

Experience/Practice

c) A process to complete and accomplish assigned task.
6. From your choice in no. 5, of what use do you think could action research be to you and to Naphire. You can make use too of little pictures but please do provide explanation.

\[a + b + c = \text{Action Research}\]

By the combination of a, b, and c at question no. 5. I hope these primers can be to me and to Naphire.

7. From the action research, what sort of learning did you get? Again you can make use of little pictures in expressing your point. Please provide explanation.

In general, I realized the importance and advantage of working as a team. i.e., all the three make us able for share or participate and express our ideas from our heart or needy at one mind.

8. Lastly, how did you find this questionnaire? Paint your own picture.

I am happy about it. I hope this study will be apply our institute.
APPENDICES
**PLEASE NOTE**

The greatest amount of care has been taken while scanning the following pages. The best possible results have been obtained.
Appendix A

List of Naphire's Past and Current Projects

Past Projects

A. On and Off Farm Operations

1. Grain Quality Deterioration in On Farm Level Operations
2. Utilization of Solar Energy for Grain Drying
3. Paddy Deterioration from Procurement to Storage
4. Training and Evaluation of Rice Hull Fired Furnaces for Grain Drying
5. Maize Deterioration at Off-farm level Operations
6. Assessment of Paddy Loss in Storage
7. Maize Deterioration at On-farm Level of Operations
8. In-store Drying in Bulk High Moisture Grains in the Humid Tropics
9. Paddy Loss Assessment at Farm Level Operations
10. Improvement of the Philippine Peanut Post-production Industry: Phase I
12. Drying of High Moisture Grains In the Humid Tropical Climate

B. Pest Infestation and Quality Deterioration During Storage of Grains and Legumes

1. Insect and Mite Pest and their Control in Commercial Storage
2. Rodent Pests and their Control in Commercial Storages
3. Integrated Use of Pesticides in Grains Storage in the Humid Tropics: Grain Admixture
4. Kinetics of Decay of Candidate Pesticides for Integrated Pest Control Program
5. Effects of Controlled Atmosphere on the Quality of Stored Grains
6. Long Term Storage of Grains Under Plastics Covers
7. Control of Aflatoxin in Maize
   a. Maize Production and Postproduction Systems
   b. Mould and Aflatoxin Build-up in Maize
   c. Technology Performance Verification
8. Controlled Atmosphere Storage Technique

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C. Socio- Economic Constraints

1. Socio- economic Study on the Utilization of Mechanical Grain Dryers
2. Socio-economic Factors Affecting the Utilization of Postharvest Equipment in the Maize Industry
3. Reduction of Milling Losses in Village Level Rice Milling
4. KAISA- A Case Study of a Farmer- Based Enterprise

D. Lack of Improved Facilities and Practices

1. Design and Development of a Low Cost Shelled Maize Dryer
2. Development of an Improved Mobile Corn Sheller
3. Design and Development of Corn Crib for the Humid Tropics
4. Study on the Physics of Bulk Storage for Paddy
5. Pilot testing of an Improved Corn Sheller

E. Policy Study

1. Study on the Alternatives to Highway Paddy Drying in Central Luzon

F. Training and Extension

1. University Training on Grain Postharvest Technology
2. Strengthening of the National Training Center in Postharvest Technology
Appendix A

Present and Planned Projects

A. Training and Extension

1. For Farmers and Farmer Group's
   a. Communication Support on Grains Postharvest Technologies
   b. Naphire-Land Bank Technology Dissemination Scheme

2. For Non-Government Organizations
   a. Naphire-NGO projects on Grains Postharvest Extension

3. For the Government Sector
   a. Communication Support on Grains Postharvest Technologies
   b. Adoption of Naphire Technology for the National Food Authority
   c. Agricultural Extension Services/ Municipal Agricultural Officers' Assessment
   d. Grains Postharvest Technologies Apprenticeship/ Training for State Colleges and Universities

4. For the Private Sector
   a. Grains Postharvest Technologies Training for the Confed
   b. Extension-Demonstration of the Integrated Pest Management Components

5. For Manufacturers
   a. Industrial Promotion Projects

6. Others
   a. Trainors' Training on Mycotoxin Prevention

B. Postharvest Systems

1. Development of Farmers' Grain Processing Center
2. Towards Improving the Role and Efficiency of Farm Household Members (with Emphasis on Women) in Post production Activities
3. Policy Study for the Regulation of Khapra Beetle
4. Pilot Testing of Controlled Atmosphere Storage Technology
5. Pilot Testing of Low-cost Shelled Maize/ On-floor Paddy Dryer
6. Legumes and Nutrition, Philippines (Phase 1)
7. Impact Evaluation of Mobile Mechanical Sheller in Selected Areas
8. Groundnut Philippines, Phase II
9. Control of Aflatoxin in Maize, Phase II
11. State of the Art (Mungbean and Cowpea, Coffee and Cacao, and Black and Red Pepper)
12. Policy Imperatives for the Development of the Rice Milling Industry
13. Pilot Testing of Improved Village Rice Mill
14. Postharvest Loss Assessment in Rice
15. A Profile of the Coffee and Cacao Post Production Industry
16. Pilot Testing of Farmers’ Grain Processing Center Phase II
17. Systems Study on the Economics and Impact of Paddy Handling Adoption in the Philippines
18. Impact Assessment of Postharvest Technology
19. Strengthening of Farmers’ Level Grain Center
20. Postharvest Loss Assessment in Corn
21. Improvement of the Existing Paddy and Rice Grading System

C. Food Protection

1. Efficacy of Volcanic Ash
2. Integrated Use of Pesticides
3. Field Application of Diatomaceous Earth
4. Botanical Insecticides as Grain Protectant Against Storage Pest of Maize, Mungbean and Peanut for Small Farm Operation
5. Total Weight Loss Assessment for Grains Storage
6. Fungi and Mycotoxins in Asian Food and Feedstuffs
7. Development of Standard Sampling Technology
8. Outdoor Storage of Grains in Plastic Enclosures in the Hot and Humid Tropics
9. Minimizing Pesticide Residues in Stored Grains by the Use of Mixture at On-farm Level
Appendix A

11. Simple and Rapid Technology for the Field Monitoring of Aflatoxin
12. Effects of Phosphine on Milling Quality
13. Self-regulated Atmospheres to Prevent Fungal Damage on Moist Paddy
14. Chemical Control of Mycotoxin in Corn
15. Discoloration of Coffee Beans, Causes and Control
16. Importance of Storage Practices in Black and Red Pepper, Mungbean and Cowpea
17. Browning of Soybeans in Storage
18. Prevention and Control of Aflatoxin in Food and Feedstuffs.
19. Development of Grades and Standard for Mycotoxin

D. Postharvest Engineering

1. Design and Development of a Mobile Farm Flash Dryer
2. Design and Development of Corn Harvester
3. Design and Development of Grain Moisture Meter
4. Development of Appropriate Bulk Handling Systems at On-farm Operations
5. Multi-purpose In-store Grain Driers for Cooperatives
6. Adoption of Agro-Waste Pyrolyzer for Postharvest Operations
7. Improvement of Existing Rice Hull-Fired Furnace for Grain Drying
8. Soybean Postproduction Industry (Phase II)

9. A Proposal to Set up a Naphire Postharvest Facility Pool
10. Design and Development of a Passive Dryer for Legumes at Farm Level of Operation
11. Bulk Handling of Paddy and Rice Milling
12. Peanut Seed Viability
Appendix B

A. RESEARCH TITLE: TOWARDS BETTER UTILIZATION OF RESEARCH STUDIES WITH POLICY IMPLICATIONS: A SYSTEMS APPROACH

B. PROPOMENT: LIDUVINO S. GERON

C. CONTEXT OF THE RESEARCH:

Research as an activity involves a deliberate effort to study a situation and produce in the process, knowledge and materials that can explain and improve the situation, and contribute to the public knowledge as well. Research, as articulated by Bawden (1990) are of four types: 1) basic research, which tries to explain some observed phenomena where explanation can serve again as new grounds for further research; 2) applied research, which seeks the improvement of a component of a problem situation; 3) hard systems research, which focuses on the optimization of systems performance; and 4) soft systems research, which deals on the improvement of complex problem situations.

Public supported research, particularly in the Philippines, are of the applied and hard systems type. This is because resources for research are limited and are deemed best channelled on activities that will likely bring immediate returns and benefits to targeted clientele, or the sector involved. For instance, in the agriculture sector, research concerns are focused on problem areas that can help enhance agricultural development. Farming systems and postharvest
research are being carried out with the twin aim of increasing agricultural productivity and improving the economic well being of the farming sector.

However, most of these research studies are localized in nature. Research activities due to scant resources are conducted in just a few selected localities making research findings specific to the environment where the research was conducted. It becomes particularly hard to draw general statements from the research, and even harder to apply it in different environments, as responses from different variables from one locality to another vary. Climatic factors and other socio-economic and political variables may intervene, producing a totally different result. Ironically, research studies are often used as basis for policies. Significant findings from research projects are taken at face value and translated into policy statements without considering possible implications when tried or applied in a different environment. Given the situation, application of research results becomes a problem.

