

IDENTIFYING, DEFINING, AND MANAGING SOCIAL AND ECONOMIC CHANGE: THE CURRENT CAPACITY AND FUTURE PROSPECTS FOR THE ROBERTSON WINE COOPERATIVE

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Funded By
NATIONAL AGRICULTURAL MARKETING COUNCIL

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**National Agricultural
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Strategic positioning of South African Agriculture
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1. Purpose of this study

This pilot research study is funded by the National Agricultural Marketing Council (NAMC) for the purpose of tentatively identifying social and economic components within the Robertson Wine Cooperative's (RWC) organizational environment that substantially influence the members of that organization's ability to recognize, define, and manage change. Those components, regarded from a social systems perspective, have identified within the RWC and its membership two distinct but closely related agribusiness systems.

The research methodology employed, Interactive Qualitative Analysis© (Northcutt & McCoy, 2004) is a social systems approach to qualitative research. Dialectical logic is the foundation of this methodology for both practical and theoretical reasons. Theoretically speaking, it provides a useful continuum between the ideological dimensions of a variety of research paradigms; i.e. induction versus deduction, qualitative versus quantitative, positivism versus phenomenology, among others.

Practically speaking, IQA allows two levels of interview data to be collected from respondents: A) axially coded descriptions of social commonalities which form the building blocks of social systems and B) theoretically coded determinations of the strength and direction of influences among those building blocks. Axial coding creates a current "snapshot" of the object of inquiry. Theoretical coding facilitates defensible estimations of the object's future prospects.

The two agribusiness systems that emerged in the course of this pilot study, the **Winery-RWC-Vinimark** system and the **Members and Producers** system, are parts of a larger community of social and economic systems that make up the structure of rural life in the Breede River valley. These systems and the people who create and inhabit them have functioned in various incarnations for generations and are likely, in some evolutionary form, to continue to do so for generations to come. This study is intended to be both a critical and sympathetic analysis of the capacity of one organization and its members to recognise and manage that evolution.

For the sake of clarity this report can be divided into five main themes. Sections 1 through 4 address the purpose of the pilot study, indicate the intended audiences and give

¹ See www.agri-afrc.co.za

a brief historical overview of the RWC. Sections 5 through 7 address the overall structure and meaning of the two primary agribusiness systems that make up the RWC. Sections 8 through 11 present a current “snapshot” of both agribusiness systems developed from interview data provided by a cross section of the constituents (interviewees) of both the **Winery-RWC-Vinimark** and **Members and Producers** systems. In a series of “If...then” statements sections 12 through 14 estimate the future prospects of both agribusiness systems as a series of consequences of the members’ espoused attitudes, beliefs and behaviors. Section 15 concludes with a list of twelve potential change management strategies.

2. The Academic Audience

This research report proposes to accomplish two seemingly irreconcilable tasks: A) to deliver qualitative research results at appropriate levels of comprehensiveness and complexity and, B) to present those same results accessibly and elegantly. For social systems research professionals comprehensiveness means that all affinities, influence patterns, recursive systems, and other elements of all relevant social systems are included, to the maximum extent possible within the results of the study (Northcutt & McCoy, 2004).

For the same audience complexity means that all diagrams and narratives fairly and accurately represent the degree of complexity of interrelationships within social, and in this case, agribusiness systems. Within reasonable expectations, all research results and the methodological operations employed to obtain them should be replicable, confirmable, and transferable (Lincoln & Guba, 1985).

3. The Agribusiness Audience

For the agribusiness professional and the constituents of the two agribusiness systems that emerged from this research effort the quality of elegance means that the representations of both agribusiness systems are as complex as they must be and as simple as they can be. Accessibility for the purposes of this report means the topologies or patterns of links among the elements of these two systems are designed to be easy to read and understand.

Whatever other attributes it may have a research methodology and the results it produces must be public and not idiosyncratic. That means no “trade secrets”, no privileged information (save only respondent privacy), no content or context specific protocols, and all research protocols and results to be available for public review.

4. A Brief Historical Context

In 1941 the RWC was founded by farmers in the Robertson area to buy their grapes, process them into wine, and sell the wine to distillers and bottlers. From 1941 until 1982 the RWC was a local agribusiness system embedded within a larger regional agribusiness system that included Koöperatiewe Wijnbouwers Vereniging (KWV), Distillers' Corporation (now Distell), Stellenbosch Farmers Winery (SFW), and other producer cellars.

The introduction of the cold fermentation process by SFW in the 1960's changed wine consumption patterns in the Western Cape and created a market for "dry white" wine made from white grapes. With the right equipment any producer's cooperative could now make and bottle good quality, marketable wine.

By the early 1980's the RWC's management and the board of directors became impatient with the larger system's "take it or leave it" pricing policy, the lack of information and feedback from buyers, production limits, autocratic industry leadership, a disregard for the interests of individual producer cellars, and perceived conflicts of interest among Distell, SFW, and KWV.

In 1988 SFW and Distell refused to buy the RWC's wine inventory. This was prompted by the RWC's growing interest in bottling and marketing wine under their own brand. The RWC succeeded in breaking the boycott by selling out that year's inventory.

Two subsequent business decisions signaled the beginning of the RWC's evolution from a small component of a larger agribusiness system to a major producer of quality wine. First, Robertson Winery Pty. Ltd. was established as a separate but wholly owned business entity to buy and bottle wines made by the RWC and maintain ownership of the "Robertson Winery" brands.

Second, an outside firm, Vinimark, was engaged to provide distribution and marketing services for Robertson Winery's bottled and branded wine. As sales volumes increased Vinimark became a 50 percent partner in Robertson Winery with the RWC. Vinimark now has representation on the Boards of Directors of the RWC, Robertson Winery, and the RWC's domestic distribution affiliate, Robertson Wide River Wine Company. The combination of the RWC, Robertson Winery, and Vinimark now behaves, in effect, as a distinct agribusiness system.

5. Systems of Influence and Control

The structure of the **Winery-RWC-Vinimark** agribusiness system is made up of five "affinities". Each of these affinities is a collection of attitudes, behaviours, and emotions that coalesce to form a recognizable socio-economic structure. The constituents or members of the affinities that make up the **Winery-RWC-Vinimark** system include but

are not strictly limited to persons whose economic and/or social well being directly depends on this system.

Figure 1 illustrates the flow of influence and control from the most influential affinity within the **Winery-RWC-Vinimark** agribusiness system, *Board Governance from the Perspective of Board Members* through three affinities of declining influence to the least influential affinity, *Members Perception of Board Governance*.



Figure 1. Winery-RWC-Vinimark agribusiness system

5.1 Winery-RWC-Vinimark agribusiness system

The absence of “feedback loops” means that influences within this system move in a single direction and lack the ability to circulate back to their source. The absence of a feedback loop means that this system lacks the ability to learn from its own successes and failures. This seriously compromises the system’s ability to anticipate and manage change.

A necessary upgrade of the system’s self learning capacity would be the creation of a feedback loop by which influences could circulate from the affinity *Members Perception of Board Governance* back to the affinity *Board Governance from the Perspective of Board Members*.

The present structure of the **Winery-RWC-Vinimark** system does not prevent individual RWC members who are not also Board members from exerting individual influence on any other affinity or any other individual in the system. As a group, however, RWC members who are not Board members or former Board members appear to have little or no influence on RWC governance and little knowledge of or influence on the business relationships among the RWC, the Robertson Winery, and Vinimark.

6. Winery-RWC-Vinimark: structure and meaning

In the following section each of the five affinities within the **Winery-RWC-Vinimark** agribusiness system is described and the direction of the influences generated by each affinity is indicated. In section 13 titled “**Current trends and future outcomes**” the effects of those influences on the structure of the agribusiness system are described and the likely future outcomes of those effects are estimated.

6.1 Board Governance from the Perspective of Board Members

Members of the Board of Directors feel that they are selected for leadership on the basis of their knowledge of cellar operations, their success as farmers, and the respect with which they are regarded by their peers. In practice Board members and RWC members alike adhere to a traditional attitude toward leadership; i.e. an implicit faith that an elected or appointed leader “will always do what is right”. This faith confers an expectation on the part of the leader that he will be granted complete autonomy to lead as he sees fit. This feeling of autonomy often leads to an impatience with inquiry and a defensiveness toward criticism.

Official communication from the Board to members, either individually or collectively, is perceived as infrequent and has created a suspicion on the part of many members that decisions made privately by the Board tend to: A) benefit the larger producers, B) involve conflicts of interest, and C) are made with little if any input from or knowledge of ordinary members. This perception is not, however, shared by the Board members.

Board Governance from the Perspective of Board Members directly influences The Robertson Winery – Vinimark Relationship

6.2 The Robertson Winery-Vinimark Relationship

The RWC as an association of grape producers is expected to maximize the price paid per tonne of grapes delivered to the cellar by its members. Robertson Winery is a 50:50 partnership between the RWC and Vinimark, a privately owned distribution and marketing company. The first obligation of Robertson Winery is to build the value of the brands under which the wine made from the RWC members’ grapes is marketed, distributed, and sold.

The Winery must therefore generate sufficient cash flow to cover ongoing expenses and in addition retain sufficient profits to invest in their proprietary brands. The Winery’s second obligation is to maximize the share of profits generated by the distribution and marketing of Robertson Wines that can be returned to the RWC for distribution to its members as income. This creates two conflicting obligations.

