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UNIVERSITY OF ALBERTA

COGNITIVE STYLE AND COMPETENCY BASED
APPRENTICESHIP TRAINING

BY

BRIAN T. FLANAGAN ©

A thesis submitted to the Faculty of Graduate Studies and Research
in partial fulfillment of the requirements for the degree of Master
of Education.

IN

ADULT AND HIGHER EDUCATION

DEPARTMENT OF ADULT, CAREER, AND TECHNOLOGY EDUCATION

EDMONTON, ALBERTA

FALL 1994



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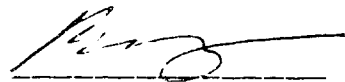
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Dr. W. Brouwer

June 7, 1994

Dedication

This thesis is dedicated to the memory
of my father
Rory Terence Flanagan
whose help and encouragement
is forever appreciated.

Abstract

Trades training in its traditional form, has been with us for a long time. A pilot project has been carried out involving Competency Based Apprenticeship Training (CBAT). CBAT is a form of Competency Based Vocational Education (CBVE) which incorporates both Mastery Learning and Computer Managed Learning. The present research examines the cognitive style of Electrician Apprentices studying under CBAT.

The research into cognitive styles has for the most part avoided any studies involving apprenticeship students, a search of the literature on cognitive style as it relates to apprenticeship students produced few documents. Some work has been done converting traditional trades training to competency based education, but this is also a relatively recent phenomenon.

The present study attempted to determine if a relationship exists between the cognitive style of Field Dependence-Independence and selected variables. The dependent variables chosen for this study were academic success, age, and time to completion. An ex post facto methodology was chosen for this causal-comparative research. Witkin's Group Embedded Figures Test (GEFT) was administered to a complete Second Period Apprentice Electrician class. This class of 58 male Apprentices wrote the GEFT at their NAIT orientation on August 27, 1991. The resulting data and the NAIT and Apprenticeship Board exam results, were analysed twice. A mean split and a median split were both used in analyses of the data because the GEFT manual does not

specify a dividing point. T-tests found that the mean split did not produce significant results, but the median split did for three variables. Field Independent apprenticeship students achieved higher grades on both the NAIT exams and the Apprenticeship Board exams. FI students also tended to complete their studies faster than FD students.

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This paper would not have been possible
without the constant support
and love provided me by my wife
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Chapter One

The Problem and Its Setting

Trades training has historically been a process of indentured apprenticeship in which an apprentice or learner joined with a journeyman or master and learned a trade by working alongside this master. As time passed a series of associated classroom activities began to occur in schools for tradesmen and this became known as technical training. This technical training has undergone many changes during its history. One of the most recent changes has been the advent of Competency Based Vocational Education (CBVE). CBVE is premised on Mastery Learning utilizing Computer Managed Learning (CML) which incorporates modularized, self-paced instruction. "Competency Based instruction, which enables students to focus on a high level of achievement of competencies and tasks drawn from the occupations in which training is being provided, specifies what is to be learned with great exactitude. This instruction is known as competency based vocational education" (Knaak, 1977, p. 19). Hirst (1977) calls CBVE "a systematic approach to instruction, aimed at accountability, based on job-derived standards, and supported by a feedback mechanism" (p. 52).

Mastery Learning as defined by Bloom (1968) suggests that mastery be stated in terms of performance objectives, with class instruction supplemented by feedback/correction mechanisms (in Block, 1971). Guskey (1985) agrees and defines mastery learning as an instructional process including "organizing instruction, providing students with regular feedback on their learning progress, giving guidance and direction to help students correct their individual learning difficulties, and providing extra challenges for students who have mastered the material" (p. xiii). CBVE includes not only mastery learning but also the notion of individualized instruction (Knaak 1977). Knaak defines this as "instruction for individual students on a self-paced basis with variable amounts of direct instructor assistance" (p. 13). Competency Based Vocational Education is concisely summarized in a manual developed by the Florida Department of Education (1976). CBVE is defined as relying on the following assumptions:

1. The skills and knowledge that students learn should be directly related to the duties and responsibilities they will have to perform on the job.
2. These skills and areas of knowledge, and the means for evaluating their attainment, should be specified in advance and made known to the student.

- 3
3. Students should be provided with whatever instructional experiences they need to attain the skills and knowledge required by the jobs they are aiming for (p. 1).

The manual also emphasizes the need for a competency-based approach to include individualized instruction. These two concepts of learning for mastery using performance objectives nicely dovetail with a third component called Computer Managed Learning, also known as Computer Managed Instruction. CML is used for test taking and student record keeping. The computer generates random tests from a test bank and then both scores and registers the results of these tests.

It is against this backdrop that the Apprenticeship and Trade Certification Branch of the Alberta Career Development and Employment Department began in 1988 to pilot Competency Based Apprenticeship Training (CBAT). "CBAT is a new approach to the technical training of apprentices which allows each individual to progress through training at a rate determined by his or her own capabilities and work experience" (Alberta Apprenticeship pamphlet, 1993). This approach to education, broadly known as Competency Based Vocational Education (CBVE) has been sufficiently successful to warrant more detailed study and experimentation (Candy & Harris, 1990).

Apprentices with a variety of backgrounds, experiences, interests and abilities attend either traditional technical training or Competency Based Apprenticeship Training (CBAT). To ensure student success, it is essential that any type of educational approach addresses the needs of its learners. Each learner has their own characteristic way of processing information, feeling, and behaving in learning situations (Price, 1983). Since competency based trades training is in the experimental stages in Alberta and student success is desirable, this area is well suited to research. "One promising line of research involves the investigation of the relationships between learning styles and academic success" (Candy & Harris, 1990, p. 38). With this in mind, the intent of the present study was to determine if a relationship exists between cognitive style (learning style) and academic success for a selected group of apprenticeship students studying under CBAT.