Often, in drawing policy statements, considerations are just placed on the economics of adapting the technology. Other factors such as institutional arrangements/acceptability, support systems, etc., are not incorporated in the analysis. This research will thus attempt to study how to approach completed research studies with policy implications using the soft systems methodology.
D. THE METHODOLOGY

In this research activity, a systems based methodology shall be adapted. This is the Soft Systems Methodology (SSM) which has been proven useful in solving real world problems (to be discussed fully in Chapter 4 of the thesis). The methodology explores appreciative settleings in a problematic situation and uses models as constructs to represent purposeful human activity.

As shown in Figure 1, the methodology shall initially involve the creation of a rich picture, describing the situation where the perceived problem lies. A broad context of the situation is thus taken (Stage 1).

The picture will then be analyzed (Stage 2) in a neutral way so as not to distort the problem in any particular form. Analysis will largely focus on structures and processes and will cover systems analysis, social system analysis and analysis of power. This will lead to the creation of several viewpoints regarding the problem.

From the set of viewpoints, a particular viewpoint that is relevant in bringing about improvements in the problem situation will be selected. (Stage 3). A root definition which is a concise description of human activity system and which embraces a particular world view shall then be established. The root definition describes in a particular way the hypothesis concerning the desired improvements of the problem situation.
A conceptual model (Stage 4) will then be worked out based on the established root definition. As must be pointed out, a root definition is simply an account of the desired system while the conceptual model is an account of the activities the system must do to reach the desired system state.

The developed model will then be compared (Stage 5) to the real situation as seen in stage 2. This is necessary so as to define (Stage 6) desirable changes which will be the basis for action (Stage 7).

E. RESEARCH BOUNDARIES

The study by itself will largely focus on postharvest research being conducted by Naphire. This will mainly involve completed research studies and exclude isolated research efforts done in the academe.

F. FORMATION OF A CRITICAL QUESTION, THEORY OR FOCUS FOR RESEARCH

The problem besetting the Philippine postharvest industry was greatly felt and became apparent in the early 60’s and late 70’s when the country experienced a production boom. Production per unit area increased with the introduction of high yielding varieties, improved cultural management and increased availability and effectiveness of production inputs. These factors, however, consequently create bottle-necks in the postharvest operations of grains.
Appendix B

With the increase in production, handling and storage facilities/practices in both on-farm and off-farm level became inadequate. Postproduction problems become more serious during the main crop harvest as it coincides with the wet season. This results to severe quantity and quality losses.

To offset these concomitant problems, efforts have been placed to improve wet grain handling and postharvest practices and equipment. This has been the province of Naphire's activity for the past eight years. Farm dryers have been developed to answer wet handling problems while farm practices and techniques have been evolved to improve traditional handling methods. Similarly, disinfection techniques were developed to arrest storage problems.

Despite the potentials of developed postharvest technologies, much has been left to be desired. The technological solutions on postharvest problems are not picked, if not rejected at all due to: 1) lack of recognition by the clientele on the economic benefits that adoption of the postharvest technology will bring to them; 2) lack of capacity of clientele to invest in developed postharvest technologies; and 3) lack of appropriate responses from policy makers on postharvest issues. The last one has a deep implication in as much that through policy interventions, extension and financial support can be effected. Policy as defined, is the implicit and explicit intentions of the government and the expression of these intentions entailing specific patterns of activity or inaction by government agencies.
The relaxed position currently being taken by policy makers on postharvest issues can be due to limited materials and information from which policy decisions and actions can be drawn. This is unfortunate as the benefit of research and extension activities cannot be fully achieved in the absence of supportive policies. Legislative actions and procedures have to be instituted to ensure achievement of targets and objectives. However, before recommendations can be forwarded to policy makers, a critical analysis must first be done on research results with serious policy implications. This, however, cannot be achieved in the absence of a framework for analysis.

G. THE EMANCIPATORY OUTCOME
Or THEORETICALLY INFORMED PRACTICE INTENDED

The research is likely to generate significant emancipatory outcomes. These are in the areas of: 1) research, as an activity; and 2) Naphire, as an institution.

With the development of a framework for approaching policy issues emerging from completed research projects, promotion and utilization of research results can be better understood. Extension efforts can be placed in the context of the current socio-economic conditions and existing institutional structures.

The development of the framework will also enable Naphire to have greater influence in policy formulation and implementation on postharvest issues. This is important as postharvest concerns, despite its immense potential to
compliment productivity efforts, have often been taken lightly. This could have stemmed from the inability of Naphire to translate some research findings into comprehensive policy statements that can create impacts, particularly in the postharvest industry. The involvement of Naphire in policy extension can likewise improve its image among policy makers who in the past, have been critical of its performance.
POLICY IMPLICATIONS IN NAPHIRE'S COMPLETED STUDIES

PROJECT TITLE

1. Development of a Viable Drying System For Commercial Milling Operations in the Philippines

2. Study on the Physics of Bulk Storage For Paddy

POLICY IMPLICATIONS

1. Local manufacturers should be encouraged further to perfect or improve the performance of their product to encourage prospective investors to patronize and adopt locally manufactured dryers.

2. Lending institutions should be urged to provide financing for postharvest facilities/equipment like mechanical dryers, threshers and the like, at minimum interest rates and reasonable interest rates and reasonable payment scheme(s). This would encourage millers with limited capital to invest and innovate through acquisition and utilization of technologies developed.

3. Aggressive nationwide campaign and promotion of mechanical dryers, particularly in the mill level should be initiated by pertinent government institutions.

1. the establishment and operationalization of a silo management system to ensure success in the operation of metal silos.
3. Insect and Mite Pest and their Control in Commercial Storage

1. Drastic modification of the present control storage and relevant practices as:
   a. new alternative for malathion should be sought.
   b. better aeration and ventilation for warehouses so as to bring down inside temperature.
   c. avoidance of mix storage in warehouse to avoid and prevent lesser grain borer and other insect specimen from adapting and expanding their host range.
   d. high levels of hygiene and sanitation in warehouses should be maintained, this will prevent natural sources of infestation by other pests in the warehouse.

2. The information derived from predicting the storability of rice and corn also serves as guide post for warehouse managers and policy makers in developing a stock management program through which deterioration due to long storage can be predicted, checked and averted. This can be done through the establishment of a distribution scheme that is based on priorities.
Appendix C

4. A Socio-economic Study on the Utilization of Mechanical Dryers

1. The development of a practical grading system appropriate for farm level to provide a more rational basis for trading and marketing practices.

2. The establishment of a supportive pricing scheme incorporating quality grading factors to encourage farmers to produce good quality grains. Price differentials for wet and dried grain should be commensurate to the cost and time spent in drying.

5. Reduction of Milling Losses in Village Level Rice Milling

1. Setting up of a comprehensive village milling development program where focus is on:
   a. improvement of grains wet handling practices.
   b. rehabilitation/ improvement of existing steel huller mills
   c. delivery of necessary infrastructural services
2. Institutional reforms in rural villages

3. For the government to partly subsidize the rehabilitation of steel huller mills as improvements may not be attractive to individual millers. Improved mills profitability is highly sensitive to level of mill operation.

4. The enactment of a graduated penalty licensing scheme based on milling recovery.

6. Groundnut Industry (Economics)

1. Development of a favorable market environment to establish a well balanced market and achieve a certain degree of equity among producers.

7. Control of Aflatoxin in Maize (Phase 1)

1. The formulation of government policies and programs to support the implementation of Maize Aflatoxin Control System:
   a. Implementations of stringent grading and screening procedures for aflatoxin in maize, can deter or minimize the entry of highly aflatoxin contaminated grains into the corn trade channels.
Appendix C

b. working out of a pricing system for corn to provide incentives for farmers to produce good quality grains.

8. Pilot Testing of an Improved Mobile Corn Sheller

1. Make available easy financing packages so that adoption of the mechanical corn sheller can be enhanced.

9. Paddy Loss Assessment at On-Farm level of Operation

1. Nationwide program, seminars and trainings for farmers to develop awareness of the serious economic implications of postharvest losses in the income of small farmers and the rice industry in general.

2. Private sectors or government agencies should be encouraged to support and provide loans to farmers, farmer groups/association who are willing to avail of postharvest equipment. Loans should be availed in long term, low interest and payment in kind basis.

3. Price incentives for good quality rice should be developed and adopted to encourage farmers to improve postharvest operations.
10. Study on the Alternatives to Highway Paddy Drying in Central Luzon, Philippines

1. The development of incentives for mechanically dried grains

2. The integration of drying facilities in the list of requirements prior to the issuance and renewal of business permits

3. The installation of delivery and support systems for the acquisitions and use of drying facilities
Figure 13. Framework of Naphire's operation as initially perceived by the principal researcher
October 10, 1990

TO:  
DR. JOSHUE FALLA
MR. ROLANDO TIONGSON
MS. MIRRIAN ACDA
MRS. ANGELITA BERMUNDO
MT. HEIDI DUHAN
MR. EDGARDO MANBOC
MR. MARCELO LAGASCA
MR. MARITESS TACBIAN
MR. CARLOS ENCARNACION
MR. LIDUVINO GERON (Facilitator)

FROM: THE EXECUTIVE DIRECTOR

ESTABLISHING AN ACTION RESEARCH TEAM

Relative to the Institute's thrust of pursuing Research Result Utilization, an Action Research Team is being formed of which you will be a part. The team will explore approaches on how to effectively address policy issues emerging from completed researches. In relation to this, you are invited to attend the first meeting on Oct. 11, 1990 at the NAPHI RE library, 8:30 am to discuss the feasibility, focus and logistic of forming such a group.