Many members feel that Board decisions regarding the division of profits between the RWC shareholders and the Robertson Winery-Vinimark partnership are usually resolved in the favor of the partnership to the detriment of their personal incomes. Interlocking memberships among the Boards of the RWC, Robertson Winery, and the domestic distribution firm Wide River Wine Company create an impression among members of divided loyalties among Board members.

The Robertson Winery – Vinimark Relationship directly influences RWC Members’ Perception of Vinimark

6.3 Members' Perception of Vinimark

The role played by Vinimark in the marketing and distribution of the RWC's wine is seen as both positive and necessary by the Board of Directors. However, the specifics of Vinimark's relationship with Robertson Winery are not clear to many other RWC members. Despite increases in the annual volume of wine produced by RWC, labeled by Robertson Winery and marketed by Vinimark members report falling year to year incomes.

A lack of direct contact with Vinimark leaves the RWC members uninformed as to the level of success of Vinimark's marketing efforts, particularly within South African market. This in turn leads some members to question the direction and worth of the Robertson Winery-Vinimark relationship.

Members' Perception of Vinimark directly influences Members' Attitude toward the Cooperative

6.4 Members' Attitude toward the Cooperative

Despite dissatisfaction with grape prices and members' unresolved questions about the level of efficiency with which the RWC cellar is managed, members generally feel that they are more financially secure than members of other producer cellars. They feel confident that the RWC will buy their grapes every year regardless of market conditions. Despite purchase guarantees periodic oversupplies of red and white wine have reduced the price per tonne paid by the RWC over the past few years and have consequently reduced members' incomes.

RWC's substantial production capacity, its 50 percent partnership interest in the Robertson Winery's bottling capacity, and its partnership with Vinimark allow members a measure of indirect control over the prices they receive for their grapes. Despite falling incomes members still have a great deal of confidence in and respect for the RWC's current General Manager. However, the members are concerned that the loss of one or more key members of the management team would have a negative effect on the RWC's future prospects.

Members' Attitude toward the Cooperative directly influences Members' Perception of Board Governance

6.5 Members' Perception of Board Governance

The members feel that there are few opportunities for them to communicate, either formally or informally with the Board regarding RWC or Robertson Winery business or Board governance. An individual member is hesitant to speak up in general meetings

owing to a traditional reluctance to publicly confront authority, a sense that requests for information from the Board are likely to be futile, and the belief shared by many members that “we are followers”. As a result individual dissatisfaction is largely internalized and seldom shared with other members except close associates and then only in private. On rare occasions a “noisy” member will be recruited by several other members to ask a question or express a criticism on their behalf during a general meeting.

Members’ Perception of Board Governance has no direct effect on any other affinity in the system.

7. Winery-RWC-Vinimark: links with other systems

Winery-RWC-Vinimark is an open agribusiness system that requires inputs from other agribusiness systems to function. Under certain market conditions Robertson Winery “buys in” wine from other producer cellars and bottles, labels, and distributes it.

As the guaranteed buyer of grapes from its members the RWC acts as a link between them and the value added processes of making, branding, marketing, and distributing wine. Wine grapes sold to the RWC are the sole output of the **Members and Producers** agribusiness system (see Figure 2), which is currently the primary feed stock for most of the **Winery-RWC-Vinimark** system’s value added outputs.

8. Members and Producers: structure and meaning

Ten affinities make up the **Members and Producers** agribusiness system and encompass much of the social, economic, and emotional aspects of its constituents’ farming experience. Social means the way in which the structure of this agribusiness system largely determines the ways in which RWC members influence each others’ attitudes and behaviours. Economic means those agribusiness inputs and outputs that generate profits or losses and permit the members’ farms to function as production units. Emotional means the deeply held attitudes toward family histories, rural traditions, customs, precedents, and the personal attachments to their farms that shape the outlook of RWC members and animate their behaviour.

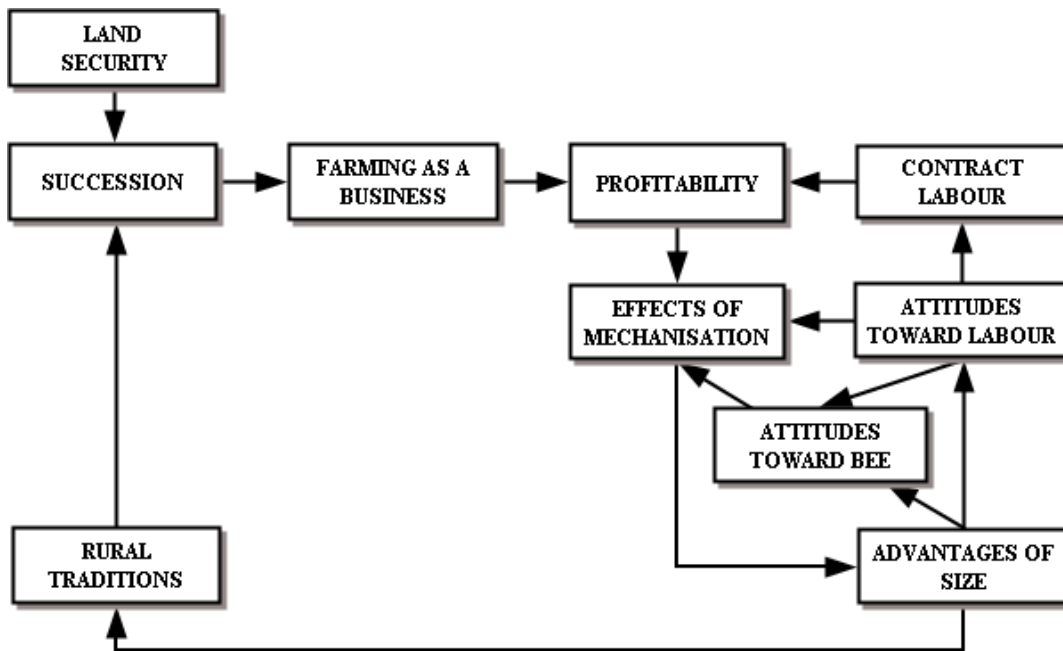


Figure 2. Members and Producers agribusiness system

8.1 Influence patterns

The complete diagram of the **Members and Producers** system in Figure 2 shows the circulation pattern of influences between and among the system’s ten affinities. In contrast to the **Winery-RWC-Vinimark** system every affinity within this system, with the exception of *Land Security*, has the potential to influence every other affinity and be influenced in return.

For example, *Advantages of Size*² directly influences *Attitudes toward Labour* which in turn directly influences *Contract Labour*. Theoretical coding of interview data locates *Attitudes toward Labour* between *Advantages of Size* and *Contract Labour* on the agribusiness system diagram shown in Figure 2. From this position *Attitudes toward Labour* mediates or changes the influences that enter it from *Advantages of Size* and subsequently passes those modified influences along to the following affinity, *Contract Labour*.

In this way influences eventually circulate through all parts of the system. A strong influence contributes more change and absorbs less change from affinities as it circulates

² The term “advantages of size” as used in this context probably does not refer only to perceived financial advantages of size but is also used as a proxy for “convenience and diminished demand on management” as a consequence of increased mechanization and consequently a reduction in labour use. The accent the producers placed on mechanization likely has similar connotations. See also sections 8.8 and 8.9.

through the system. It may return to its originating affinity almost intact.

A weak influence originating in another affinity within the same system contributes less change and absorbs more change from other affinities as it passes through the system. In some instances, a weak influence may be totally unrecognizable after passing through several subsequent affinities.

8.2 Strong and weak influences

An example of two influences, one strong and one weak originating in the affinity *Succession* are: A) the custom of a father retiring and leaving the farm soon after his son and heir returns from university or agricultural college and B) the custom of the father continuing to exercise complete control of the farm until his death or disability despite the presence of a qualified son and heir in residence.

It should be noted that in no instance were daughters or indeed any females mentioned by RWC members as potential heirs. Five interviews with RWC members included their wives. On these occasions the important role of wives in the administrative aspects of farm management was acknowledged. Nevertheless, succession of control and ownership of RWC members' farms is a male dominated process.

Influence 'A', the custom of early retirement by the father is too weak to resist the cumulative effects of changes added to it by each affinity through which it passes as it circulates through the system. At some point during its journey through the system this influence becomes so diluted as to be unrecognizable and simply disappears.

Influence 'B', the custom of fathers remaining in complete control of the farm until their death or disability has been traditionally strong enough to resist dilution as it passes through the entire system and returns to its source with its meaning undiminished.

Just "upstream" from *Succession* is *Rural Traditions* (see Figure 2). This affinity adds the values of tradition, custom, and precedent to each influence that passes through it on the way to *Succession*. Therefore, influences that tend to support the current meaning of *Succession* are strengthened, such as the example of influence 'B' above, and those influences that tend to diminish the current meaning of *Succession*, such as influence 'A' above are further weakened which in turn diminishes their potential effect on *Succession*.

The location of affinities within the system and the strength of the influences they generate determine the most likely or least likely location for successfully introducing change into the system. For example, attempts to change the traditional custom of ownership succession from influence 'B' to influence 'A' will be largely futile unless the attitudes, behaviours, and emotions that make up *Rural Traditions* are changed as well. Likewise, attempts to change the attitudes, behaviours, and emotions that characterise *Rural Traditions* must first take into account the influence of *Advantages of Size*.

8.3 Land security

A significant minority of members see the near future in darker terms than they experience the present. The shadow of Zimbabwe hangs over every discussion regarding the outlook for farming as a business or as a way of life. There is little confidence that 30 percent of all farm land will be turned over to black landowners by 2014. If this promise by the national government to South Africa's poorest voters is not honored then members fully expect some form of expropriation, forced sale or coercive taxation.