Statement of Purpose

Competency Based Vocational Education and cognitive styles cover a broad spectrum of topics and issues that merit attention. This study focused on one aspect of CBVE, namely Competency Based Apprenticeship Training (CBAT) as it was being piloted in Alberta and the cognitive style construct developed by Witkin known as Field Dependence-Independence (FD-I). Bearing this in

mind, the purpose of this study was to find out the cognitive style of the Electrician apprentices and the relationship of this cognitive style to the variables of academic success, age, and time on task. The intent of the present study was to determine if some types of students are put at a disadvantage when studying under CBAT because of a mismatch between their cognitive style and the approach to learning used in CBAT. To this end, research into the whole area of cognitive style and CBAT may help in the future design and planning of technical training programs to meet all students' needs. 5

The Hypotheses

The purpose of the study is operationalized in terms of four null hypotheses which serve to focus the collection and analysis of data. These hypotheses are stated below:

1. Second period Electrician apprentices enrolled in CBAT show no difference in academic success on the NAIT exams regardless of their cognitive style.

2. Second period Electrician apprentices enrolled in CBAT show no difference in academic success on the Apprenticeship Board exams regardless of their cognitive style.
3. Second period Electrician apprentices enrolled in CBAT are no faster completing their program regardless of their cognitive style.
4. Second period Electrician apprentices enrolled in CBAT have no difference in their age regardless of their cognitive style.

The data analyzed to derive answers to these hypotheses were based on the Group Embedded Figures Test (GEFT), the trades school marks (NAIT), the Apprenticeship Board exam marks, the hours the students spent in the program, and the ages of the students.

Need for the Study

As with any major change in education, the move in post-secondary education towards the competency based model in apprenticeship training presently being piloted in Alberta incorporates some uncertainty. The shift from traditional, group based classroom instruction to modularized, individualized, self-

paced instruction is a major change in the methodology of trades training in Alberta. This is also a relatively recent phenomena in technical training in Canada, although Holland College in P.E.I. has been completely competency-based since 1970 (TAFE Report, 1985). Apprenticeship training in New Zealand has been committed to competency based apprenticeship training since 1982 (Burleigh, 1988).

The recent impetus to better understand cognitive styles and to relate this to an individual student's ability to cope with the curriculum has led to some recent studies relating academic success and cognitive styles. "In the field of education and training, cognitive style is recognized as an important factor to be incorporated into the design of effective training programs" (Rouse and Rouse, 1982, p. 649). Walker, Merryman, and Staszkiwicz (1984), found that by using measures of cognitive style they determined that it was possible to predict mastery in competency based vocational education. The present study attempted to determine if the new teaching method presented in CBAT is better suited to a particular cognitive style. Research indicates that when teaching and learning styles are matched, learning occurs more effectively (Witkin, 1977). Therefore, some students exhibiting a specific cognitive style may be put at a disadvantage studying under CBAT, whereas other students exhibiting a differing cognitive style may be put at an advantage studying under CBAT.

This study is based on the following assumptions:

1. That the available sample of second year Electrician apprentices at NAIT is representative of the larger population of Electrician apprentices in Alberta.
2. That the Group Embedded Figures Test is both a valid and reliable indicator of cognitive style for this group.

Abbreviations and Definitions of Terms

Academic success--was taken to mean the grades in percentages as reported on both the NAIT final exams and the Apprenticeship Board exam.

CBVE--Competency Based Vocational Education.

Cognitive style--the habitual way of processing information that is typical of an individual's mode of perceiving, thinking, problem solving, and remembering (Messick, 1976).

CMI--Computer Managed Instruction-wherein students self-study and self-pace themselves through lesson modules off-line (Baker, 1978).

CRAME--Centre for Research in Applied Measurement and Evaluation at the University of Alberta.

FD-I--Field Dependence-Independence (a measure of cognitive style).

GEFT--Group Embedded Figures Test (Witkin, 1971).

Mastery Learning--an instructional process of organizing instruction, providing students with regular feedback and giving guidance to help students correct their learning difficulties (Guskey, 1985).

NAIT--Northern Alberta Institute of Technology, Edmonton.

Period--the term defining the year of apprenticeship, as in first, second, third or fourth.

Time on task--was taken to mean the total elapsed time measured in hours, taken from the beginning of the course until completion. 6 hours was one full day's attendance.

Delimitations

The study did not attempt to explore any other factors that may affect learning such as intellectual ability, motivation, attitude, reading level, or self-concept.

Limitations

The following limitations of this study may influence the degree to which the results might be generalized to a larger population and are a threat to the external validity of the research.

1. The size of the sample was relatively small. The full expected enrollment of the study group resulted in a sample size of fifty-eight.
2. The accessible sample was not selected at random from the population. The sample was a class formed from the population of eligible second period Electrician apprentices from central and northern Alberta according to the normal selection process used by the Apprenticeship and Trade Certification Division of Alberta Career Development and Employment. It is unlikely that any

systematic bias exists in the data, but this factor was not investigated.

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Organization of this Report

The first chapter provides a statement of the problem along with four hypotheses for examination. The significance of the study is described as well as some of the assumptions associated with research of this nature. Also, several terms are identified, abbreviations given, and the limitations and delimitations of the study are identified.

Chapter two contains an examination of the literature related to the problem. The literature review which concentrates on cognitive style and Competency Based Vocational Education does so by examining the following six areas:

1. Causal-Comparative type of research methodology.
2. Traditional trades training.
3. Competency Based Vocational Education.
4. Comparison of Traditional and Competency Based education.
5. Field Dependence-Independence as a cognitive style.

6. The lack of research involving apprentices.

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Chapter three focuses on the research methods used in the study. The variables used and the different stages of the research are explained, including sample selection, distribution of the instruments, responses received, and treatment of the data.