SILVESTRE C. ANDALES Ph.d.
Executive Director
MINUTES OF AND REFLECTIONS ON
THE ACTION RESEARCH PROCESS

REFLECTIONS

5 October 1990

-It's nice to be back! Though the ruins from the earthquake are still evident which made somehow this homecoming sad, the opportunity of interacting and communing once again with friends and officemates thrilled me.

-The sharing of experiences with my friends and officemate have indeed brought me mixed feelings - of happiness and frustrations. In one sense, I am happy because individuals can talk about their feelings on what is happening or what they perceive is happening, and frustrated, on the other sense, because it appears that they seldom or never at all get to voice these sentiments out especially in formal channels and assemblies.

-I had the strong feeling, which can hardly be confirmed, that their reluctance to speak out are consequences of pressures in and out of themselves. As it appears, individuals chose not to be openly critical so as not to get the ire of the 'powers that be' who they say have not really encourage critical suggestions and comments.

-Nothing has changed! These are the words that creep in the grapevine in reference to the way the organization works. Interestingly, these penetrating words were often spoken in a tone of frustration by individuals who have placed great expectations, not only to the management but on the whole organization.

-It really feels bad to hear and see things happening where individuals are silently shouting something and no one dared to listen and be bothered at all. Well, it must be because the shout is a muted one and that it is oriented in the wrong direction. . .In one sense though, I also feel glad hearing their comments because they were expressed out of genuine concern for the organization. Though some may view the words going around the 'rumor mill' as senseless bad talk, I am more inclined to take it as a tongue-tied cry worthy of attention.
This first hand experience only shows what Checkland considers the complexities of human activity systems. Indeed, the organization functions out of the interactions of individuals who in one sense perceive things and associate meanings differently. Unless there is an honest and committed effort from all sides to communicate sensibly, such undercurrents can never be addressed. This is unfortunate because it somehow affects individual productivity and efficiency.

The week past also enabled me to have short informal chats with the Executive Director and the head of the Department where I belong. Unsurprisingly, both expressed reservations on the utility, scope and approach of the course I am taking. I guess their reservations were reflective of the reservations I initially had during the initial stages of the program. It stems from the tension created when the traditional didactic approach to learning (which is the present paradigm of education in the Philippines) is compared with the experiential action orientation of the Hawkesbury approach. By comparison, what becomes prominent is the distance separating the two. This is unfortunate because what is missed is the link between the two, that each paradigm actually reinforces and complements each other.

Based from this initial discussion, I think I will have an interesting research!
MINUTES:

8 October 1990  Presentation of the Action Research Proposal to the Naphire Management

Attendance:

Dr. S. C. Andales  Naphire Exec. Director
Engr. G. P. Jimenez  Mgr. TED
Engr. R. Manalabe  Mgr. FDDD
Ms. A. Bermundo  Acting Mgr. PHSADD
Ms. D. Samaniego  Mgr. CSD
Ms. R. Quitco  OIC, FPD
Mr. A. Apaga  Acting Mgr. PED
Engr. E. Lagunda  OIC, GSDiv.

This meeting was called in order to:

1. Present the action research proposal and solicit other views about the problem situation posed in the proposal;
2. Win the support and approval of the organization for the conduct of the action research.

In the discussion, issues that arose were on:

1. What the action research was all about (i.e. its objectives, and the methods and techniques to be adopted);
2. The compatibility of action research with the other research studies conducted by Naphire;
3. The seriousness and veracity of the problem posed;
4. The differences of perspectives about the problem situation.

After a lengthy discussion, the management agreed for the conduct of the action research allowing the:

1. Establishment of the action research team;
2. Use of official time, four hours per week, for the action research team's meetings;
3. Use of Naphire facilities and access to past and current records;
4. Availability of management for interviews and other related activities upon appointment; and
5. Recognition of related activities that are to be done outside of Naphire premises.

In identifying the members of the action research team, the management made use of the following criteria:

1. availability of the individual; and
2. seeming potential of the individual to contribute in the action research process.
REFLECTIONS

9 October 1990

-The meeting with the Naphire management was at best a challenge and a test of patience! It was a gruelling one hour discussion where I took mostly a defensive stance as they alternately questioned the whole concept of the proposed research.

-As I see it, the discussion was fired by the seeming incompatibility of the action research with the traditional research studies being done by Naphire. Majority of those present in the meeting were looking for a more explicit statement of the research problem, other than being merely a problem improvement effort. To most of those present in the meeting, any good research proposal should have the problem statement, the list of research objectives and the outline of the research methodology.

-I know I will have problems with this. It is not going to be an easy one! Though I have endeavored to come up with a research focus so that it would be much easier for Naphire, a technical research organization, to relate with it, the effort still appears to be short. I guess its because I did not really make a clear outline on what methods and techniques will be employed except that it will have to be formed by the group itself.

-The way I see it, one reason why I had a hard time winning management support was due to the preconceived notion of what a good research proposal is. Management seems to have been accustomed viewing and examining proposal based from a set of standards, that anything that fails to meet it is deemed poor and inferior.

-Though I used to view research proposals in that sense as well, I now realize that such an approach is too limiting. I guess its because the concept of 'good' is highly relative and thus, proposals need to be viewed in context. . . By sticking to the 'good old standards', the opportunity of making good proposals into better ones becomes sharply narrowed.
The meeting with the Naphire management gave me initial insights on how culture interplays in the conduct of action research. I guess, through time and continuous exposure, Naphire had assimilated a highly technical orientation in reviewing research projects and proposal for that matter. This made it extremely difficult for me to introduce and try 'new' concepts to researching particularly those that build on social action and exchange.
11 October 1990    First meeting of the action research team

Attendance:
Mr. R. Tiongson     Ms. M. Acda
Dr. J. Falla        Ms. H. Duran
Engr. E. Manebog    Ms. A. Bermundo
Mr. C. Encarnacion  Ms. T. Tacbian
Mr. M. Lagasca      Mr. L. Geron

This meeting was called to:
1. Initiate the group on the reasons for the formation of the action research team; and
2. Discuss with the group the feasibility, focus and logistics of group formation.

In the meeting, there were several concerns raised by the group. Among which were:

1. The seriousness of the problem issue identified;
   2. The diversity of the action research group's composition; and
   3. Finding a common time;

Through interactive exchange, the group realized:

1. The importance of addressing the issue as it poses serious implications on Naphire's viability and existence;
   2. That the issue was pressing and immediate;
   3. That the problem/issue concerns the whole Institute and thus had to be addressed in an institutional manner; and
   4. That the alternative approach (e.g., conducting a weekend workshop) raised towards addressing the identified issue was not feasible as it would deprive individuals the opportunity to reflect on the whole research process.

Besides, the management was not very keen on such an idea as it would entail additional cost.

The meeting ended with the whole group agreeing to meet every Monday 1:00 to 5:00 pm.
REFLECTIONS

12 October 1990

On Myself

- In this meeting, I am more relaxed than in the previous one (with the management). I was able to express my ideas much better unlike during the meeting with the management where I think I have stammered.

- The reason for this feeling I guess was, with the action research team, I did not have to sell the concept of action research, as its conduct was already approved. The challenge for me in this group was merely on how to communicate in a clear manner what the research (focus) was all about. This was different in the meeting with the management where I had to show the merits of the research and the approach, or at least the merits of trying it.

- Another reason I guess was the difference in group orientation. In the meeting with the management, the discussion was more critical unlike with the action research team where atmosphere is more cordial.

On Processes

- In this meeting, I did not express at all the values and philosophies from which the whole concept of action research is built. Though at one instance I got tempted to do it, I decided not to, because such might affect their whole perception of the action research.

- To some extent, what I wanted to do is for them to find and develop their own meaning of action research, one that is based from the research experience and not from any established definitions. I guess this is a step in the right direction if action research is really to be integrated in the practice.

On the Group

- In this initial meeting, the group appeared to show great enthusiasm. All of them came on time and in full force (100 percent attendance)! I do not know if they came because they were directed to or simply out of their interest. Possibly both.
-In the meeting, the group realized the problem concern being passed to them, but appeared not to be excited as it means additional work on top of the present ones. Some even raised concerns that they might be doing the research for me as they very well know that I am doing a masteral program.

-In the meeting, it was evident that the group members are placing expectations on me. They saw me as one who’s being trained on systems concepts that they would like to entrust the whole group processes to me. One member even suggested that I manipulate the group process as I am more familiar with systems methodology.

-That really sounded tempting but I guess I am in the action research team practically for the same reason as they are - to know and learn about action researching.

On Process

-The way I see it, there is an issue behind the formation of the action research team that requires serious articulation. In this action research, members came to the group in response to a directive urging them to get involved and to participate. The approach is surely inconsistent with some views on action research which forward action research largely as participant-initiated.

-But how does one start an action research in a technical and highly structured organization? Somehow one needs to come up with an approach that would be effective and less problematic.

-In this research, going through the management appeared to be the most logical approach because firstly, the practice to be examined is that of the organization, so in some sense, it needs the ownership of the management. Likewise, the participation /involvement of management, though not necessarily in the actual action research meeting can facilitate the installation of support systems that can be needed in implementing actions towards change.
15 October 1990  Second meeting of the Action Research Team

Attendance:

Ms. T. Tacbian                Dr. J. Falla
Ms. H. Duran                  Mr. R. Tiongson
Ms. M. Acda                   Mr. L. Geron
Mr. C. Encarnacion

The main concern for this meeting was:

1. To brainstorm/ diverge on the idea of policy advocacy.

Note: To facilitate brainstorming activity, individual members were initially given a sheet were they can write their ideas on policy advocacy. These ideas were then pictured as a mind map which expanded as the group discussed. The mind map is shown in Figure 10.