This perceived lack of land security leads some younger RWC members to believe that their children will not return to the farm after high school or tertiary training. Pessimism is more common among older members many of whom believe that their grandchildren will have neither the confidence nor the economic incentive to become farmers.

8.4 Succession

Two of the most profound events in the life of a member are: A) receiving control of the farm from his father and B) the passing control of the farm to his son or sons. Members mentioned three principal succession styles which reflect three interpretations of local rural traditions. The first and least frequent; the father relinquishes complete control soon after the son or sons return from college, university, or other formal training. The father often retains a minority equity or income interest in the farm. This is the tradition of self reliance and learning by one's own mistakes.

The second; the son or sons undergo a period of apprenticeship with the father who gradually turns over control of day to day operations. This transition averages about ten years. Relinquishing financial control and RWC membership signals the father's retirement from active farming. This is the tradition of benign patriarchy and close family ties.

The third; the father retains control of all aspects of farm operations and management until his own death or disability. The son or sons are, in effect, employees with little or no access to financial information, no opportunity to participate in RWC governance, and limited freedom to make their own decisions until they are in their mid to late 40's. This is the tradition of an emotionally distant, authoritarian patriarch who distrusts anything or anyone not under his direct control.

A scenario which requires RWC members to deliver constantly increasing levels of quality at constantly decreasing levels of cost while employing less and less labour on a larger and larger scale poses an almost insurmountable challenge to farmers who have spent most of their career as followers rather than leaders.

8.5 Rural traditions

A majority of the members' families have farmed in the Robertson area for generations. For most members it would be inconceivable not to continue the family tradition of farming. This extended continuity of land ownership has allowed an incremental evolution of attitudes and beliefs from generation to generation. This has, in turn, established a reliance on precedent and custom as two key criteria for recognizing, evaluating, and reacting to social and economic change.

Tradition and convention are the filters through which cultural and technological innovations must pass. Despite initial resistance the adoption of applied technology such as drip irrigation, mechanisation, telecommunications, and computerization has slightly loosened the grip of tradition and dramatically improved the material quality of members' lives over the last, say, thirty years.

Notwithstanding the challenges of global competition and political uncertainty farming, at least for the moment, seems for many RWC members to be a satisfying combination of tradition and modernity.

8.6 Farming as a business

Farming as a system of rational, analytical, results driven activities is a perception largely but not exclusively confined to members or sons of members who are under forty years of age, who are well educated, and who are relatively well traveled. Equipped with a "broader outlook" they tend to be more future oriented and less risk averse than members who have had limited exposure to disciplines other than conventional technical agricultural subjects and who tend to base business decisions on local sources of information and guidance.

8.7 Profitability

The years 2001/2002 were particularly unprofitable for wine farmers (Conningarth, 2003). Local financial planners report many of their farmer/clients' net incomes declined 20 to 40 percent in those years. In many cases those incomes have not recovered. Revenue has been declining for the last several years (PriceWaterhouseCoopers, 2006) while expenses, especially fuel and labour have continued to rise. Most RWC members believe that national government has demonstrated scant regard for agriculture and is therefore unlikely to provide any significant tax relief, price support, or currency devaluation which would help them compete in the global market.

A minority of members, mostly small producers, are under capitalized, highly leveraged and in danger of insolvency if current revenue trends persist. Even employing the most optimistic scenarios the increasing pressure to produce better quality grapes more

efficiently with lower cost of labour smaller producers will still continue to struggle financially.

8.8 Effects of mechanisation

Mechanisation beyond a level normally found on most wine grape farms is determined by the size of the farm and the consequent requirement for increased productivity. The quantum leap in capitalization and perceived productivity afforded by a grape harvester is available only to producers with substantial financial resources or access to credit on favourable terms. In practice these advantages are generally available to larger producers only.

It is the interviewees' view that, for instance, the acquisition of a grape harvester does not necessarily displace existing labour. Mechanisation is seen as an opportunity to use existing resident labour more efficiently. However, the long term trend appears to be the use of less hand labour since unskilled workers who leave the farm are not generally replaced. Mechanisation also allows farmers to control their dependence on contract labour thus potentially reducing expense and exposure to labour laws and regulatory liability (as referred to in footnote 2).

8.9 Advantages of size

Members' perceptions of farm productivity are largely determined by size as defined by the number of hectares under irrigation. For a member who derives most of his income from wine grapes, 600 tonnes is thought to be the minimum required to support a family. At this level, however, small producers feel that they are at a competitive disadvantage to the average producer who delivers over 1,000 tonnes. Members seem to feel that they must be at least a medium sized producer to enjoy sufficient advantages of size which allow higher levels of mechanisation, more efficient utilisation of labour, a perception of preferential treatment by the RWC Board, and sufficient surplus capital to acquire additional land and irrigation capacity.

8.10 Attitudes toward Black Economic Empowerment

Members report that they are largely in favor of the concept of Black Economic Empowerment and are willing to make limited material sacrifices to achieve it. There is, however, a great deal of uncertainty among the members regarding what can be done, what must be done, and what will be done. They are, however, united in the opinion that Black Economic Empowerment will take a long time, must include skills transfer to be effective, and will require a great deal of money.

Klipdrif is a farm bought by the RWC as a Black Economic Empowerment project. This project was initiated by RWC management and several large producers. Klipdrif is seen by most members as a positive step toward Black Economic Empowerment compliance. However, many members are still unclear on the specific benefits they or their resident workers will receive in return for their investment. Small producers are particularly concerned that this project will be a continuing drain on their already precarious finances.

8.11 Attitudes toward labour

Close and regular contact is the key to a successful relationship between members and their resident workers. Members who attempt to set a good example in terms of work ethic, integrity, loyalty, and faith based moral codes report decreasing levels of social problems and increasing levels of productivity from their resident labour force.

Almost all members acknowledge that the effects of alcoholism are difficult to control. Many members are taking faith based initiatives, in some cases successfully, to reduce alcoholism's economic and social effects. The active role taken by rural church congregations in reducing alcohol related social problems among their resident labourers is cited by some members.

Those members who are financially unable or because of tradition reluctant to establish close personal contact with or assume some form of ethical responsibility for their resident labour force tend to report low levels of productivity and high levels of alcohol related social problems.

8.12 Contract labour

Members' experiences with contract labour are occasionally positive, often negative but seldom neutral. Larger producers who use contract labour most of the year and have established long term relationships with specific contractors have higher levels of satisfaction than smaller producers who use contract labour for harvest or pruning only.

Dissatisfaction expressed by both large and small producers includes unreliability -- "you never know how many will show up", high expense, and poor work skills. Most producers, both large and small, agree that a diminishing labour force is increasing their dependence on contract labour.

9. Feedback Loops

The paths by which influences circulate throughout the entire **Members and Producers** system (Figure 2) reveals three circumstances in which influences periodically confine their circulation to a limited number of affinities rather than circulating throughout the

whole system. These circulation patterns of influences among a limited number of closely related affinities within a larger agribusiness system are called *feedback loops* and are diagrammed in Figures 3, 4, and 5.

Feedback loops have a noticeable effect on the speed at which influences circulate through agribusiness systems. Feedback loops A) have fewer affinities than the system as a whole and B) affinities within feedback loops tend to share one or more common characteristics; therefore, influences entering feedback loops tend to circulate within these loops for extended periods of time at faster rates than they circulate through the system as a whole. This means that the rate and magnitude of change within feedback loops exceeds that of the system as a whole.

All three feedback loops *Farm Size and Social Change*, *Mechanization and Labour*, and *Farm Operations* share five of six possible affinities. Because the affinities within these three feedback loops are subjected to greater amounts of influence and higher rates of change than affinities outside feedback loops they are more likely to be outcomes rather than sources of systemic change. Attempts to introduce change into the **Members and Producers** system by way of the affinities within these feedback loops would more likely trigger short term palliative change rather than long term fundamental change.

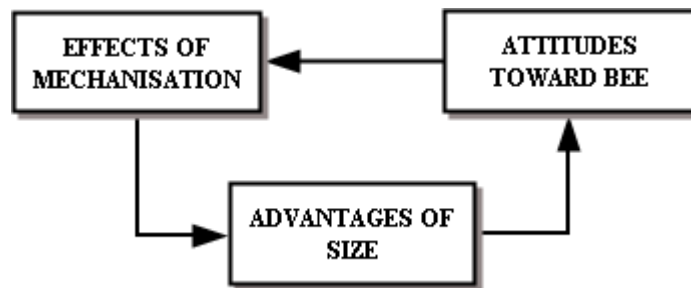


Figure 3. Farm size and social change

9.1 *Farm size and social change*

The affinities *Effects of Mechanization*, *Advantages of Size*, and *Attitudes toward Black Economic Empowerment* are highly interdependent and subject to rapid change because:

- Attitudes toward the future are in part an expression of attitudes toward Black Economic Empowerment, which in turn directly influence decisions to commit or not commit large amounts of capital to mechanisation.
- Decisions to commit capital to mechanisation determine the level of advantages of size available to the investing member.

- Farm size and efficiency determines members' financial success, which in turn determines to what extent they feel they will be able to afford to comply with Black Economic Empowerment and still operate as a viable production unit.