Chapter four presents the results of the analyses of the data collected in the study. Comparisons are made between the variables and the two cognitive styles.

Chapter five concludes this report. A summary and discussion of the data analyses is presented. Finally, some conclusions are stated along with recommendations based on the results of this study.

Chapter Two

The Review of the Literature

The review of the literature related to the problem of the current study began with a sampling of the literature on research methodologies. The research method chosen for this study particularly suited the NAIT requirement for non-intervention and hence this researcher deemed an 'ex post facto' methodology best. For this reason, a causal-comparative type of research methodology was chosen.

To establish a background to the present study, a description of traditional trades training was described next. This researcher drew much of this material from his own personal experience, having progressed through the Alberta apprenticeship system in the late 1970s.

Competency Based Vocational Education was then discussed with a particular focus on characteristics of these types of training programs. A comparison between CBVE and traditional trades training was then made.

The cognitive style of Field Dependence-Independence was described with particular attention paid to the characteristics of learners exhibiting this type of cognitive style. FD-I was chosen as

the basis for this research study because "it holds a substantial lead¹⁴ over any other dimension in the extent and quality of research" (Cross, 1976, p. 116). The cognitive style of Field Dependence-Independence was examined with particular attention paid to how this style might impact students' learning.

Finally, this researcher documented the lack of research studies carried out with apprenticeship students.

Causal-Comparative Research Methodology

This researcher has chosen to conduct a causal-comparative type of study. There will be no true experimentation done, phenomena which have already taken place are the basis for this kind of research. Therefore as Leedy (1989) asserts there is "little that is experimental about it" (p. 227). This type of research is also known as *ex post facto* from the Latin for 'from after the fact' (Ary, Jacobs, & Razavieh, 1990). This researcher did not use a control group as a basis for comparison. There was no intervention other than the administering of the GEFT during the NAIT orientation. This conforms with the NAIT directive to external researchers which states that there will be "no substantial disruption of Institute services, staff, or students" (NAIT Bulletin DB.1, 1988). Therefore, because this research contains no experiment, no

manipulation of independent variables, an ex post facto or causal-comparative type of research was particularly suited to this research problem. This researcher had no "direct control over independent variables...because they have already occurred" (Ary, Jacobs, & Razavieh, 1990, p. 355). Instead, Field Dependent and Field Independent Electrician apprentices studying under CBAT were assessed using the GEFT which took no more than twenty minutes. The other relevant data concerning academic success (exam marks) and time to completion were gathered from NAIT files after the students had completed the course. This 'hands off' approach fulfilled the NAIT requirement that external researchers cause no disruption to students. Conforming to all NAIT requests was of utmost concern to this researcher, so that the research could proceed with the approval of the host institution. 15

In summary, the descriptive method used in this study had the advantage of being easy to use, it produced data which were both accurate and representative and there was no manipulation common to experimental methods (Merriam & Simpson, 1984). However, the major limitation to this type of study is the inability to determine causation.

Traditional Apprenticeship Trades Training

In Alberta, as in the other provinces of Canada, an apprenticeship training system operates to provide industry with qualified tradespersons. A person wishing to pursue a trades career could approach an employer in the field and apply for a job. Entry level jobs such as labourer and trades helper can then lead to an indentured apprenticeship. Once a formal apprenticeship contract with the employer is signed, the trainee becomes registered in the Alberta Career Development and Employment Apprenticeship system. In this way, training begins under a qualified Journeyman for the duration of the apprenticeship period, lasting anywhere up to 4 years.

In Alberta, the apprenticeship program is jointly supervised by three distinct bodies; 1) the Alberta Government, which administers the program, 2) the various technical training institutes and community colleges, which offer the periodic technical trades training courses, and 3) industry which proposes the requirements for the curriculum and helps to establish the standards. Alberta recognizes 52 trades of which 48 utilize apprenticeship training.

Traditionally, each apprentice progresses through their period of indenture, which ranges up to 4 years, depending on the trade. An apprenticeship consists of on-the-job work experience and in-

school technical theory training. Each trade specifies the number of¹⁷ hours expected to be completed before any formal classroom training may take place. This requirement ranges from 1600-2100 hours. An Electrician apprentice must serve 1800 hours of on-the-job work experience and training under the supervision of a qualified journeyman before being allowed to attend an institution's technical training program. When an Electrician apprentice attends school, it is for a period of eight weeks at a recognized technical training institute. There are only two criteria for success at the end of each period of technical training. One is to pass the institute's final exams and the other is to pass the provincial trades exam administered by Alberta Career Development and Employment.

The current state of trades training in Alberta has generally followed the traditional approach to education. The students all entered the program at the same time, this is called fixed entry. The students then all proceeded through their program of instruction together for a definite period of time, usually 6 to 8 weeks, depending on the trade. The students then all wrote their final exams together and exited the program at the same, this is called fixed exit.

In the formal classes, information was usually delivered via lectures, demonstrations, and simulations with a certain amount of hands-on laboratory experimentation. Instruction and learning time would be the same for all students unless there were a

reading assignment, which students may perform outside of class and at their own pace. There is usually a pre-determined pass mark for all exams. On the last day of classes a provincial Apprenticeship Certification examination is administered by a representative from Apprenticeship Alberta. These exams are then removed from the training institute and marked in a central location with the final results being made available some 4 to 6 weeks later. The pass mark on these exams is usually 65%. Apprentices who marginally fail this exam are eligible to write a supplementary exam, within three months. If they fail this second attempt, they must then repeat the period of technical theory training.