This meeting resulted to:

1. A rich picture of the action research group's ideas on policy advocacy;

2. Identification of dominant views on policy advocacy. These were:

   a. policy advocacy as the conduct of studies to verify the viability and applicability of developed technologies;

   b. policy advocacy as the conduct of extension activities directed to policy makers;

   c. policy advocacy as the conduct of consultative workshops (with sectoral representation).

3. The selection of relevant issue (the need to come up with an understanding on policy advocacy).
REFLECTION

17 October 1990

On Myself

-I am really anxious to get the research going! As such, I spent the week past preparing for the other day's meeting. . . How shall we start? How am I to facilitate? What shall we need?

-As I went through thinking and preparing for the meeting, heaps of questions arose. Somehow, these questions enabled me to come up with approaches and techniques that were compatible with the group.

-I was sort of frustrated in the meeting because the discussion that ensued turned out different from my expectations. Prior to the meeting, I was hoping that interactions would be as lively as the previous one where we discussed the logistics of group formation. Unfortunately, this meeting was different. The discussion was not spontaneous!

On Group Processes

-In the meeting, there is less interaction as compared with the previous meeting. Some members appeared to be shy while others seem to enjoy dominating the floor!

-There is little if any encouragement being given by members to other members so that they can participate. The meeting appeared to me like a religious ritual where one speaks while the rest listens. . . Could this be a problem of facilitation? I guess it is!

On Techniques

-Somehow, the meeting was fruitful because the group was able to come up with a picture of individual ideas on policy advocacy. Though the discussion was not as lively as aspired, the picture still embodied the group's ideas. In the meeting, everyone was given the 'brush' and allowed to 'paint and place his ideas in the canvas'.

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Appendix F

-In this sort of brainstorming exercise, allowing members to first write their ideas on a sheet of paper certainly helped a lot. It enabled individuals to organize and write first their thoughts before going through the usual process of seeding out together with the group. The approach prepared the individuals and gave them the confidence to speak out and contribute.
22 October 1990  Third meeting of the action research team

Attendance:

Engr. E. Manebog  Mr. R. Tiongson
Mr. C. Encarnacion  Ms. T. Tacbian
Mr. L. Geron  Ms. H. Duran
Dr. J. Falla

In this meeting, the following activities were done:

1. Discussion on what to do on the identified relevant issue;
2. Clarification of vague terminologies;
3. Agreements on the definitions to be embraced; and
4. The examination of the drawn mind map and the identification of the clusters of activities.

In relation to the need to come up with a common understanding on policy advocacy, the group decided to draw and agree on common definitions for vague terms. In the discussion, two definitions of policy were forwarded. These were:

1. Policy as a contract or agreement between two conflicting parties on how to settle disputes and differences of concerns; and
2. Policy as the explicit or implicit intention of the government and the expression of these intentions entailing specific patterns of activity by government agencies.

Upon discussion, the group agreed to embrace policy as:

The explicit or implicit intentions of the government to accommodate conflicting parties/concerns and the expression of these intentions resulting to the action or inaction of other agencies.
This meeting likewise resulted to the drawing of clusters of related activities. These activities fell on three major activities namely:

a. The monitoring of the external environment;
b. The study of policy related issues; and
c. The articulation of policy issues.

The cluster of related activities are shown in Figure 14
Activity 1 The monitoring of the external environment

- monitor activities in the outside environment;
- assess current thrust and biases of policy makers;
- establish ties with policy makers and agencies that enforce policies;
- development of comprehensive briefs for those who are to involve in policy articulation.

Activity 2 Conduct of Policy Studies

- build/use experience for future actions;
- prioritize and study emerging policy issues;
- ensure that technologies are socially acceptable;
- critical review of projects with policy implications;
- ensure the applicability of developed technologies;
- review of policies related to postharvest industry;
- integrate policy needs in project development.

Activity 3. Policy Articulation

- submit policy recommendations to law making bodies;
- package results of policy studies to an easily comprehensible material;
- ensure a strong political will to enact and enforce policies;
- intensive policy education program;
- furnish policy makers and enforcers copies of policy recommendations;
- convene policy workshops on postharvest issues (with policy makers as audience);
- influence policy makers;
- invite policy makers in the critiquing of policy recommendations;
- launch a policy awareness campaign;
- strengthen linkages with other sectors;
- find ways and means on how to find policies to other agencies;
- invite policy sectors to a policy workshop

Figure 14. Major themes identified from the action research team’s diverging exercise
On Myself

-During the week past, I spent a considerable amount of time examining some issues that arose during the past meetings. Though not related in the actual focus and subject of the research which is policy advocacy, I saw these issues impinge on the whole research process. As such, it requires serious attention on the following:

a) on how I perceived the difference in my feelings during the meeting with the management and the first meeting of the action research group - Initially, I thought that the reason was due to the difference in orientation. The management was critical while the action research team was passive and compliant. Though this is true, I have a feeling it is more than this. I guess the 'power' exhibited in that meeting had somehow clouded my thinking! This could have been the reason why I stammered. I guess this is always the case when power is placed in the equation.

b) on the difference between the two meetings of the action research team. As I examined what could have possibly gone wrong in the second meeting, where there is less interaction as compared with the first one, I saw nothing but the difference in the focus of the meeting. In the first meeting, focus was on the logistics of group formation. As such, everyone appeared to have something to say especially so when discussions bordered in relation to their Department's concern. Individuals from the support group participated when support needs were being discussed. This was different in the second meeting where policy advocacy was the topic of discussion... I do not know how to express this but there appears to be a problem in role perception!

On Group Processes

-In this meeting, the technical orientation of group members became apparent. As it appeared, they would like to test the issues that arose from the diverging exercise to a greater number. The group wanted to know whether the issues that were generated are shared by a larger number.
Personally, I guess this is that some of the group members wanted in the selection of a relevant issue from a subset statistical test.

Somehow, this particular experience shows how experience can shape one's thinking that often influences one's actions. I guess the inclination of the group statistical tools in making decisions is largely in their exposure in the field of technical research.
05 November 1990  Fourth meeting of the Action Research team

Attendance:
Mr. L. Geron  Ms. M. Acda
Engr. E. Manebog  Ms. H. Duran
Mr. R. Tiongson  Dr. J. Falla
Mr. C. Encarnacion

In this meeting, the group embarked in identifying activities related to the identified relevant issue (the lack of a common understanding on policy advocacy, and thus, the need to come up with a singular perspective).

Aside from the clarification of vague terminologies, the group likewise nominated and discussed in detail the:

1. examination of factors/ issues that serve as constraints to being involved in policy advocacy; and
2. the development of an operational framework on policy advocacy.

In examining issues that pose as constraints to Naphire's eventual involvement on policy advocacy, the group discussed the following:

1. constraints for the integration of identified activities (e.g., present resources, present structures, processes employed, thrust of different departments);

2. operational constraints (e.g. thrust of the Institute, manpower skills and expertise);

3. required support systems to overcome the identified constraints (e.g., management support, funding for policy related studies, hiring of consultants, staff training).

Due to time constraints, the group was not able to discuss and develop the operational framework for policy advocacy. The group, however, agreed to continue and have it as the subject of discussion for the next meeting.
REFLECTION

7 November 1990

On Myself

-The past meetings (especially the one last week) I guess, have pulled me into one important concept which for a long time had already been hovering around. This is the concept of change!

-In that meeting where there was a great discussion on whether to embrace statistical tools in relation to the research, a great contradiction was also happening inside me. As a facilitator who in some sense has some control (and power) over group processes, I wanted to impose a decision for the group that such a tool is not needed. Deep inside, I know that what is in question is a practice the organization needs to deal with, and I just can not see any reason how statistical analysis can help. However, I can not impose this decision because in one sense, I also like the group to realize it themselves, that not all problems can be approached in one similar way. Yes, probably in technical studies, the rule of acceptance and rejections would apply, but not in soft areas such as this.

-This brings me to the concept of change. I guess for change to occur, there must first be a realization that such a change is called for. But how does one facilitate this realization? I guess participation in the process of exploration is necessary. One can not make a realization for another.

On Group Processes

-The group interaction in this meeting is much better now than in the previous ones. I guess the approach of allowing some members to take ownership of some group processes enabled them to be really responsible to group processes.
12 November 1990  Fifth meeting of the Action
Research Team

Attendance:

Mr. C. Encarnacion    Ms. H. Duran
Ms. T. Tacbian        Dr. J. Falla
Mr. R. Tiongson       Mr. L. Geron

In this meeting, the group discussed the relationship between
the major activities identified. Further, the group identified
and discussed the activities that goes with each major
activity system. From the group's discussion, what unfolded
was the policy advocacy model shown in Figures 12, 12a, 12b
and 12c.

As envisioned by the action research team, the monitoring of
the external environment will have for its output the
following:

1. a comprehensive listing of agency networks, their
   thrusts and programs;
2. an industry monitor that shows updates, behaviour
   and trends of different sectors of the industry;
3. an analysis of the postharvest industry showing
   policy lapses and needs; and
4. a shopping list of issues for project development.

As agreed, these outputs will be fed back particularly to the
actors of the other two major activities. These will provide
the basis for their respective actions.