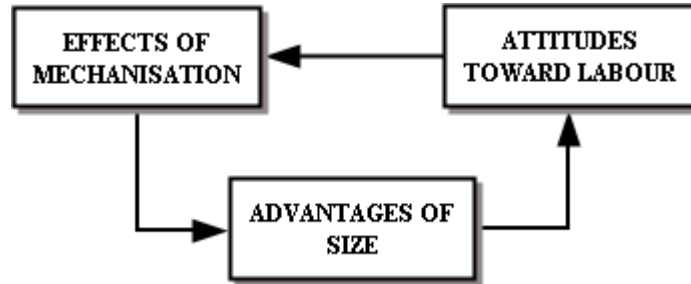


Figure 4. Mechanisation and labour

9.2 Mechanisation and labour

The component affinities of the feedback loop *Mechanisation and Labour*, the *Effects of Mechanization*, *Attitudes toward Labour*, and *Advantages of Size* are interdependent and subject to short term change because:

- The quantity and quality of farm labour available to many RWC members is declining faster than those members can afford to mechanise.
- The minimum tonnage of wine grapes needed to support a farm family is growing faster than most small members can afford to increase their production.
- Many members who are experiencing high rates of alcohol, drug and AIDS related productivity problems are unwilling or unable to change their management style quickly enough to maintain a viable resident labour force.

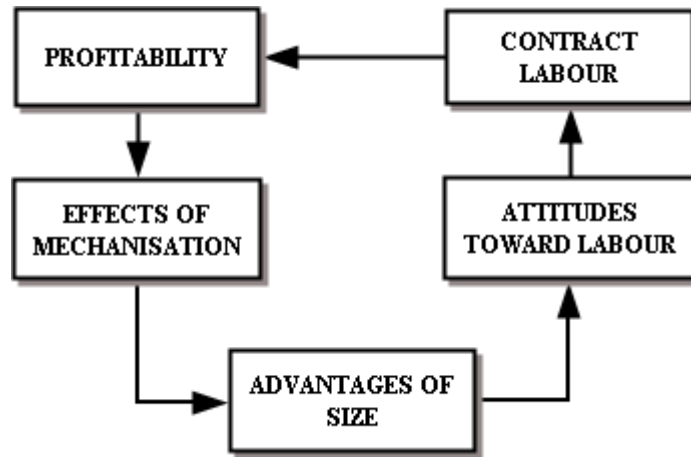


Figure 5. Farm operations

9.3 Farm operations

The Farm *Operations* feedback loop combines the affinities contained in both the *Farm Size and Social Change* and the *Mechanisation and Labour* loops with the exception of *Attitudes toward Black Economic Empowerment*. The addition of *Profitability* and *Contract Labour* as components of *Farm Operations* slow the rate of change compared to the other two loops. Changes within this loop will be largely driven by:

- Unpredictable cycles of surplus and shortage in the world wine market.
- Lack of cooperation on mechanisation and labour utilisation among members.
- Farm consolidation which will further increase the competitive disadvantage of undercapitalized producers.
- The personal relationship between members and their resident workers.
- A shortage of competent, reliable labour contractors.

10. Independent Affinities

In the **Members and Producers** agribusiness system four affinities *Land Security*, *Succession*, *Farming as a Business*, and *Rural Traditions* are not components of any feedback loop. The number of influences that circulate through these “independent” affinities and the frequency with which those influences reappear is significantly less than the number and frequency of influences that circulate through affinities within feedback loops. Therefore the rate and magnitude of change experienced by these “independent” affinities is less than the rate and magnitude of change experienced by the **Members and Producers** system as a whole.

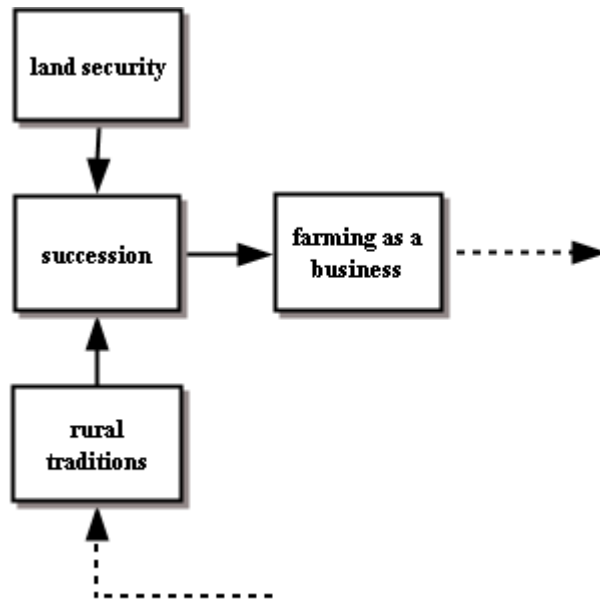


Figure 6. Members’ and Producers’ independent affinities

10.1 Members & Producers independent affinities

Figure 4 shows the independent affinities *Land Security*, *Succession*, *Farming as a Business*, and *Rural Traditions* as they appear in the middle and upper left side of the **Members and Producers** diagram (Figure 2). Topologically speaking this location indicates that these four affinities are primary sources or drivers of influences rather than destinations or outcomes. This is in contrast to affinities within feedback loops that tend to be outcomes of or destinations for influences originally generated by independent affinities.

The differences in rates and magnitudes of change experienced by independent affinities versus affinities within feedback loops suggests that social, economic, and political change management strategies should initially focus on those regions of agribusiness systems that have exhibited the least amount of change over time. In the case of the **Members and Producers** system those affinities are *Land Security*, *Succession*, *Farming as a Business*, and *Rural Traditions*.

11. Links between Agribusiness Systems

The constituencies of the **Winery-RWC-Vinimark** and the **Members’ and Producers’** systems almost completely overlap. Those Vinimark employees directly concerned with distributing and marketing the output of Robertson Winery are the only members of the **Winery-RWC-Vinimark** who are not in turn members of the **Members’ and**

Producers' system. Despite sharing constituents the two systems directly influence each other at only two locations as shown in Figure 7.

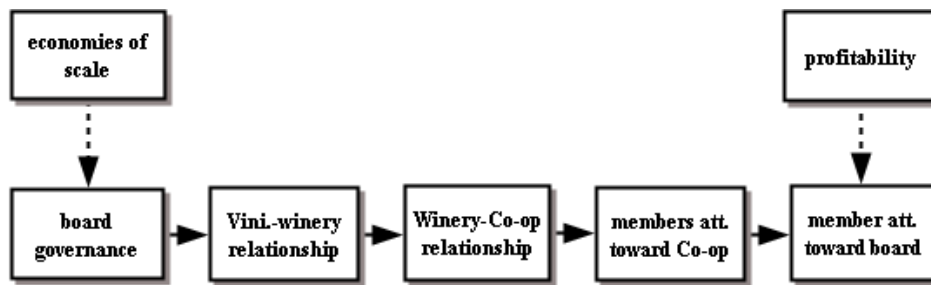


Figure 7. Two connections between two systems

11.1 *Two connections between two systems*

Advantages of Size has a strong positive influence on *Board Governance from the Perspective of Board Members* because those constituents of both agribusiness systems who are most positively affected by the influences of these affinities are large producers who for the most part are current or past Board members. As the influences of *Advantages of Size* pass through *Board Governance from the Perspective of Board Members* they are strengthened and passed on to the remaining affinities in the system. Influences emanating from *Board Governance from the Perspective of Board Members* have a predominant effect on the attitudes and behaviours of the constituents of the **Winery-RWC-Vinimark** system.

Outside influences originating within the affinity *Profitability* have a negligible effect on the **Winery-RWC-Vinimark** system. Those constituents of both systems who are: A) least positively affected by *Profitability* and B) hold the most negative attitudes toward *Members Perception of Board Governance* are often small producers who are under financial pressure, who lack the resources to expand production, and who are unlikely to become Board members. Since influences do not circulate from *Members Perception of Board Governance* to other affinities in the system small producers feel with some justification that their opinions and attitudes exert no effect on the **Winery-RWC-Vinimark** system.

12. Present Capacity for Change Management

Currently the organizational vision of **Winery-RWC-Vinimark** system reflects to a large extent the personal visions of one highly capable RWC manager, one equally capable Board member, and one joint venture partner. These few individuals comprise the majority of both agribusiness systems' capacity to identify change (threats and

opportunities), define change (how will this affect the relationships among the RWC, Robertson Winery, and Vinimark), and manage change (what will it cost and who will pay).

Unless this system acquires the capacity for self learning and reduces its dependence on a very narrow stratum of leadership an untimely combination of death, disability, or retirement could significantly diminish the system's capacity for change management.

12.1 Change versus tradition

Despite its economic success the **Winery-RWC-Vinimark** agribusiness system has hardened over the last twenty years into a somewhat brittle mechanism for controlling the competition between Robertson Winery's organizational need for constant change and the RWC members' personal needs for a continuity of tradition. The individual RWC members' devotion to tradition and multigenerational ties to their land are often in conflict with the qualities of pragmatism, flexibility, and objectivity required of a successful agribusiness system in a highly competitive global market.

13. Winery-RWC-Vinimark System: current trends and future outcomes

The following section describes current social and/or economic trends within each affinity of the **Winery-RWC-Vinimark** system and estimates the likely outcomes if these trends continue in the absence of fundamental change; whether the change is managed, or unmanaged, internal or external.

13.1 Board Governance from the Perspective of Board Members

If traditional attitudes continue to determine the communication styles of RWC leadership, if custom and precedent continues to characterize the governance style of the RWC, the Robertson Winery, and the Wide River Boards of Directors, if decision making continues to lack transparency, and if the appearance of bias by the RWC Board in favor of large producers continues, **then:**

- Participation in RWC governance will remain at its current low level as most members will continue to view general meetings as a rubber stamp for decisions made among Board members in private.
- Members will become increasingly resistant to calls for capital investment in new technology and upgraded cellar equipment.
- The conviction that money rather than cooperative values drives Board decisions will accelerate the current erosion of trust between members and the Board.