In this type of education, the learners adapt to the constraints of the curriculum and institution, with no control over the pace or order of instruction and without control over the time spent on technical training. The common elements to this type of training are a fixed entry time, a fixed time to learn the materials, and a fixed exit time. Until 1988, all technical training institutes in Alberta which offered Electrical trades training did so in the traditional format. There are now two exceptions to this, both NAIT and Lethbridge Community College are piloting the CBAT approach to Electrical trades training. Red Deer College is commencing the CBAT approach to Electrical trades training beginning in September 1994.

Competency Based Vocational Education

The concept of competency based vocational education (CBVE) has had a great impact on educators and on society (Knaak, 1977). Blank (1980) is one of the strongest proponents of CBVE listing what he calls "common sense" reasons for its use. This includes allowing each student to achieve mastery of one competency before moving on to the next, thus helping to reduce failures, absenteeism, and other behaviour problems. He believes CBVE shortens training time for some students and it meets the needs of special learners. Finally, Blank (1980) says that CBVE allows institutions to offer open-entry, open-exit, self-paced programs. Moss (1981, p. 14) says "Competency-based education is a good idea, and vocational education is an especially fertile field for its application". In this study a comparison between traditional technical training and CBVE is made so that a reference for discussion can be established.

As opposed to traditional forms of trades training, Competency Based Vocational Education (CBVE) is based on the theory of mastery learning. Students proceed through the program by demonstrating mastery on a skill before being allowed to challenge a higher level skill. More importantly, students proceed through the program at their own pace. In competency-based learning, each student progresses at their own rate. In traditional classes, time is the constant, when the classes are over final exams

are held and some students may not pass. Because some students²⁰ learn more slowly than others they may not master the material in the time allotted. If this is the case, students could fail the Apprenticeship exam. Although some students can achieve a passing grade on the final exit exams, others cannot. Because of these differences in achievement we can say that student achievement is varied. However, when individuals learn at their own rate time required for mastery varies but achievement is held constant. Students can take as much time as they require to accomplish the learning tasks (within reasonable limits) and become successful on the final exam because they challenge it when they are ready. At the time of this study the CBAT program at NAIT was capped at twelve weeks and students can take no more time than this. However, each student must master all skills to an acceptable level and therefore we can say that achievement is kept constant and time varies. Some students learn faster than others and those who do can actually complete the course requirements sooner. Blank (1980) summarizes the benefits of CBVE as follows. Each student has time to master each competency before moving on to the next. This type of education shortens training time for students. It meets the needs of special learners more effectively, by allowing them the flexibility to pursue the curriculum at their own rate and in the order they choose. It can reduce the failure rate because CBAT allows students to be examined when they feel ready for testing. This type of self-paced training program which

allows proficiency to be held constant does so by allowing training²¹ time to vary.

Unlike traditional instruction, CBVE students who do not meet the established criteria level must return to their studies and practise the content of the prior unit of instruction until they can pass at the pre-stated criteria level. At this point, intervention by the instructional staff suggesting alternative methods of studying the curriculum becomes critical to the success of the student with less aptitude for learning a particular unit.

In summary Spady (1977) summarizes Competency Based Vocational Education as follows:

1. Competence is indicated by successful performance on actual occupational tasks.
2. The development of vocational curricula requires, first, the identification and selection of discrete, observable occupational tasks which comprise the "essence" of the occupation.
3. The desired outcomes of instruction must be stated (and shared with the students) in terms of required criterion-referenced performance on the selected occupational tasks.
4. Instruction and evaluation must embody the criterion-referenced outcome statements.

5. The student is permitted to repeat both instruction and evaluation until the required performance is attained.

The exclusive criterion for student success (certification, graduation, etc.) is the verified demonstration of competence in the selected occupational tasks (p. 10).

Comparison of Traditional and CBVE Approaches

According to Knaak (1977), the major factors differentiating CBVE and traditional education are time required for instruction and method of testing. Traditional education uses norm-referenced testing while CBE uses criterion referenced testing. In norm-referenced testing each individual student's mark is compared to the rest of the class scores. An individual student's grade is usually based on comparison of his or her score to the scores of the other students. On the other hand, Popham (1978) says "A criterion-referenced test is used to ascertain an individual's status with respect to a well-defined behavioural domain" (p. 93). In criterion referenced testing, the student's score is a rating of how well he measures up against an external, pre-set standard. In this way, one student is not graded according to how all the other students have done, only by how they themselves have done.

In traditional education, the level of achievement required for an A or B grade is often not known to the student before the test results are available. About 25% of students, those achieving A or B grades, can ordinarily be regarded as having achieved 'mastery' of the content under this system. The remaining 75% are considered to have achieved less than mastery and they may not have learned essential knowledge or skills necessary for success in the next unit of learning (Knaak, 1977). In contrast, competency based education has been found in experiments by Block (1971) and Bloom (1976) to allow 75-95% of the students to achieve mastery. This high percentage of success compares favourably with the 25% achieving the criteria level in traditional instruction (Knaak, 1977). 23

However, in CBAT, a slightly different approach is used. At the outset, the students know in which direction the curriculum is heading because the performance objectives are stated up front. The students know in advance what is expected of them on each module and on the final exams. The standards or criteria of achievement are in the form of stated behaviors through which a student can demonstrate that he or she has learned the content of the instruction. These criteria are provided before instruction begins. Often traditional education does not make use of stated objectives, so the student is left on their own to try to determine the most important points in a lesson. By having the advantage of knowing the performance objectives in advance, students can

anticipate the content of exams. They know what the most important points are going to be in a lesson and they can pay close attention to them. Once the students write an exam they know that their mark is being compared not to the other students, but to a pre-stated and well defined performance standard. In this way students studying under CBAT do not compete with their fellow students, but rather they compete against an external standard.