On the other hand, the review of emerging policy issues will
have the following outputs:

1. policy options for a certain policy issue;
2. a policy line to be embraced by Naphire; and
3. action plans for developed policy thrust.
As in the previous activity, these outputs will serve as inputs to the actors of the other two major activities.

In the extension of policy issues, the group expect the following outputs:

1. an action plan for pre- and post-extension activities;
2. an informed and educated policy sector; and
3. better linkages with policy sector.

Again, these outputs will serve as inputs to the actors of the other two major activities.
19 November 1990  Sixth Meeting of the Action Research Team

Attendance:
Dr. J. Falla  Ms. H. Duran
Ms. T. Tacbian  Ms. M. Acda
Mr. C. Encarnacion
Mr. L. Geron

In this meeting, the group discussed how the model can be operationalized and how it can be sustained. Evidently, the group felt that the operationalization of the policy advocacy model would require support from the management. This includes:

1. The strengthening of PHSADD's and the expansion of the functions of the PED, TED and Naphire's executives to include activities related to policy advocacy;
2. Funding for policy studies and related activities;
and
3. Procedural changes in interdepartmental communication and exchange;
   a. conduct of an in-house workshop by the PHSADD so as to familiarize concerned staff on developed policy options, and at the same time, serve as a ground for critiquing;
   b. the development and timely update of industry concerns through the periodic release of an industry monitor. This will not only promote industry literacy among Naphire staff but also provide basis in the development of policy lines;
   c. the sharing of experiences and relevant information gathered from the PED's, TED's and executives' interaction with the external environment.

4. a supportive organizational environment that would allow creativity in the design and conduct of Soft Systems research which include policy studies; and

5. an initiating system that would prepare Naphire staff and management in policy advocacy activities. This is in the form of a two-day in-house workshop where participants will be given the opportunity to discuss individual roles and responsibilities relative to policy advocacy activities.
26 November 1990    Seventh Meeting of the Action Research Team

Attendance:

Mr. L. Geron  Mr. C. Encarnacion
Dr. J. Falla  Ms. T. Tacbian
Engr. E. Manebog  Mr. R. Tiongson
Ms. H. Duran

This meeting took shorter than the other meetings! In here, the group reviewed the developed policy advocacy model and discussed how it will be presented to the Naphire management.

In the meeting, there were two options drawn. These include:

1. Mr. L. Geron seeking an audience with the Naphire management and presenting the policy advocacy system as is. In the meeting, reservations were raised against this approach. As Mr. Geron is making use of the research exercise for a masteral thesis, the action research output might be viewed merely as results of an academic research!

2. One member of the action research team will present the action research output to the Naphire management. Though this is a feasible alternative, nobody wants to take the responsibility. Members were not confident if they can articulate the results of a seemingly messy exercise!

In the group discussion, action research members likewise questioned the timing of the presentation. Members felt that presenting it immediately might not create an impact as management and the whole Institute is busy meeting yearend requirements. As such, the group suggested that it be presented early the following year so that the individual who will be presenting will have enough time to prepare. With this arrangement, Dr. J. Falla agreed to present the research output in behalf of the group.
REFLECTIONS ON THE ACTION RESEARCH
A SUMMARY

(As presented in the Postgraduate meeting)
06 August 1991

1. I am confused! I have nominated Philippine experience as my topic for this morning but somehow I have realized that it would be impossible to talk of my Philippine experience without reference to my experiences here and (vice versa)! Together, I believe my experiences here and in the Philippines comprise one big experience in action research which I would like then to discuss this morning. I just hope that you will find this useful as you embark too, in that seemingly mythical action research!

2. In doing action research, I have been very clear from the very start of a personal assumption I hold dearly until now - that is, the organization where I work can evolve into a dynamic agency, reaching out all sectors and serving as an effective instrument for change. By dynamic, I mean being able to cope up with the challenges of the times (no matter how turbulent it is); and by effective, being able to meet the needs of the sectors the organization is mandated to serve. As I later realized, action research has the potential of sparking organizational consciousness which is essential for making strategic organizational action. This is because of the highly reflective nature and participative character of action research.

3. As many of you may now know (after several presentations), I work as a planning officer in a government organization whose main concern is the development of the Philippines' grains postharvest industry through research and extension activities. This organization, Naphire which stands for National Postharvest Institute for Research and Extension, was established in the early eighties when postharvest problems became serious and apparent. Michael was quite right when he pictured last week that in developing countries such as the Philippines, postharvest losses is a major concern. This is
so because tremendous amount of grains are lost annually due to poor handling and postharvest operations. These operations include harvesting, threshing, drying, milling and marketing. As the losses associated with these operations are indeed alarming, practically negating some gains the country have had in the production aspect, Naphire have been developing and extending appropriate postharvest technologies designed to reduce and minimize postharvest losses.

4. Even as I prepare the action research proposal, I am already beleaguered and swamped by problems. The first and the biggest I guess, was the personal battle I had with action research. To me, accepting action research was not easy. Though literature points out the merits of action research, I found it difficult to accept it in view of the type of research studies that Naphire does. I guess, my technical orientation prevails in me most of the time, always negating whatever merit literature points out about action research. I believed then, that action research was too sociologically orientated making it hard to fit in the technical nature of research projects that Naphire does. . . and worst, I can not see myself, a technical man by background, fitting into a sociologically orientated type of research.

Another problem I guess, which can also be viewed as consolation depending on where you are, was the seemingly varying interpretations on what action research is. As I went through the literature, a number of interpretations were revealed. For instance, Lewin saw action research as practitioner-planned and initiated activity, directed towards the improvement and understanding of practitioner's practice. This is contrasted with the views of Taba and Noel who saw action research as both externally initiated and directed. There's another one who argued that personal/individual change alone as espoused by Lewin is not sufficient enough to really effect improvement of a practitioner's practice. He claimed that it needs to be complemented by structural change processes so as to sustain and support individual change. . . Apparently, even individuals who are considered as experts in the field can not seem to agree on what action research is all
about. As I did not have any intention of joining this seemingly academic intellectual melee (on what action research is all about), I just decided to go along and see how things will go through!!!

Aside from the seemingly lack of a unifying definition on what action research is, there also seems to be a lack of clear cut guidelines on how to go about with action research. Except for the spiral of activities such as reflection, observation, planning and action, there also seems to be a lack of generality in executing this. As I gathered from the literature then, executing these activities was conveniently left to anybody's imagination.

As I open up myself, trying to be more accommodating than my previous antagonistic attitude (basically because I really do not have a choice but to go through this action research), I have realized that the diverse interpretation forwarded about action research, and the varying opinion accompanying it may not be actually meant to confuse me or any starting practitioner for that matter. With a light heart, I saw now the differing opinions on action research as a canvas where the richness of the whole field is painted. This I failed to capture when I still have that heavy heart. With a change in attitude, I have realized that I am not actually confused at all. I just don't have yet a meaning, a personal meaning on what action research is all about. It comes to me that for one to be really involved and appreciate action research, one should bring both his heart and mind, body and soul in the whole exercise. To me, this makes action research different from the traditional research studies that I have been exposed to.

This realization though, have not relieved me from that initial feeling of awe in implementing action research. I know that I will be working and implementing action research in a technically orientated organization where prevailing mind set is highly biased on technical innovations. The challenge to me then was to come up with a proposal that lies within the language and context of Naphire's broad operational goals, and which can be done in an action researching way. In coming up with a proposal, particularly if it is to be submitted for financial support by an organization whose orientation is more
on the technical aspect, I learned that one needs to know how to package his ideas well so that it would sound technically inviting.

5. Towards this end, the Soft Systems Methodology has been helpful. Building on my experiences with the organization and using the SSM as framework, I initially established a rich picture of Naphire. In here my experiences both as a researcher and a planning officer, as well as my exposure, friendship and conflicts with Naphire staff and management have helped a lot in examining current structures, processes and practices. I did the rich picturing in the light of a problem I feel Naphire is experiencing. Within justifiable grounds (I should know, being the planning officer) I felt that Naphire is experiencing an image problem particularly from the external environment. Despite Naphire’s effort to put its research projects on target to the actual and felt needs of its clientele, Naphire’s performance has still been perceived poorly by the policy sector. From the policy makers’ viewpoint, Naphire is not addressing the needs of the small farmers and have done little in improving their plight. As this perception can be severely disastrous, mainly because policy makers allocate and distribute financial resources to government agencies, I felt the strong need to look on Naphire’s organizational practices and see if there are issues that can possibly explain these perceptions, and if there are, what can be done about it. The situation indeed demands for an action research where members of the organization will have the opportunity to make sense of their practices, and make sense out of this making sense!

By examining current structures, processes and practices in Naphire, I was able to identify three big issues in the problem situation. These were:

a) issue on management- because of the relatively quick turn over of leadership, having five directors in an organizational life of ten years, Naphire was not able to establish a social context favorable to the organization. Because of the relatively short stay of leaders, a healthy linkage with the environment had not been established.
b) issue on development - there seems to be a conflict on the idea of development between Naphire and the policy sector. Evidently, Naphire views industry development clearly from a technical perspective. This is apparent from the kind and type of research studies it has done and are currently doing. Policy sectors on the other hand, view development from a social perspective - thus the call for Naphire’s contribution in uplifting the well being of small farmers.