- Management will be forced to devote increasing amounts of time and resources to mediating conflicts between the members and the Boards of the Robertson Winery and the RWC.

13.2 The Robertson Winery-Vinimark Relationship

If the strategy of increasing cellar capacity in anticipation of market trends is not supported by RWC members, if Board members continue to use the same traditional management methods for the RWC and Robertson Winery as they do for their farms, if Robertson Winery and the RWC do not establish a management succession plan, if the Robertson Winery, RWC, and Wide River Boards do not appoint outside directors, and if the decision making processes of all three Boards do not become more transparent to RWC members and potential joint venture partners, **then:**

- Both the Robertson Winery and the RWC will find it difficult to take advantage of future consolidation opportunities within the cooperative sector of the wine industry.
- Both the Robertson Winery's and RWC's business strategies will continue to be compromised by a lack of initiative, a distrust of outsiders, and a "penny wise pound foolish" approach to investment.
- Both Robertson Winery and the RWC will have difficulty in attracting and retaining first class management talent.

13.3 Members' Perception of Vinimark

If business objectives, marketing strategies, mechanics of distribution, and sales results are not regularly and directly shared by Vinimark with RWC members, if Vinimark fails to establish direct personal relationships with RWC members, if Vinimark fails to clearly demonstrate the value that Vinimark adds to the Robertson Winery-Vinimark partnership, and if Vinimark fails to make a clear case for the retention of profits by Robertson Winery in lieu of increasing payout to members, **then:**

- Members will continue to pressure the RWC to distribute as personal income Robertson Winery's share of profits at the expense of reinvestment in marketing and distribution.
- Pressure from the RWC members to diminish the role of Vinimark will reappear.
- Two key statements from Robertson Winery's Vision Statement; i.e. "developing and acquiring sustainable wine brands which are supported through a culture of innovation and focused marketing" and "developing a streamlined structure for effective decision making" will remain unfulfilled.

13.4 Members' Attitude toward the Cooperative

If the RWC continues to provide at least a “breakeven” income for producers until the current red wine surplus disappears, if the RWC continues to provide valued added services for members such as viticulture consulting, if the current RWC management remains in place, if RWC governance becomes more transparent, and if the RWC continues to be proactive in the areas of quality control, marketing, and Black Economic Empowerment, **then:**

- The RWC will continue to enjoy the loyalty of its members.
- RWC management will continue to retain considerable latitude in decision making.
- RWC members will continue to support, albeit reluctantly, capital investments in the cellar.
- Members of the RWC will be less likely to suffer financial reverses than members of other wine cooperatives that do not provide a similar level and quality of services.

13.5 Members' Perception of Board Governance

If the Board of Directors fails to establish more frequent, direct communication with the membership as a whole, if formal periodic communications channels with the membership are not established, if Board procedures are not made public and strictly followed, if the minutes of Board meetings are not promptly made available to members, and if the Board continues to inhibit inquiry and criticism, **then:**

- A large pool of talent, experience, and potential good will among the membership will continue to be underutilized.
- The RWC will remain for some members simply a place to “dump their grapes”.
- Pressure by the Board for further initiatives in the areas of Black Economic Empowerment and social upliftment will continue to be viewed by many members as a requirement rather than a moral commitment.
- Infrequent and tardy financial information from Robertson Winery or the RWC will increase the administrative burden on members and their administrative assistants, often family members.
- The circulation of misinformation and the consequent resentment among members will continue to impair their ability to make rational decisions regarding production planning and capital investment.
- The members' acquiescence to autocratic leadership styles will continue to have negative effects on RWC governance.

14. Members and Producers System: current trends and future outcomes

This section provides current trends and outcome information for the **Members and Producers** system.

14.1 Land Security

If members perceive the lack of land security as a threat to family succession and a disincentive to investment in additional land or water, **then:**

- Most members will continue to rely on tradition rather than rationality as the primary criterion for decision making.
- Uncertainty will exacerbate the problem of delayed succession of farm ownership and control.
- Pessimism will encourage members to view farming not as a business but as a lifestyle with its accompanying short term management perspective and aversion to risk.

14.2 Succession

If the traditionally extended period imposed by fathers on sons to transition from apprentice to joint decision maker to predominant decision maker is not significantly reduced, **then:**

- Farming will not be seen as a rational career choice for those sons who are best qualified by virtue of advanced education, technological fluency, and business acumen to manage the family farm in a competitive environment.
- Mid career farmers whose education and technological fluency has been allowed to erode and whose decision making capabilities have not been exercised will be poorly equipped to cope with the responsibility of farm management and RWC governance.
- Hierarchical and authoritarian management styles will continue to be carried over from farm to the RWC with negative effects on RWC governance and business practices.

14.3 Rural Traditions

If tradition continues to emphasize the virtues of incremental social and economic change, if direct personal experience continues to take precedence over strategic thinking, if a deeply emotional connection with the land continues to underpin economic and social decisions, and if individual RWC members continue to preoccupy themselves with local rather than national or global issues, **then:**

- Fear of loss of control will continue to create succession problems between fathers and sons.
- A “my loss is your gain” attitude will continue to inhibit cooperation among members.
- An aversion to change will encourage apathy toward issues of land security and Black Economic Empowerment.

14.4 Farming as a Business

If to be a successful RWC member in the future it will be necessary to manage a successful business, **then:**

- The traditional route from high school to technical tertiary training in agriculture and directly back to the farm is likely to be insufficient preparation for successful RWC membership.
- A basic competence in agribusiness technology in the absence of additional training in enterprise management, finance, and market analysis will place the member at a competitive disadvantage among his peers and may, in the future make his production unit an economic liability to the RWC.
- Members with a self described “broader outlook” will prosper and those with a narrower outlook will not.

14.5 Profitability

If producers continue to experience “boom-bust” income cycles, if price volatility continues to be absorbed primarily by the producer, if labour costs continue to rise, and if producers continue to receive a negligible share of the retail price per bottle of wine, **then:**

- Highly leveraged producers will face a recurring credit crisis.
- Lightly leveraged producers will find expansion difficult due to narrow profit margins and modest cash flows.
- Most small producers and many medium producers will lack sufficient cash flow to expand or mechanise.

14.6 Effects of Mechanisation

If the quantity and quality of resident farm labour continues to diminish because of AIDS related disability and death, if the effects of chronic alcoholism continue to diminish labour productivity, if rising material expectations diminish the supply of young workers, and if aging workers are not replaced, **then:**

- Mechanisation will become a necessity not a choice for producers.
- The high cost of mechanisation will prevent smaller producers from achieving perceived advantages of size.
- Hostility toward joint ownership of equipment; e.g. grape harvesters, will prevent smaller producers from mechanizing.
- The inability of small producers to mechanise with its consequent negative effect on farm profitability will leave them financially unable to contribute to Black Economic Empowerment without lowering their own families' standard of living.

14.7 Advantages of size

If, as the respondents believe, the most important criterion for successful farming is access to advantages of size and if large producers continue to enjoy a competitive advantage over small producers in access to capital and lower relative operating costs, **then:**

- The gap between large producers and small producers will continue to widen.
- Medium producers will be forced to grow to maintain their relative advantage over small producers.
- Small producers will see their families' standard of living decline.
- Small producers' role in governance of the RWC will continue to decline from its current low level.
- Small producers will eventually be absorbed by large producers seeking to consolidate or medium producers seeking to grow large enough to maintain perceived advantages of size and consequent profitability.

14.8 Attitudes toward Black Economic Empowerment

If the objectives, specific requirements, and individual responsibilities regarding Black Economic Empowerment compliance for both individual RWC members and the RWC as an organization are not conveyed in a clear, unambiguous, and forceful manner, **then:**

- The current uncertainty regarding Black Economic Empowerment will encourage most members to take a "wait and see" attitude.
- Smaller producers will continue to question the wisdom and expense of the Klipdrif project.
- The lack of clarity regarding Black Economic Empowerment will lead some medium and large producers to defer capital investments in mechanisation, land, and water.

14.9 Attitudes toward Labour

If members fail to assume a direct personal responsibility for the health, welfare, living conditions, and productivity of their resident workers and additionally fail to require adherence to fair labour practices by labour contractors, **then:**

- The negative effects of alcoholism on the sustainability of wine farming as a business, the unreliability and poor productivity of contract labour, and declining levels profitability will continue to accelerate.
- Producers who lack the financial resources to either mechanize or absorb continuously rising labour costs will be forced to either adopt a non traditional approach to labour management or abandon wine farming as a business.

14.10 Contract Labour

If the labour supply continues to diminish in quantity and quality while continuing to increase in price, **then:**

- Small and medium producers will be forced to compete with large producers for access to reliable, productive contract labour.
- Large producers will outbid smaller producers for the services of reliable, productive labour contractors through long term contracts.
- Medium producers will be faced with the choice of either taking on significant debt to mechanize or conserving cash and seeing their profit margins continue to erode due to rising labour expense.
- Small producers will be trapped in a downward spiral of rising labour costs and increasingly negative cash flow.

15. Potential Change Management Strategies

The following recommendations are the result of approximately sixty hours of interviews with forty three constituents of the **Winery-RWC-Vinimark** and the **Members and Producers** agribusiness systems. In the course of this study the leaders, members, and employees of the RWC, Robertson Winery, and Vinimark, were unfailingly helpful, courteous, and candid in their conversations with the researchers. Without the financial support of the National Agricultural Marketing Council this project would have been difficult if not impossible.