Another difference between traditional and competency based education is the way in which instruction is delivered to the students. In CBVE instruction usually is not group centered, as previously described, but rather it is a series of individualized learning activities. CBAT allows students to progress at their own rate, working through a modularized curriculum. Student progress is monitored by a computer and the tests are received on a computer printout, as it is in computer managed learning. The modules are stand alone units containing all the information that the student needs to learn. CBAT makes use of print modules and student progress is monitored by computer. In a survey of the literature it was found that in many instances computer managed instruction (CMI) was used to accomplish mastery learning in technical vocations, such as basic electricity and electronics (Baker, 1978; Kearsley, 1983; Kearsley, Hunter, & Seidel, 1983; Kulik, Kulik, & Cohen, 1980).

When a student feels ready to be tested on the content of a specific module, he or she may take the test. In CBAT all tests are

computer generated. In CBVE it is not necessary for all students to²⁵ take the same test at the same time. Also, the grading of these tests is criterion-referenced, and in this way they are seen as a student's mastery of specific behaviours (Glaser, 1963). This means that the mastery or passing level is prespecified, so that one student's grade is not compared to any others in determining standings. If the student passes the test(s) at the prespecified mastery level or above, he or she goes on to the next unit of instruction. Competency is considered as the a full completion of a whole unit of instruction and a typical pass mark in an Electrical CBAT module is set at 90%.

Given the above, and the fact that CBAT is a version of CBVE with the focus being on the Electrician trade, it would be useful now to examine cognitive style.

Field Dependence-Independence as a Cognitive Style

The major emphasis of this section of the literature review is on the historical development and present implications for students exhibiting the cognitive style FD-I. Cross (1976) said "usually, the term cognitive style is reserved for those dimensions that have their roots in the study of cognitive functioning in experimental research" (p. 113) in psychological laboratories and which are

subsequently applied to educational settings. Coop and Sigel (1971)²⁶ said that "the term 'cognitive style' has been introduced and reintroduced into the psychological literature over a period of time that possibly extends back to the German psychologists at the turn of the century" (p. 152). This is corroborated by Kogan (1971) who said "a thorough account of the origins of the construct of cognitive styles would require a complete history of cognitive psychology" (p. 244). A review of this magnitude would be much greater than the scope of the present study.

The literature on Field Dependence-Independence is extensive, however, only those works which are most directly related to the present study are reviewed. Those references considered directly related to the history of the evolution and measurement of the construct of FD-I, the characteristics of FD-I learners, and the implications of FD-I for learning are included for review.

It was during the Second World War that differences in how people perceived their environment led to work which explored the concept to become known as FD-I cognitive style. It was noted that some pilots were able to fly long distances through thick clouds and not lose their orientation in relation to the horizon. Other pilots became disoriented after losing sight of the horizon (Wallace & Gregory, 1992). This observation led H.A. Witkin to use a darkened room in which he conducted experiments requiring subjects to determine the true vertical or upright, without help from any

visual reference to the horizontal plane. Witkin confirmed the characteristics observed in the pilots, and labeled those subjects capable of maintaining their orientation as 'field independent'. Those who needed an external reference to determine the horizontal or upright position he labeled 'field dependent' (Witkin et al., 1977b).

The growth of the concept of FD-I was tracked through the writings of Witkin and his colleagues. In the 1950s, Witkin began studying the perception of the true upright or vertical position in space (Witkin, 1950, 1952). This groundwork would become the basis for the present day construct of FD-I. Witkin's original studies used the Rod and Frame test (RFT), the Body-Adjustment Test (BAT), and the Rotating-Room Test (RRT). In these three tests, subjects were required to determine which direction was upright. Witkin (1978) noticed "in all three orientation tasks people differed markedly in the extent to which they used the body or visual field as referents for judging the upright" (p. 8). These studies led to the initial conceptualization of FD-I as the extent to which people "used the external visual field or the body itself as the main referent for locating the upright" (Witkin, Goodenough, Oltman, 1979, p. 128). In a further study, undertaken in an attempt to discover the basis of observed differences in perception among individuals, Witkin first used the embedded figures test (EFT) (Witkin, Lewis, Hertzman, Machover, Meissner and Wapner, 1954). This test required subjects to locate a simple geometric figure hidden within

a larger complex figure. When it was found that a person's manner²⁸ of locating the upright was related to ease in locating the simple figure, FD-I was redefined "as the ability to overcome an embedding context in perception" (Witkin and Goodenough, 1977, p. 29).

In 1971, Witkin and his associates developed the Group Embedded Figures Test (GEFT). This was a pencil and paper test which consisted of 25 figures (7 of which are for practice and are not scored), in which the subject recognizes and traces a simple figure within a complex design. The GEFT is a timed test (12 minutes), which can be administered to a group of subjects. The subjects' score is the number of simple figures correctly located during the allotted time. The GEFT has a test-retest reliability index of .82 (Witkin, Oltman, Raskin, Karp, 1971). Much applied research especially in the field of education has utilized the GEFT.

With respect to age, there seems to be general agreement found on its relationship to FD-I. Witkin, Goodenough and Karp (1967) found an increase of FI until the ages of 15-17, at which time there was a leveling off. They also found that FD-I was relatively stable over time. Individuals for the most part maintained their position on the FD-I continuum relative to their peers. In their test manual for the GEFT, Witkin, Oltman, Raskin and Karp (1971) state that "at some point between 24 years and old age the process of increasing field dependence begins, the limited

evidence now available from cross-sectional studies suggest that ²⁹
this point may be somewhere in the late 30s" (p. 5).

Witkin also found a difference between FD-I persons with respect to their social orientation. FD people may make use of other people for their own acquisition of information by "spending their time with others, and even near others, in contrast to field independent persons who favour solitary, impersonal situations and who prefer to maintain their distance from others" (Witkin, 1978, p. 53). Rosenberg, Mintz, & Clark (1977), Wehmeyer (1984), Wittrock (1978), and Dixon (1977) all reported some differences between FD-I learners and these are summarized in Appendix B.