3) issue on structures and processes - current structure show the absence of formal mechanisms that would bring to the policy sector issues regarding the industry. Apparently, policy sectors are not fully aware of what Naphire has been doing in the past as in the present! In the same manner, Naphire has done little, if ever there is, to involve the policy sectors in industry development. Though the opportunity exist as exhibited in the number of policy recommendations emerging from completed research projects, Naphire has not really attempted bringing policy recommendations to the attention of the policy makers. As such, policy issues are not given adequate attention contributing to the slow paced development of the industry. Slow paced industry development on the other hand, reflects poorly on Naphire because it runs contrary to its mandate - that of accelerating the grains postharvest industry.

6. Personally, and in the context of a research thesis where one needs to operate within time constraints, issue number three is the most relevant. It calls for Naphire to advance policy issues and engage other sectors, as the policy sector, in developing the postharvest industry. It recognizes that technology alone is not sufficient to spur industry development, but more so, requires delivery and support systems that can encourage and facilitate industry development.

7. Having identified this, I started developing the action research proposal that would see how Naphire can possibly be involved in policy advocacy. It attempts to mobilize organizational consciousness and action in instituting changes towards that identified end. At this point, one will possibly question the appropriateness of identifying by myself the most relevant issue. He may further ask whatever happened to the idea of action research as practitioner-planned and initiated
activity? All I can say, and I may be wrong, is that action research can become a personal journey. Faced with a problem of coming up with a proposal that can be both relevant and yet interesting to my organization, I need to decide somehow. As I have implied earlier, the present organizational culture would not allow me to just come in and introduce a research which can be viewed as highly fluid and structureless. The situation demands that I put a structure on the project and selecting a topic, an issue if you may, facilitated it so. If I may add, the proposal that has been developed was receive quite interestingly by Naphire management who agreed in the formation of a team who would look into the issue in an action researching way.

8. In an action researching manner, the action research team explored means on how Naphire can be involved in policy advocacy. In conducting action research, particularly with individuals who do not have any conception of what action research is, it is important for any practitioner to be wary of some pitfalls which could drag the whole research process. These include:

   a) if you're doing action research in an organization, it would be helpful to get the support of those who are in position and in power. As I have experienced, it is equally important to tell management what the research is all about and how it differs from the traditional research that the organization often does. By doing so, I collected some kindred support from individuals who are more dynamic and open to new approaches, and trite remarks from those who are less susceptible to change. At least, I get to know who among those in position I can rely on and who I need to talk more!

   b) In doing action research, it is important that the group themselves determine how they are going to operate. This way a sense of commitment and obligation can be impressed on each member. Unfortunately, this did not quite work out well as exhibited by member tardiness and absenteeism. It is worth noting though, that this attitude is not out of their own will, but rather, because of some structures and processes that everybody operates in.
c) in the action research team, it is important to recognize and be sensitive to the culture and power structures in the group. In my case, the group members were just too accommodating that they would allow me to lead and dominate the group. They initially thought that I have some interesting ideas to share and they were just too willing to abide. Though I can see the reason for this attitude which is well embedded in the Filipino culture - that of being so trusting with leaders, I can also see how this run against the very idea of the concept I am trying to introduce- that of allowing individuals to examine practices and in a collective fashion plan for its improvement!

Similarly, a practitioner who is involved, both as a facilitator and a participant, need to be careful and cautious in group dynamic exercises. From my experience, a practitioner who is a facilitator at the same time needs to be very cautious in expressing his own ideas, otherwise, this will remain unchallenged and readily be accepted by the group.

d) As earlier mentioned, the practitioner/facilitator needs to watch out for the power structure in the group. In my experience, members of the group, who in terms of organizational hierarchy occupies position, tend to dominate discussions and attempt to make decisions for the group. Others, on the other hand, who belong to the ranks tend to simply agree. In an action research, such a situation can be disastrous because members are not being given the fair chance to speak out and express his ideas. Others tend to get intimidated too by the domineering personalities of individuals who are in position, that they tend to simply listen and agree. The challenge for a practitioner/facilitator then,s is how to police and bring discussions to focus.

e) One also needs to be sensitive to the needs of the group. In my experience, as the action research team normally had four straight hours a day of discussion, I found it necessary to ensure that snacks are provided and taken cared for. The group walk to the cafeteria helped each member loosen down a bit which is essential for the next round of discussions.

All of the above issues, I guess, pose implications on the practitioners' ability to facilitate. In organizing/implementing the action research, my biggest contribution, I guess, was in
the facilitation of group dynamics and in providing order and focus to discussions. The outcomes and models developed were largely group ideas and a collective output. The developed models in a way, represent the action research team's ideas on how Naphire can engage in policy advocacy activities. It also provides operational definitions so that Naphire can pursue policy advocacy from a singular perspective.

9. The models developed were subsequently presented to Naphire management. Comparing with current practices was easy because in the first place, there's nothing to compare it with. As mentioned earlier, a formal mechanism that would link Naphire to the policy sector is absent in the present set up. As such, the acceptance of the model as an alternative system gets immediate and favorable response with Naphire management. In line with this, Naphire management drew actions in preparation for its eventual involvement in policy advocacy.

10. In the context of what I did, action research can be said to have evolved just like in ripples. From an initial exploratory rich picture building, it expanded to involve a group of individuals (the action research team) who further explored organizational processes and developed models on how the desired system can be achieved. The group expanded then to include Naphire management who eventually drew actions directed towards the improvement of the situation.

11. At this point, you might ask "have the action research made a dent in improving the practice of the organization? My answer is, I do not know, but I surely hope so! It will all depend on how serious Naphire management will take the decisions drawn during our last meeting. What I am sure though, was the organizational awakening for the need to involve policy makers in its extension activities. However, if the support given by management on the action research exercise and the interest shown by Naphire management in the whole research process is to be the gauge, then I can say that Naphire is on its way (in improving the practice).

12. If you wonder what sort of action research was this, I would say that it was envisioned and started to be a technical action research and graduated to a practical action research.
Initially, the aim of the action research team was just to complete the task passed by the management - that is, to develop a system that would enable Naphire to engage in policy advocacy. As the team goes, members did not just apply technical knowledge but likewise built on their personal perceptions, values, if you will, on the appropriateness of certain actions. It is the incorporation of the participants' personal wisdom that made the whole exercise look like practical action research. If there are learnings drawn by the participants from the whole exercise, it is hard to know. However, members have expressed great appreciation on the process and saw the importance of group effort in the examination and planning of actions everyone would be/is involved in.

On the part of the management, I guess they are quite satisfied on the outcome of the research and seems to be determined to pursue policy advocacy as part of the organization's activities. The organization also appreciated the critique placed on the practices and have vowed to consider raised issues in the Institute's planning conference.

13. At a personal level, I guess the research experience enabled me to come to terms with myself on what action research is all about. I finally found a meaning, a personal meaning of what action research is. To me, action research is research in a traditional sense (based on my conception on what traditional is) but one with a conscience and a heart and which is directed towards the improvement and understanding of a practice that concerns the practitioner. This may sound shallow and rhetoric at best, but lest I be misunderstood, allow me to expound a few points.

Action research appeals to me as traditional because like other research studies, it involves observation, planning and action. These activities, I guess, are the things we usually do when we conduct research projects in Naphire. We initially observe the current state of the industry, define issues and plan for actions. These actions usually come in the form of research proposals which examine in detail, the issues previously identified. I guess what makes action research different is its reflective and participatory nature.
As I have observed, most traditional and technical research studies seldom engage in reflections. Researchers merely go through the implementation of activities outlined in the proposal with the aim of simply achieving stated research objectives. They carry out activities mindless of the processes being done, thereby, missing out some learnings that can possibly be drawn in the process. As I have experienced, reflection enables one to see his way clearly through the whole research exercise, and allows one to constantly and consciously examine prevailing assumptions (be it personal or operational). As such, it makes the research effort more in focus because it provides leeway for research direction and redirection. By engaging in collective reflections, which is evidently absent in most technical research projects, the team can forge better relationship with each other which is crucial for the success of the research (be it action research or otherwise). Further, by collective reflection, one begins to understand the nature and character that emerge in the group, thus, providing more chance and opportunity to examine and improve it. I guess that through reflection, a safeguard mechanism can be built in the traditional research processes that would ensure wisdom would play part in research development and implementation activities.

From my experience, another point of difference between action research and traditional technical research is in the concept of participation. In the former, participation takes place in the whole research process unlike in the latter where participation is largely concentrated in the earlier part - in project development. What strikes me about action research was that participants gets to participate in the process of deliberation and even in recommendation formulation unlike in traditional technical research studies where deliberation/discussion is largely dominated by scientists and researchers. In traditional technical research, there seems to be a monopoloy of knowledge by technical experts that they take upon themselves the responsibility of formulating recommendations in behalf of other sectors. There is minimal if any, sectoral participation in research processes much more so in recommendation formulation. I guess, for research to be truly relevant, at least for development research programs, it
needs to involve sectors in the whole research process. This would not only create opportunity for participation but would also expedite extension process.

In conducting an action research, the greatest challenge for a practitioner is on how to encourage participation and to ensure that everyone gets the fair chance of expressing his ideas. As such, and I have mentioned this earlier, the practitioner needs to be sensitive to the needs, the culture and the power structures present in the group. More so, he needs to be equally aware of his role in the group and to act this role with great gusto if you wish.

14. How does action research contribute to organizational development then? This brings me back to my personal concern of seeing Naphire evolve into a more dynamic agent for change.