Identifying, defining, and managing change requires the capacity to think critically and communicate effectively. The following recommendations are not a set of directions on how to build and maintain a change management system. Their purpose is rather to suggest the first steps toward creating an environment in which effective communication and critical thinking regarding social and economic change and how to manage it can take place.

- The Board of Directors of the RWC should, at its earliest convenience establish a Junior Board of Directors. The purpose would be to establish a “career ladder” by which future leaders would be identified, recruited and trained in RWC governance. Creation of a Junior Board would have the additional benefits of increasing transparency of Board activities, increasing participation by RWC members in RWC governance, and broadening eligibility for Board service. Care should be taken to avoid creating a Junior Board which would, in effect, mirror the existing personnel, attitudes, and operating practices as the present Board of Directors. For example, membership might be restricted to a total of two four year terms; maximum age at election to the Junior Board might be set at ten years lower than the average age of the current Board of Directors, the Junior Board should reflect the composition of the RWC membership; i.e. small, medium, and large producers, no more than one Board member per production unit should sit on either the regular or Junior Board. The qualifications, the selection process, the duties, and the status of the Junior Board should be incorporated in the articles of association of the RWC.
- Both the RWC and the Robertson Winery Boards of Directors should, at their earliest convenience establish a formal succession plan for key management personnel. A joint committee of the Boards of the RWC, Robertson Winery, and Robertson Wide River Wine Company should be created to identify, screen, and track succession candidates, both internal and external.
- The Board of Directors of the RWC should sponsor a twice yearly conference between the owners and senior management of Vinimark and the RWC membership. The desired outcomes of regular Vinimark – RWC member conferences should be: A) each RWC member will be fully informed regarding the marketing-distribution value chain, B) Vinimark will be fully informed of the RWC members’ agribusiness environment, and C) both RWC members and Vinimark will be fully aware of mutual business goals and strategies.
- The Boards of Directors of the RWC and the Robertson Winery should appoint a senior member of Robertson Winery management to implement and manage an interactive web based management information system easily accessible by RWC members. This system should include regular electronic newsletters which would encourage feedback from members and answer their questions in a timely manner. RWC members, their wives, and their office managers should have a substantial role in the design and implementation of this system.
- The newly created Junior Board should establish a standing committee to monitor and regularly report to the general RWC membership and the Board of Directors on legislative, environmental, and regulatory developments in land security, water rights, and Black Economic Empowerment.

- The RWC should compile and regularly update an authoritative guide to the legal, financial, investment, and tax implications of farm ownership and succession. Special attention should be given to assisting members in evaluation and selection of appropriate business structures for farm ownership and operation. Local attorneys, chartered accountants, insurance brokers, and financial planners should be called on to assist in compiling and regularly updating this guide. The purpose of this guide would be to advise RWC members, their families, and heirs on succession issues and facilitate orderly transitions of farm ownership from one generation to another.
- The RWC and Robertson Winery Boards of Directors should compile and regularly update an authoritative guide to the legal, regulatory, and financial status of agricultural cooperatives. The recently gazetted Co-operatives Act is an example of the kind of information this guide should deliver to members. It should be written and updated in plain Afrikaans and English and avoid wherever possible excessively specialised or obscure language. This guide should provide an accessible knowledge base to help members understand and evaluate possible future RWC decisions regarding merger, privatization, recapitalization, or other corporate strategies and structures.
- The RWC in partnership with Robertson Winery and Vinimark should plan, sponsor, and manage regular fact finding trips for members with an emphasis on New World wine producing regions. Participating members should report back to the general membership on their findings and make recommendations regarding cellar operations, viticultural practices, and marketing.
- The RWC should consider establishing an affiliated enterprise which would provide mechanised harvesting and contract labour service to members on a cost plus basis. The objective would be to reduce the cost and increase the efficiency of members' farm operations. With a black partner this enterprise could additionally count toward Black Economic Empowerment goals.
- The RWC should consider a contractual relationship with private social service agencies to provide on farm AIDS education, alcohol counseling, parenting, and life skills training.
- The RWC Board should appoint a permanent skills development committee of Board members, non Board members, and Junior Board members to liaise with the Graham and Rhona Beck Skills Centre for the purpose of supporting the goals of the centre and maximizing members' access to the Centre's skills development, adult basic education, and vocational training programmes. The RWC should encourage members to utilise the services of the centre whenever possible.
- Further research should be done on three topics conspicuous by their absence from second round interviews with RWC members, Robertson Winery

management, and local business and religious leaders; i.e. the future availability of irrigation water for wine farming, the current and future effects of unemployment and underemployment on agribusiness systems in the Breede River valley, the seeming lack of awareness of a perceptual gap between RWC members and their workers regarding what Black Economic Empowerment means and what the outcomes of empowerment should be. The objective of this follow-on research project would be to establish if these topics are an influential but currently unrecognized part of the valley's agribusiness systems or if these topics are peripheral to the process of change management and should be disregarded.

Conningarth Economists (2003) The Macroeconomic Effect of the Wine Industry on the Western Cape's Economy in 2003. Retrieved September 11, 2005 from South African Wine and Brandy Company's Web site <http://www.sawb.co.za>

Lincoln, Y. & Guba, E. (1985) *Naturalistic Inquiry*. London: Sage

Northcutt, N. & McCoy, D. (2004) *Interactive Qualitative Analysis: A Systems Method for Qualitative Research*. Los Angeles: Sage Publications

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Appendix 1

An overview for social systems theorists

Social systems emerge as categories of meaning from environmental or background "noise". Incoherence is the existential sea from which collections of human sensations, observations, and opinions coalesce to form discrete categories of meaning. As categories of meaning begin to influence each other, in a mediated and directional way, these patterns of influences become nascent social systems and emerge from incoherence into coherence (Amaral & Ottino, 2004).

Constituents of emergent social systems seek to understand and control their social and physical environments by continuously attaching discrete quanta of meaning to physical, emotional, and social phenomena. Aggregations of individual but related groups of attached meanings become categories of meaning or "affinities" when interactions between and among them acquire systematic and recurring patterns.

Subsystems of affinities called "feedback loops" are formed within larger social systems when influences circulate preferentially among a limited number of affinities.

Structurally the **Members and Producers** agribusiness system considered in this study is, in fact, an interrelated collection of feedback loops (Northcutt & McCoy 2004).

Using interview data provided by constituents of emergent social systems, systems diagrams can be constructed that provide useful insights into how influences circulate among affinities and within feedback loops. Analysis of the strength and direction of these influences reveals A) how systems function B) how constituents affect systemic function and C) and the effects of systemic function upon constituents. This analysis allows estimations of the future prospects for systems.

Theories: local and meta

By expanding our perspective, looking at an agribusiness system in its entirety, and noting how it interacts with other, related agribusiness systems we can then build useful theories, both “local” and “meta” (Northcutt & McCoy, 2004). The term local refers to a theory created by analyzing information contributed exclusively and directly by the constituents of an individual agribusiness system or related group of agribusiness systems. This theory explains how those systems function and provides estimates of their future prospects.

A meta-theory is a more comprehensive theory that abstracts the underlying axioms of one or more local theories to make statements or estimates about groups of agribusiness systems or agribusiness systems in general. A meta-theory regarding the life cycle of agribusiness systems is beyond the scope of this research project, but may be employed in subsequent studies involving multiple systems.

Presenting research results diagrammatically

Interactive Qualitative Analysis© (IQA) is the research methodology used to systematically organize the multitude of opinions, attitudes, personal histories, economic interests, social differences, and emotions that make up the human experience of membership in the RWC. This research methodology was developed by Dr. Norvell Northcutt of the Community College Leadership Program which is affiliated with the University of Texas.

The results of the Robertson Wine Cooperative IQA study are presented in two types of formats. The first format is presented as a series of six Systems Influence Diagrams or SID’s each with accompanying explanations. These diagrams situate both agribusiness systems’ affinities in relationship to each other; show how the directions of influence flow among affinities, and highlight “feedback loops” within each system. The second format shows the results of theoretical coding of interview data and is presented as a series of hypothetical propositions in an if-then deductive format.

The importance of feedback loops

SID's reveal circumstances by which influences may circulate throughout the entire agribusiness system influencing every affinity or, on occasion, confine their circulation to a limited number of affinities. A recurring pattern of influence among a limited number of closely related affinities within a larger agribusiness system illustrates one of the most important dynamics of agribusiness systems: *feedback loops*.

For the purposes of this study, a feedback loop is defined as an influence pattern that re-circulates and amplifies the effects of influences within a closely related group of three or more affinities. Influences or quanta of meaning continuously circulate through a feedback loop, exchanging meanings with each affinity in turn. Every change of meaning within every affinity is rapidly and sequentially visited upon all other affinities within its feedback loop. The frequency of these exchanges of meaning among closely related affinities within a feedback loop amplifies the cumulative effect of prior changes in meaning that have accrued in both the affinities and the circulating influences. Therefore, the effects of influence happen more quickly and more intensely inside feedback loops than within agribusiness systems as a whole.

Traditional and mechanistic definitions of a feedback loop allow a minimum of one signal sender and one signal receiver who exchange reactions or "feedback" with each other (Weiner, 1948). IQA does not regard the two-element system as a feedback loop but rather an example of simple action-reaction-action relationship in which a stimulus (concrete or abstract) rebounds, essentially unchanged, between two entities. These rebounding signals lack the quality of *recursion*; i.e. the stimuli are unable to alter either themselves or their senders/receivers, which is to say they do not convey meaning and are incapable of anticipation or cumulative effect (Northcutt & McCoy, 2004).