The literature on choice of career or vocation was reviewed by Witkin, Moore, Goodenough, and Cox (1977) and has shown that while relatively FD and FI students do not differ on overall college achievement measures such as grade point average, they do differ in course selection and in vocational choice. Witkin et al. (1977) concluded that "relatively field-independent persons favour impersonal domains...and field dependent persons favour interpersonal domains" (p. 43). In addition, a longitudinal study by Witkin, Moore, Oltman, Goodenough, Friedman, Owen and Raskin (1977) which followed 1548 students from college entrance until entry into graduate or professional school has presented strong evidence of a relationship between FD-I and academic choices. FI students were more likely to choose the natural sciences such as

mathematics or engineering, while FD students were more likely to³⁰ choose the social sciences such as sociology or languages.

Witkin et al. (1977a) have determined that Field Dependence-Independence cognitive styles are bi-polar such that "each pole has adaptive value in special circumstances" (p. 16). In addition, researchers generally agree that these two categories have no particular stigma attached to them. The two extremes of FD and FI are neutral in value and neither indicates a preferred place on the continuum of cognitive style. These two polarities are not to be construed as preferred abilities (Messick, 1984; Witkin, Moore, Goodenough, & Cox, 1977). Witkin (1977) also goes on to say that these cognitive styles do not differ appreciably in learning ability or memory, but they are "more related to the 'how' than to the 'how much' of cognitive functioning" (p. 24).

In conclusion, the cognitive style of Field Dependence-Independence is well suited to this study involving Electrician apprentices studying under CBAT. The GEFT is quickly and easily administered and the results distribute the respondents along a continuum. These resulting scores range from 0 or 1 indicating Field Dependence, all the way up to a maximum value of 18, indicating Field Independence. The GEFT is quick and easy to administer and it gives results which are both reliable and valid (Witkin, 1977). It is often used in educational studies and has a good test-retest reliability.

The search of the literature provided many examples of the Group Embedded Figures Test being used as a determinant of FD-I as a cognitive style. Many of these studies have been in the field of education. The sample populations range from grade school children through secondary school and college to university and graduate school. While many studies have been undertaken with technical students such as military radio technicians (Federico, 1982) and university students (Chinien, 1990), only one study has been found which deals with apprentices themselves (Moran, 1986). Therefore, the present study is somewhat unique because it deals with apprentices in general and Electrician apprentices in particular. The following studies illustrate some of the work done with a variety of groups.

Witkin et al. (1977a) tried to determine if there was a relationship between academic achievement and cognitive style of FD-I. They found at the pre-school and elementary school level that there was a definite relationship between field dependence and achievement. However, they found only weak or no significant relationship between cognitive style and achievement at the high school and college levels. They conducted longitudinal research and found correlations of .05 for women and .08 for men. In another study dealing with high school drafting students, Guster (1986)

attempted to see if there was a relationship between achievement³² in technology courses and FD-I. He found that FI students did better academically than FD students. However, none of these studies involved apprenticeship students.

In 1987 Davis undertook a study with elementary students and tried to find a relationship between reading performance and FD-I. Caliste (1985) worked with junior high students looking for a relationship between FD-I and selected performance variables. Lotwick, Simon, and Ward (1980) found that science and engineering faculty tended to be more field independent than non-science and education faculty.

The search of the literature did uncover two studies directly relevant to the current study. Moran (1986) conducted research into the FD-I cognitive style of Electrician apprentices. He found that in selected aspects of electrical fault diagnosis, field independent Electrician apprentices performed significantly better than their field dependent coursemates. This finding substantiates that of Rouse and Rouse (1982), who also studied problem solving in electrical fault diagnoses. These two studies are the only ones found to be directly concerned with cognitive style and FD-I of Electrical workers.

The lack of research on apprenticeship is comparable to the lack of research on competency based education in general. Miller's (1982) survey of board members of the Journal of Industrial

Teacher Education illustrates this point well. He found that of the ³³ fifty topics these board members said needed to be researched, the evaluation of CBVE ranked sixth. This lack of research and the fact that CBVE is gaining in popularity, points to the need for more work in this area. The TAFE Report (1985) notes this need precisely when it says "It would be informative, too, if we had data on what student types- for example, nature and length of work experience, learning preferences, cognitive styles, and intelligence-learn the most effectively within CBVE programs" (p. 16).

The literature review highlighted several aspects which are considered important to this research. An ex post facto study was conducted using the GEFT as the instrument to determine Field Dependence-Independence. This test is quick and easy to administer to large groups and produces valid and reliable results. The traditional form of apprenticeship technical training was discussed with a focus on the issue of a fixed amount of time for instruction. Time is of secondary importance in Competency Based Vocational Education because mastery of performance objectives is most critical and time is allowed to vary. Another major difference between traditional and competency based education is the way in which students are graded; CBVE uses criterion-referenced grading while traditional education uses norm-referenced grading. A pencil and paper test to determine FD-I evolved from Witkin's original works studying bodily orientation in space to determine the true upright. The GEFT is used to determine whether a subject is Field

Independent or Field Dependent; these two attributes are on opposite ends of a continuum, each one having strengths in different circumstances. There is no stigma attached to these different poles nor are they to be related to intelligence. Finally, this chapter identifies the lack of research done with apprentices especially with respect to cognitive style. It is well to note that very little research has been done with apprenticeship students and this area is awaiting further investigation. It is hoped that the present study will stimulate interest in the area of cognitive styles, especially with apprenticeship students.