I guess, through action research, opportunity can be created for:

a) improving individual and organizational skills and practices, as well as improving interpersonal relationships between individuals or group of individuals (whether formal or otherwise). To me, these aspects - the skills and interpersonal relationship between individuals, are very crucial in pursuing organizational objectives.

b) stirring organizational consciousness and awareness on different structures and processes that can either impinge or promote, not only organizational efficiency but also interpersonal relationships and group dynamics.

c) understanding the organization, how it operates and function, particularly in relation to its external environment.

d) developing an organizational understanding on what change is all about and directing means and resources towards a collectively identified direction for desirable change. From this standpoint, it can also expand its understanding on what development is all about, and thus, pursue development not just from a single technical perspective but more so, on how it interrelates with other perspectives (viz; organizational and socio cultural perspectives).
15. At this point, I must admit that I am still confused! I still do not know what to place in my discussion in the final document. There are so many things to write and just as many are the things not to write! Somehow though, this presentation has helped me in sorting out some of my thoughts that I can now see a little structure on my previously fragmented thoughts! Thank you!
27 March 1991

Dear Egay,

Greetings!

It has been a long time since we had discussions in the action research group. I am sure that by now a lot of things have happened. I feel then that this is the most appropriate time for us to look back and assess what transpired (in the action research group) and relate it to our individual practices. By practice I mean, the way we deal with our works or simply "the way we do what we do".

Attached here is a material which I hope you will find time filling up. As you will notice, I have made use of little pictures in expressing points. This is done to make the material light and easy. However, beneath the apparent superficiality of the material are concepts from which we can understand and inform our practice. I request then that you take serious consideration of this. I am attaching too a summary report of the action research just in case you can not see your way clear. As I am planning to include the questionnaires in the appendix, could you make a note on this page expressing your approval and return this to Vicky together with the questionnaires. Thank you and all the best.

With warm regards,

Lidurino S. Geron
INSTRUCTION: Please answer each question seriously and thoughtfully. There is no right or wrong answer so just be yourself (negative answers will NOT be taken negatively, THANKS).

1. Which do you think best describe your feelings about the action research process as a whole? WHY?
   a) I am happy about it because it will help in putting the institute technology to paper channel and be useful to the industry through policy formulation.
   b) I am not sure about it because
      ____________________________________________________
      ____________________________________________________
   c) I feel bad about it because
      ____________________________________________________
      ____________________________________________________

2. How did you find EACH STAGE of the research process?
   Stage A: being directed to participate in the research process
      ____________________________________________________
      ____________________________________________________
   Stage B: negotiating with each other on how to work and operate.
      ____________________________________________________
      ____________________________________________________
   Stage C: the action phase; working as a team!
      ____________________________________________________
      ____________________________________________________
Stage D: the breaking up, at last it is over!

3. In your opinion, what do you think was the outcome of the action research?
   a) Boobie's Masteral Thesis
   b) An intervention strategy which Naphire can use to institute change
      Yes
   c) A greater understanding and appreciation of the process undergone; an understanding of why we do what we do
   d) Nothing, only confusion!

4. How did you feel being part of the action research team?
   a) Such a waste of time!
   b) Good enough! It kept me occupied.
c) I enjoyed being part of the team; being able to participate and express my ideas.

5. From the experience, how would you best describe action research?

a) A process where participants discuss and approach a problem of common concern.

b) A process where participants explore and examine current practices and think of means of improving it.

Experience/Practice

A process to complete and accomplish assigned task.
6. From your choice in no. 5, of what use do you think could action research be to you and to Naphire. You can make use too of little pictures but please do provide explanation.

7. From the action research, what sort of learning did you get? Again you can make use of little pictures in expressing your point. Please provide explanation.

8. Lastly, how did you find this questionnaire? Paint your own picture.
27 March 1991

Dear Joe,

Greetings!

It has been a long time since we had discussions in the action research group. I am sure that by now a lot of things have happened. I feel then that this is the most appropriate time for us to look back and assess what transpired (in the action research group) and relate it to our individual practices. By practice I mean, the way we deal with our works or simply "the way we do what we do".

Attached here is a material which I hope you will find time filling up. As you will notice, I have made use of little pictures in expressing points. This is done to make the material light and easy. However, beneath the apparent superficiality of the material are concepts from which we can understand and inform our practice. I request then that you take serious consideration of this. I am attaching too a summary report of the action research just in case you can not see your way clear. As I am planning to include the questionnaires in the appendix, could you make a note on this page expressing your approval and return this to Vicky together with the questionnaires. Thank you and all the best.

With warm regards,

Lidyino S. Geron
INSTRUCTION: Please answer each question seriously and thoughtfully. There is no right or wrong answer so just be yourself (negative answers will NOT be taken negatively, THANKS).

1. Which do you think best describe your feelings about the action research process as a whole? WHY?

   a) I am happy about it because
      
      
      
   b) I am not sure about it because
      
      
      
   c) I feel bad about it because
      
      
      

2. How did you find EACH STAGE of the research process?

   Stage A: being directed to participate in the research process
      
      
      

   Stage B: negotiating with each other on how to work and operate.
      
      
      

   Stage C: the action phase; working as a team!
      
      
      

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Stage D: the breaking up, at last it is over!

3. In your opinion, what do you think was the outcome of the action research?

   a) Boobie's Masteral Thesis - 

   b) An intervention strategy which Naphire can use to institute change - 

   c) A greater understanding and appreciation of the process undergone; an understanding of why we do what we do - 

   d) Nothing, only confusion!

4. How did you feel being part of the action research team?

   a) Such a waste of time!

   b) Good enough! It kept me occupied.
c) I enjoyed being part of the participate and express

I was struck right in the heart, I realized the importance and advantage of working as a team.

5. From the experience, how would you best describe action research?

a) A process where participants discuss and approach a problem of common concern

b) A process where participants explore and examine current practices and think of means of improving it.

c) A process to complete and accomplish assigned task.
6. From your choice in no. 5, of what use do you think could action research be to you and to Naphire. You can make use too of little pictures but please do provide explanation.

7. From the action research, what sort of learning did you get? Again you can make use of little pictures in expressing your point. Please provide explanation.

8. Lastly, how did you find this questionnaire? Paint your own picture.
27 March 1991

Dear May,

Greetings!

It has been a long time since we had discussions in the action research group. I am sure that by now a lot of things have happened. I feel then that this is the most appropriate time for us to look back and assess what transpired (in the action research group) and relate it to our individual practices. By practice I mean, the way we deal with our works or simply "the way we do what we do".

Attached here is a material which I hope you will find time filling up. As you will notice, I have made use of little pictures in expressing points. This is done to make the material light and easy. However, beneath the apparent superficiality of the material are concepts from which we can understand and inform our practice. I request then that you take serious consideration of this. I am attaching too a summary report of the action research just in case you can not see your way clear. As I am planning to include the questionnaires in the appendix, could you make a note on this page expressing your approval and return this to Vicky together with the questionnaires. Thank you and all the best!

With warm regards,

[Signature]

Liduvino S. Geron

[Approval]

[Signature]

4-22-91
INSTRUCTION: Please answer each question seriously and thoughtfully. There is no right or wrong answer so just be yourself (negative answers will NOT be taken negatively, THANKS).

1. Which do you think best describe your feelings about the action research process as a whole? WHY?
   
   a) I am happy about it because we were all involved in the discussion process. Also, members of the action research group were free in presenting their ideas about the subject matter.
   
   b) I am not sure about it because
      
      
   c) I feel bad about it because
      
      

2. How did you find EACH STAGE of the research process?
   
   Stage A: being directed to participate in the research process
   
   
   Stage B: negotiating with each other on how to work and operate.
   
   
   Stage C: the action phase; working as a team!
Stage D: the breaking up, at last it is over!

3. In your opinion, what do you think was the outcome of the action research?
   a) Boobie's Masteral Thesis
   b) An intervention strategy which Naphire can use to institute change
   c) A greater understanding and appreciation of the process undergone; an understanding of why we do what we do
   d) Nothing, only confusion!

4. How did you feel being part of the action research team?
   a) Such a waste of time!
   b) Good enough! It kept me occupied.
c) I enjoyed being part of the team; being able to participate and express my ideas.

d) I was struck right in the heart, I realized the importance and advantage of working as a team.

5. From the experience, how would you best describe action research?

a) A process where participants discuss and approach a problem of common concern

b) A process where participants explore and examine current practices and think of means of improving it.

c) A process to complete and accomplish assigned task.
6. From your choice in no. 5, of what use do you think could action research be to you and to Naphire. You can make use too of little pictures but please do provide explanation.

For me the action research made me understand right approaches in policy advocacy. NAPHERE would also be benefited because of the dissemination of the institute through programs to its clientele especially to the government's policy maker.

7. From the action research, what sort of learning did you get? Again you can make use of little pictures in expressing your point. Please provide explanation.

Being assigned in a support department for almost 9 years I have a limited knowledge about "RESEARCH", but when I was included as one of the members of the action research team, important activities being undertaken by researchers were imparted to me.

8. Lastly, how did you find this questionnaire? Paint your own picture.
27 March 1991

Dear [Name],

Greetings!

It has been a long time since we had discussions in the action research group. I am sure that by now a lot of things have happened. I feel then that this is the most appropriate time for us to look back and assess what transpired (in the action research group) and relate it to our individual practices. By practice I mean, the way we deal with our works or simply "the way we do what we do".