Recursion accounts for two necessary characteristics of the circulation of meaning within a group of related entities; *reflexivity* or the ability of each entity to modify itself, and *reciprocity* or the ability of each systemic entity to modify and be modified by other entities within the loop. The minimum number of entities necessary to avoid the implicit tautology of action-reaction-action is three. A third entity provides an opportunity to *modify* or add meaning to the circulation of influence within a feedback loop, thereby enabling every entity to modify every other entity including itself. If a group of related entities lack the ability to add meaning, that is to modify themselves, they do not create a feedback loop in IQA terms, and are represented non-recursively.

Amaral, L.R.M. & Ottino, J.M. (2004) *European Physical Journal B* 38(2), 150-151.

Northcutt, N. & McCoy, D. (2004) *Interactive Qualitative Analysis: A Systems Method for Qualitative Research*. Los Angeles: Sage Publications

Weiner, N. (1948) *Cybernetics*. New York: John Wiley & Sons

Appendix 2

Data gathering process

Forty three interviews were conducted over a six week period with RWC members, members of the RWC Board of Directors, RWC management, Vinimark management, RWC cellar employees, farm managers, farm workers, businessmen from the Robertson area, a local Municipal Manager, and local religious leaders. Approximately sixty hours of interviews yielded one thousand one hundred individual opinions, observations, comments, explanations, and clarifications.

Farm workers

Special consideration should be given to the results of interview data collected from farm workers because its significance is, for several reasons, unclear. First, farm workers are located very “close” to the phenomena of social and economic change as it applies to the RWC and its members. The workers’ proximity to these phenomena locates them far from the levers of power which, in turn, diminishes their capacity to recognize and define change (Northcutt & McCoy, 2004). In the case of the agribusiness systems considered in this study the levers of power are currently in the hands of the leaders, members, and management of the RWC. This power places them at a considerable social distance from the direct effects of social and economic change.

Second, physical and social isolation has so marginalised both resident and contract farm workers within the **Members and Producers** system that emergent categories of meaning and nascent patterns of influence among them are, for the purposes of this study, so faint as to be undetectable. Research methodologies which are not informed by the inverse relationship between proximity to a social or economic phenomenon and power over that phenomenon may find the collection of data from farm workers both valuable and relevant.

RWC members and management

RWC members were selected using the criteria of small producer versus large producer, older farmer (over 50) versus younger farmer (under 50), and sons of large producers versus sons of small producers. Despite using quantitative indicators such as tonnes of grapes delivered to the RWC cellar and age of members respondents seldom fell into discrete cohorts. However, the respondents appear to adequately represent the range of attitudes, behaviours, and emotional typologies that identify the RWC as a distinct agribusiness system.

Thirty four interviews were structured around a set of questions derived from a small scale, preliminary IQA study involving interview data from interviews of five members

of the RWC Board of Directors. The purpose of this preliminary study was to A) gain an appreciation of the formal structure of the RWC, its affiliated business entities and its joint venture partner and B) to gain an initial understanding of the historical context of the RWC and the cultural milieu of its members.

The interview protocol was open ended with references to the question set mentioned above. Use of the question set insured that primary social, economic, and cultural themes identified in the initial IQA exercise were addressed during the interviews while affording the respondents maximum latitude for self expression.

Detailed notes were made from the interviews and were subsequently provided to the respondents. The respondents were encouraged to review the notes and contact the interviewer with corrections or comments. As of submission of the final research report only one respondent requested correction to the notes from his interview. These corrections were noted and included in the final research product.

Northcutt, N. & McCoy, D. (2004) *Interactive Qualitative Analysis: A Systems Method for Qualitative Research*. Los Angeles: Sage Publications

Appendix 2A

RWC members interview guide

Change Introduction

Insider or Outsider?

- Tell me something about your family's history
- How did you become a farmer?
- What is your relationship to the RWC?

Travel

- Where do you get new ideas?
- What have you learned from farmers outside the valley? Where did you meet them?
- If you had a chance to travel, where would you go? Why?

Change Implementation

Insiders

- How do people become leaders in the RWC?
- How does a leader earn the trust of other members?
- What are the most important differences between older members of the RWC and younger members?

Succession

- How has your farm changed since you were in high school?
- Tell me how you came to take over the farm.
- How do you and your father divide the responsibilities for operating the farm?

Mechanisation

- Tell me how mechanization has changed the way you farm.
- What are the positives and negatives of mechanization?
- How has mechanization changed your attitudes toward farming?

Board of Directors

- How does the board of director's work?
- How do the board's decisions affect you?
- How do you influence the board's decisions?

Investment in Business

- What has been your most recent major investment in the farm? Why did you make that investment?
- How do balance the farm's need for investment and your family's need for income?
- What was the RWC's most recent major investment? How did that affect your income?

Marketing and Quality

- What is the future of the wine business in South Africa?
- Who buys the wine the RWC makes and why do you think they do so?
- How does the grading system for the grapes you deliver to the cellar work?

Change Enculturation

Member's Core Attitudes

- How have the changes of the last 15 years affected your farm and your family?

- What changes are you planning to make in the way you farm in the next five to ten years?
- What will farming be like for your grandchildren?

Labour

- How has mechanization changed your workers?
- What are the positives and negatives of “upliftment” programs for workers?
- How do you think the Klipdrif Black Economic Empowerment project will work out?

Farming vs. Business

- How do you balance farming as a lifestyle and farming as a business?
- Can you give me a summary, in a few words, of your business plan for the next two years?
- Who do you turn to for help in making business decisions?

Appendix 2B

Farm worker interview guide

Change Introduction

Insider or Outsider?

- Tell me something about your family’s history
- How did you come to work on this farm?
- Tell me about what you do and how you do it

Influences

- Where do you get new ideas?
- Where do you go when you leave the farm? Why?
- If you had a chance to leave for another job, would you? Why?

Change Implementation

Leadership

- How do people become leaders on the farm?
- How does a leader earn the trust of other workers?

- What are the most important differences between older workers and younger workers?
- How has your farm changed since you began to work here?
- How are the responsibilities for operating the farm divided among workers?

Mechanization

- Tell me how mechanization has changed the way you work.
- What are the positives and negatives of mechanization?

Farm management

- How do you and the farm owner make decisions?
- How do those decisions affect you?
- How do you influence the farm owner's decisions?

Marketing and Quality

- What is the future of farming in South Africa?
- Who buys the wine the co-op makes and why do you think they do so?
- How does the grading system for the grapes you deliver to the cellar work?

Change Enculturation

Member's Core Attitudes

- How have the changes of the last 15 years affected your farm and your family?
- What changes are you planning to make in the way you work in the next five to ten years?
- What will life on the farm be like for your grandchildren?

Labour

- What are the positives and negatives of "upliftment" programs for workers?
- How do you think the Klipdrif BEE project work out?
- Have you ever thought about being a farmer? Why?

Appendix 3

Data analysis

The interview process yielded approximately 1,300 data points (words and phrases) which were transcribed onto individual index cards. The cards were then “axially coded”, that is “clumped” or sorted by commonality into approximately 40 groups based on common words and phrases.

Cards which were exact or near duplicates were set aside. Notations were made regarding those words and phrases which appeared on numerous cards such as “My workers have a drinking problem”. The single cards retained in the common word grouping that represented numerous duplicates were marked and given extra weight during the “theoretical coding” process described.

The remaining six hundred cards were again axially coded with the goal of reducing 40 common word groupings into the minimum number of subject groups that would: A) account for the wide range of variability of individual words and phrases on the cards, B) coherently describe the individual elements and C) depict the overall structure of the emergent agribusiness system/s.

The result of the final axial coding was approximately 330 cards divided into 15 groups in which the words and phrases on the cards revealed a relatively narrow range of attitudes, behaviours, and emotions. Each of these groups was named in accordance with its emergence meaning. Naming transformed the groups from collections of words and phrases into units of meaning called “affinities”; see Appendix 3A.

In the naming process the 15 affinities separated themselves into two distinct groups of affinities. Each group revealed its own unique system of related meanings. The larger collection of 10 affinities was concerned primarily with the experience of farming. The smaller collection of 5 affinities was concerned primarily with the experience of being a member of the RWC. Relationships among the affinities within each nascent system had not yet been established.

“Theoretical coding” is a process of establishing differences between quanta of meaning which first determines and then depicts the direction of influence between pairs of affinities. For example, affinity A either influences B ($A > B$) or is influenced by B ($A < B$) or no relationship of influence exists between A and B ($A * B$). Appendix 3B is an Interrelationship Diagram (IRD) which is used to document the direction and strength of influence relationships among affinities within each agribusiness system.