Chapter Three

Methodology and Data Collection

The purpose of the present study is to determine if a relationship exists between cognitive style, academic success, age, and time on task for Second Period Electrician apprentices enrolled in Competency Based Apprenticeship Training at the Northern Alberta Institute of Technology. This study attempts to ascertain if Field Dependence-Independence as a measure of cognitive style varies with academic success, age, or time on task. This study is ex post facto research which Kerlinger (1979) defines as,

Ex post facto research is systematic empirical inquiry in which the scientist does not have direct control of independent variables because their manifestations have already occurred or because they are inherently not manipulable. Inferences about relations among variables are made, without direct intervention, from concomitant variation of independent and dependent variables (p. 379).

The independent variable is Field Dependence-Independence³⁶ as a cognitive style. The dependent variables are academic success, or grades achieved (as expressed in percentages) on both the NAIT final exams and the Apprenticeship Board exam and the ages of the apprentices, as measured in years. These ages are taken from the month they completed the GEFT, i.e. August, 1991. The last dependent variable is time on task, as determined by the length of time it takes an apprentice to complete the period of study. This variable is measured in hours and could easily be converted to days, as there are 6 hours in one school day.

Sample

The subjects participating in this study were the August 27, 1991 intake of Second Period Electrician apprentices enrolled in CBAT at NAIT. This registration was projected to enroll sixty students of whom 58 were actually present at the time of the study. All these male students volunteered to participate in this research; they all signed the Letter of Permission (Appendix A).

Validation

The GEFT, although first developed in 1971, has continued to prove to be valid and reliable, according to Witkin (1977). Witkin et al. (1971) determined the construct validity of the GEFT by comparing subjects' scores on the Rod and Frame Test to the GEFT (average correlation of .375 for male and female subjects). "The test-retest reliability index of the GEFT is .82" (Heitmeyer and Thomas, 1990, p. 145).

Scoring of Data

The GEFT was scored by the researcher during the period of time immediately following the administration of the test. The GEFT was again marked several weeks later to confirm that the original scoring was correct. Both the time on task data and the final exam results were collected after all the students had exited the program. See Appendix C for all these test results.

Instrumentation

The GEFT as developed by Witkin et al. (1971) differentiates among respondents on the basis of their ability to detect a simple form in a background of a more complex figure. This pencil and paper test was used to determine the respondents' cognitive style. The results of the GEFT appeared as a distribution along a continuum. The continuum ranged from Field Independence, with a maximum possible score of 18, wherein the subject had no difficulty in detecting the figure, to Field Dependence, with a score at or approaching 0, wherein the respondents had greater difficulty in disembedding or detecting the simple form. The actual scores for this sample ranged from a maximum of 18 to a minimum of 1. The median score was 13, with five participants achieving this score. The mean was 12.4. This data is presented in Table 1 on page 39.

Table 1**Summary of Raw Data**

| <u>Variable</u> | <u>Mean</u> | <u>SD</u> | <u>Minimum</u> | <u>Maximum</u> |
|------------------------|-------------|-----------|----------------|----------------|
| GEFT | 12.38 | 4.54 | 1 | 18 |
| Age | 26.28 | 6.31 | 20 | 57 |
| Apprenticeship Exam | 73.55 | 7.47 | 59 | 97 |
| NAIT Exam | 80.88 | 6.02 | 67 | 94 |
| Hours | 232.78 | 47.15 | 118 | 352 |

(n=58)

Because of the provisional nature of the GEFT, the Test Manual for the GEFT (Witkin et al., 1977) does not specify a cut off point for Field Dependence-Independence. This researcher choose to analyze the data two ways, once using a mean split and once using a median split. Since the actual median score was located second in the series of the five scores of 13, all those respondents achieving 13 were included in the Field Dependent category. This division was done on the recommendation of the research statistician Roy Jaffray (personal communication, March 31, 1994). This median split resulted in a Field Independent group (n=27) and a Field Dependent group (n=31) which were comparable in size.

On the other hand, the procedure for performing the mean split resulted in two groups, one of which was nearly twice the size of the other. Based on normative data provided by Renna and Zenhausern (1976) and Dumsha et al. (1973) the cut-off score between FD and FI is presumed to lie between twelve and thirteen. The actual calculated mean was 12.4, therefore scores of 12 were removed from the sample resulting in a FI group (n=32) and a FD group (n=18). This split provided two groups which tended to show the cognitive style FD-I to the greatest extent because the central scores were eliminated. The mean was taken as the point which divided the groups into Field Dependent and Field Independent.

Collection of Data

Data collection took place during the NAIT orientation for the Second Period Electrician class on August 27, 1991. NAIT staff who helped invigilate the Group Embedded Figures Test were first given a familiarization to the GEFT by the researcher. This orientation consisted of a brief overview of FD-I as a cognitive style and the actual rules for the administration of the test. The NAIT Electrician Program staff were very helpful in facilitating the delivery of the test.

A brief explanation of the purpose of the study was given to the 58 Electrical students. They were assured by this researcher that their anonymity would be protected and that their responses to test items would not affect their grades in any way. After reading and signing the Letter of Permission, participants completed the GEFT. All 58 students present consented to partake in the research.

Participants were asked to read the instructions and complete the practice items in the GEFT test booklet. When this was done, the directions were reviewed and questions relating to the directions answered. This was followed by three consecutively timed test sessions during which the subjects attempted to locate and outline simple geometric figures embedded within complex

figures. The first timed session of two minutes was primarily for practise. The two remaining five minute sessions constituted the test portion from which the final score was derived. 42

Directions for test administration provided by Consulting Psychologists Press, Inc. were carefully followed. This researcher was careful not to give the students any hints or otherwise influence their choice of answers. Total intervention time of the NAIT orientation was approximately 40 minutes. For verification of scoring accuracy, tests were scored twice by this researcher, once on the actual day of completion and again several weeks later.

Achievement data (grades in percentages) and time on task data were collected by this researcher from NAIT files and from the files of Apprenticeship and Trades Certification Division of Alberta Career Development and Employment after all students had completed and exited the program.