Attached here is a material which I hope you will find time filling up. As you will notice, I have made use of little pictures in expressing points. This is done to make the material light and easy. However, beneath the apparent superficiality of the material are concepts from which we can understand and inform our practice. I request then that you take serious consideration of this. I am attaching too a summary report of the action research just in case you can not see your way clear. As I am planning to include the questionnaires in the appendix, could you make a note on this page expressing your approval and return this to Vicky together with the questionnaires. Thank you and all the best.

With warm regards,

[Signature]

Liduino S. Geron
INSTRUCTION: Please answer each question seriously and thoughtfully. There is no right or wrong answer so just be yourself (negative answers will NOT be taken negatively, THANKS).

1. Which do you think best describe your feelings about the action research process as a whole? WHY?

a) I am happy about it because (the ideas generated is a pool of the best ideas each of the member possesses, thus, an effective approach).

b) I am not sure about it because ____________________________

__________________________

__________________________

c) I feel bad about it because ____________________________

__________________________

__________________________

2. How did you find EACH STAGE of the research process?

Stage A: being directed to participate in the research process

Stage B: negotiating with each other on how to work and operate.

Stage C: the action phase; working as a team!
Stage D: the breaking up, at last it is over!

3. In your opinion, what do you think was the outcome of the action research?
   a) Boobie's Masteral Thesis
      
   b) An intervention strategy which Nephire can use to institute change
      
   c) A greater understanding and appreciation of the process undergone; an understanding of why we do what we do
      
   d) Nothing, only confusion!

4. How did you feel being part of the action research team?
   a) Such a waste of time!
   
   b) Good enough! It kept me occupied.
5. From the experience, how would you best describe action research?

- **a)** A process where participants discuss and approach a problem of common concern.

- **b)** A process where participants explore and examine current practices and think of means of improving it.

- **c)** A process to complete and accomplish assigned task.
6. From your choice in no. 5, of what use do you think could action research be to you and to Naphire. You can make use too of little pictures but please do provide explanation.

7. From the action research, what sort of learning did you get? Again you can make use of little pictures in expressing your point. Please provide explanation.

8. Lastly, how did you find this questionnaire? Paint your own picture.
INSTRUCTION: Please answer each question seriously and thoughtfully. There is no right or wrong answer so just be yourself (negative answers will NOT be taken negatively, THANKS).

1. Which do you think best describe your feelings about the action research process as a whole? WHY?

a) I am happy about it because in the First place ART research team are all participated to effective organization to pursue policy advocacy in the operation of Nature research work in the successful of this study.

b) I am not sure about it because


c) I feel bad about it because


2. How did you find EACH STAGE of the research process?

Stage A: being directed to participate in the research process

I am so proud about it bec. I am selected as one of the ART team to share my ideas & help the government as well as the Institute.

Stage B: negotiating with each other on how to work and operate.

All are cooperative.

Stage C: the action phase; working as a team!

The ART research team have a positive reaction about the study.
Stage D: the breaking up; at last it is over!

I think it the time to apply

The result to the Institute.

3. In your opinion, what do you think was the outcome of the action research?
   a) Boobie's Masteral Thesis
   b) An intervention strategy which Naphire can use to institute change
   c) A greater understanding and appreciation of the process undergone; an understanding of why we do what we do
   d) Nothing, only confusion!

4. How did you feel being part of the action research team?
   a) Such a waste of time!
   b) Good enough! It kept me occupied.
c) I enjoyed being part of the team; being able to participate and express my ideas.

d) I was struck right in the heart; I realized the importance and advantage of working as a team.

5. From the experience, how would you best describe action research?

a) A process where participants discuss and approach a problem of common concern.

b) A process where participants explore and examine current practices and think of means of improving it.

A process to complete and accomplish assigned task.
6. From your choice in no. 5, of what use do you think could action research be to you and to Naphire. You can make use too of little pictures but please do provide explanation.

\[ a + b + c = \text{Action Research} \]

7. From the action research, what sort of learning did you get? Again you can make use of little pictures in expressing your point. Please provide explanation.

8. Lastly, how did you find this questionnaire? Paint your own picture.

---

By the combination of a, b, and c at question no. 5. I hope these prompts can be to me and to Naphire.

In general I realized the importance and advantage of working as a team. The all these come was to us able to share and participate and express our ideas from our heart or nearly at once.

I am happy about it. I hope this study will be applied and implanted.
REFERENCES


Roling, N. 1990, 'The agricultural research - technology transfer interface: A knowledge system perspective' in Making the Link, Agricultural Research and Technology Transfer in Developing Countries. ed D. Kaimowitz, West View Press, Boulder.


ACTION RESEARCH AS A FRAMEWORK FOR SYSTEMIC AND ORGANIC CHANGE

by:

LIDUVINO S. GERON, B. Sc. Ag. Eng'g.

Submitted in partial fulfillment of the requirements for the degree of:

Masters of Science (Research)
Systems Agriculture
(1992)

Faculty of Agriculture and Rural Development
University Western Sydney, Hawkesbury
Richmond, NSW
Australia
PLEASE NOTE

The greatest amount of care has been taken while scanning this thesis,

and the best possible result has been obtained.
SUMMARY

This document outlines how organizational action was mobilized in examining and improving current organizational practices. The study was conducted in a technical task-based research organization in the Philippines and was triggered by a concern for the seeming unfavorable feedback the organization receives from the external environment. An analysis of the organizational situation showed among other factors, the apparent lack of a mechanism that relates the organization's research findings to policy making. Through action researching and using the Soft Systems Methodology as a framework, an action plan was developed which is designed to improve the situation.

The document also discusses insights and lessons learnt in the conduct of action research. Particular focus was placed on key issues that affect individual participation and organizational actions; and how action research fares as a potential framework for organic and systemic change. From the examination of the action research experience, it became apparent that in order to fully harness the potentials of action researching, opportunities for individual participation must be well distributed and taken by the action research members. The factors affecting individual participation in group processes such as group needs, group culture and power issues in and out of the group, must likewise be addressed. This is to promote coordination, commitment and critical consciousness among group members which are essential in effecting organic and systemic change.

As the action research was conducted within the broad setting of agricultural research, where efforts are placed to enhance agricultural development, this document likewise discusses the potential of action research as an alternative framework for Research and Development (R and D) activities. It presents how action research can mobilize grassroot initiatives and actions which are crucial to a sustainable agricultural development.
DECLARATION

I, Liduvino S. Geron, hereby declare and certify that this research thesis is my original work and contains the work of others only when it has been referenced as such. I further certify that this document, and the research from which it was derived, has not been submitted for a higher degree at any other institution. This is being submitted in partial fulfilment of the requirements for the degree of Masters of Science (Research) in Systems Agriculture, Faculty of Agriculture and Rural Development, University of Western Sydney, Hawkesbury.

Signed:

[Signature]
Liduvino S. Geron
Acknowledgments

This document is an honest attempt to put in writing the experiences undergone and the lessons learnt from the conduct of an action research. To a great extent, the experience was a great challenge and no less, a test of faith to the organizations and individuals who gave support and encouragement through the whole endeavor. Unfortunately, there is not enough space to mention all those who I am grateful and from whom I have learnt, but special acknowledgment must be made to:

The Australian International Development Assistance Bureau (AIDAB), whose financial support enabled me to complete this field of higher studies;

Dr. S. C. Andales and J. B. Santos, Naphire Executive and Deputy Director, respectively, whose support and enthusiasm encouraged me to conduct the action research in my home organization;

Engrs. R. Rapusas and G. Jimenez, Managers of the PHSADD and PED, respectively, Naphire, whose unceasing support for staff development enabled me to get a nomination and eventually a scholarship for this academic program;
Drs. F. Parker and N. Sriskandarajah, my academic supervisors, whose line of questioning and challenging showed me that learning is not merely a quest for answers but a constant search for meanings and questions;

Drs. R. Packham and R. Macadam, Director of the Postgraduate Program and Associate Dean, respectively, Faculty of Agriculture and Rural Development, Hawkesbury, whose critical thoughts and incisive comments in the review of the thesis challenged me to step back and reexamine the way I go about my thinking;

The Postgraduate Group, Faculty of Agriculture and Rural Development, Hawkesbury, whose unavering support and warm encouragement enabled me to go through and learn from the challenges of this program;

The Naphire management and staff, whose kindly acceptance and stimulating interactions helped me learn immensely from the whole research process. Special mention must go to the members of the action research group: Jo, Egay, Heidi, Tess, Caloy, Rolly, Mirriam, Mar and Anggie, who bore with me the excitement and difficulties in action researching, and to Engr. G. Jimenez, whose invaluable comments in the research output prompted me to expand my literature on policy;
Heidz, Vicky and the PED staff, whose untiring and cheerful assistance to attend to my domestic and office obligations made my overseas' stay less difficult and reassuring;

All my friends specially Matt, Melee, Niger, Bambi, Sid, Ric, Zal, Virgie, Eva, Ninfa, Elvie and the Armidale group, whose friendly companion made my stay in Hawkesbury fun and exciting;

The families of Don and Aileen, Jun and Cynthia and Ate Tessie and Lola Daming, whose homes I made my abode especially during the hard and trying times;

My family, Tatay, Nanay, Ate Pe, Inds, Nini, Erwin, Lolo and Gorrie, whose trust and loving encouragement inspired me to advance and move on amidst daunting difficulties;

... and to HIM who authored everything, my PRAISES!
to my diday,
carol villegas figueroa
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