On the right side of the IRD three columns headed **out**, **in**, and **delta** are used to record the relative influence of each affinity. The affinities with the greatest ratio of outbound influences over inbound influences (delta) are “drivers”; i.e. those affinities which are most responsible for driving change within a system. Those affinities with the greatest

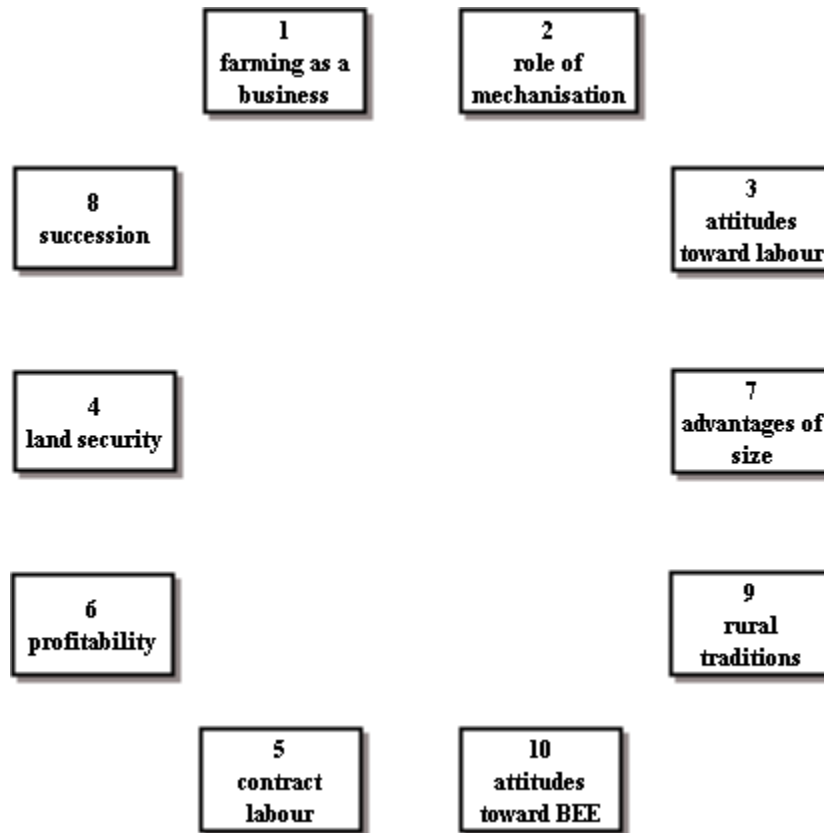
ratio of inbound influences over outbound influences are “outcomes”; i.e. those affinities which are most likely to be subjects of change.

Appendix 3C is a Systems Influence Diagram (SID). It presents the total number and direction of influences calculated and presented on the IRD in Appendix 3B. The “cluttered” SID is comprehensive, conceptually rich, and saturated with data. It is, however, very difficult to interpret. Therefore the redundant links among affinities are removed leaving a so called “simple” or uncluttered SID as shown in Appendix 3D.

While the uncluttered SID is conceptually elegant and contains the embedded structure of, in this case, the **Members and Producers** system it fails to convey a sense of order and remains unwieldy. When the relationships of the affinities and the flow of influences among them are rationalized the structure of the agribusiness system emerges as seen in Appendix 3E. At this point the research process becomes less an issue of data analysis and more a task structural interpretation, local theory building, and outcome forecasting.

Appendix 3A

Affinities derived from axial coding: Members and Producers system



Appendix 3B

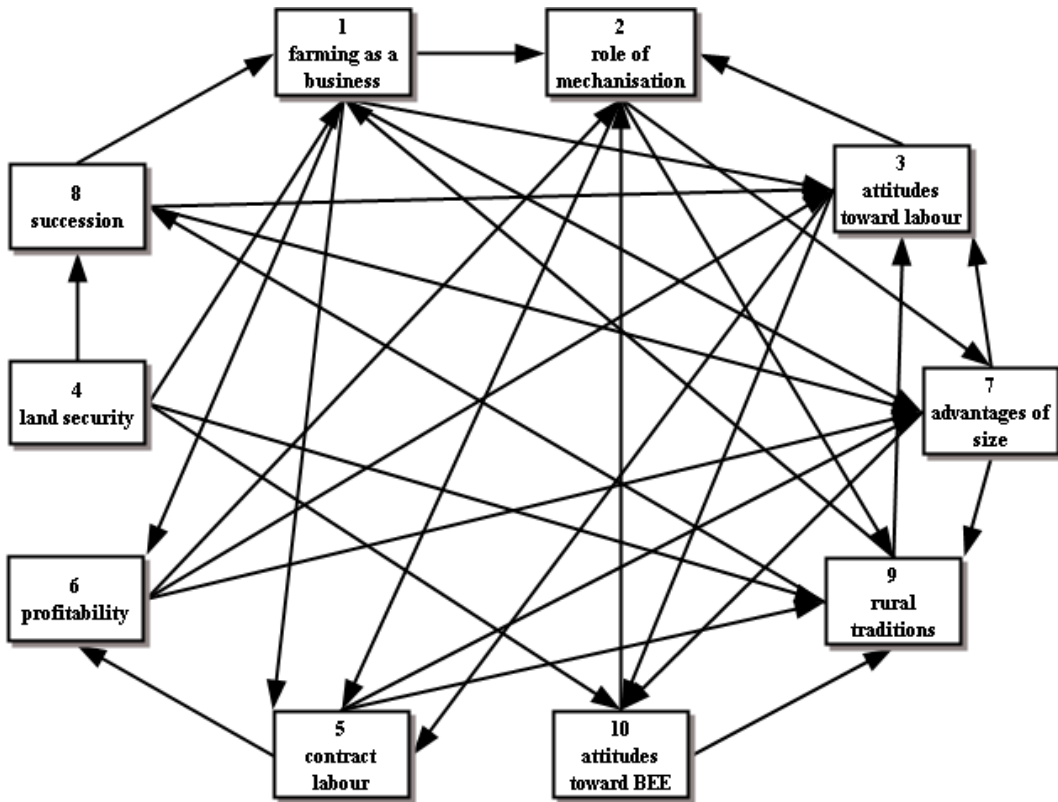
Interrelationship diagram: Members and Producers system

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	out	in	delta
1.	///	^	^	<	^	^	^	<	<	*	5	3	+2
2.	<	///	<	*	^	<	^	*	^	<	3	4	-1
3.	<	^	///	*	^	<	<	<	<	^	3	5	-2
4.	^	*	*	///	*	*	*	^	^	^	4	0	+4
5.	<	<	<	*	///	^	^	*	^	*	3	3	0
6.	<	^	^	*	<	///	^	*	*	*	3	2	+1
7.	<	<	^	*	<	<	///	<	^	^	3	5	-2
8.	^	*	^	<	*	*	^	///	<	*	3	2	+1
9.	^	<	^	<	<	*	<	^	///	<	3	5	-2
10.	*	^	<	<	*	*	<	*	^	///	2	3	-1
Totals											32	32	0

Appendix 3C

Derived from Theoretical Coding: Cluttered Systems Influence Diagram

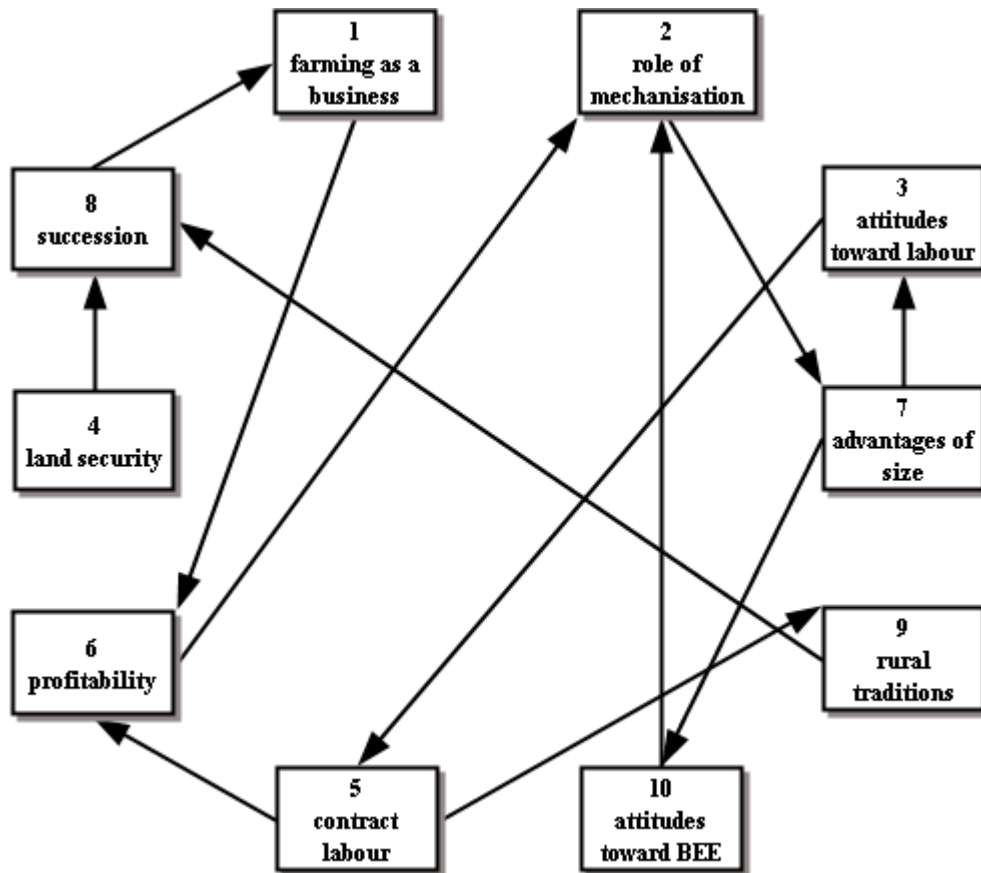
Members and Producers system



Appendix 3D

Uncluttered Systems Influence Diagram: Members and Producers

system



Appendix 3E

Final Systems Influence Diagram: Members and Producers system