Analysis of the Data

The SPSS-x statistical program was used to analyze the data. T-tests were utilized in the analysis of the data along with Levine's test for equality of variance.

Summary

The Electrician apprentice students were addressed by the researcher during the NAIT student orientation at which time they were offered the opportunity to participate in the study. The GEFT was administered to the students at this time also. The records of academic success were retrieved from the NAIT files at the end of the course. The results of the Alberta Apprenticeship exams were accessed with the written permission of the participants and the cooperation of the Alberta Apprenticeship Board.

This was an ex post facto study. The 58 Electrician apprentices were enrolled in the second period of their four periods of technical training. Data collection was done during the NAIT orientation to second period technical training. Students completed both a letter of permission and the Group Embedded Figures Test. Achievement scores and times on task were obtained from NAIT files. Results of the Apprenticeship Board exam were obtained from the Alberta Apprenticeship Board files. The SPSS-x statistical package was used to perform t-tests on the data.

Chapter Four

Findings of the Research

This chapter presents the results of the study. The two methods of discussing the interpretation of the data are given consecutively. The researcher first discusses analysis of the data using a 'mean split'; then follows this with an analysis of the data using a 'median split'. A summary of the findings and a discussion of their interpretation concludes the chapter.

The complete second period class of male Electrician apprentices in the August 27, 1991 intake at NAIT made up the sample. All students agreed to partake in the study and completed a Letter of Permission granting their consent to be included in the study. During the NAIT orientation the researcher administered the GEFT with help from NAIT Electrician program staff.

Mean Split

The GEFT manual does not specify how the two groups (FD-I) are to be divided and this was confirmed by Donna B. Gates of Consulting Psychologists Press (personal communication, April 5,

1994). Given this, the researcher chose to divide and interpret the⁴⁵ GEFT results two ways. First of all a 'mean split' was used wherein the mean score of 12 was used as the separation point between the two groups. The Manual for the GEFT (1971) states that normative mean values for male respondents is 12. Using this calculation all eight scores of 12 were dropped from the study. This resulted in a FI group (n=32) almost twice the size of the FD group (n=18).

A test of variance was run on both FD-I groups with respect to all four of the dependent variables-Apprenticeship exam (p=.463), NAIT exam (p=.963), age (p=.198), and time on task (p=.976). In all four cases there was no significant difference in the variance of the two groups, thus allowing t-tests to be run. Refer to Table 2 below.

Table 2

Results of Test for Equality of Variance for FD-I

Groups-Mean Split

| Variable | Probability |
|---------------------|-------------|
| Apprenticeship Exam | .463 |
| Age | .198 |
| NAIT Exam | .963 |
| Time to Completion | .976 |

When t-tests were conducted using two-tail significance for each of the four variables none produced significant results. Apprenticeship exam ($t=1.77$, $df=48$, $p=.083$), NAIT exam ($t=1.59$, $df=48$, $p=.119$), Age ($t=.02$, $df=48$, $p=.986$), and Time on task ($t=1.25$, $df=48$, $p=.216$). This information is presented in Table 3 on page 47.

It is interesting to note that this 'mean split' resulted in two groups with one group (FI) nearly twice as large as the other (FD). However, in this analysis, not one of the four dependent variables was significant ($p>.05$). Therefore, the remainder of this report will focus on the median split analysis.

Table 3**Results of t-tests on FD-I Groups using Mean Split**

| | Cognitive Style | N | Mean | SD | SE | t | df | p 2-tail |
|--------------------------|--------------------|----|--------|-------|-------|------|----|-------------|
| Hours | FI | 32 | 228.97 | 42.65 | 7.54 | 1.25 | 48 | .216 |
| | FD | 18 | 245.11 | 45.46 | 10.71 | | | |
| Apprentice- ship Exam | FI | 32 | 75 | 7.582 | 1.340 | 1.77 | 48 | .083 |
| | FD | 18 | 71.33 | 5.89 | 1.39 | | | |
| NAIT exam | FI | 32 | 82.09 | 5.85 | 1.03 | 1.59 | 48 | .119 |
| | FD | 18 | 79.39 | 5.66 | 1.33 | | | |
| Age | FD | 32 | 26.31 | 4.99 | .882 | 0.02 | 48 | .986 |
| | FI | 18 | 26.28 | 8.93 | 2.11 | | | |

The second method used to analyze the data was one using a median split. There is evidence in the literature for the use of this method (MacNeil, 1980; Rouse & Rouse, 1982). The median score on the GEFT was 13, with five respondents having this score. The actual median was the second of the five, measuring down from the maximum score of 18. This researcher included all five median scores of 13 in the FD group because they tended to lie in that direction (R. Jaffray, personal communication, March 31, 1994). This median split divided the sample into two groups of nearly equal size (FI n=27 and FD n=31). A test of variance was run on both FD-I groups with respect to all four of the dependent variables-Apprenticeship exam ($p=.916$), NAIT exam ($p=.997$), age ($p=.699$) and time on task ($p=.142$). In all four cases, no significant difference in the variance of the two groups was found, thus allowing t-tests to be run. This information is presented in Table 4 on page 49.

Table 4

**Results of Test for Equality of Variance for FD-I Groups-
Median Split**

| Variable | Probability |
|---------------------|-------------|
| Apprenticeship exam | p=.916 |
| Age | p=.699 |
| NAIT exam | p=.997 |
| Time to Completion | p=.142 |

When t-tests were conducted using two-tail significance for each of the four variables, three produced significant results- Apprenticeship exam ($t=2.15$, $df=56$, $p=.036$), NAIT exam ($t=2.33$, $df=56$, $p=.024$), and Time on task ($t=2.22$, $df=56$, $p=.030$). The t-test performed on the dependent variable age did not produce a significant result ($t=.27$, $df=56$, $p=.791$). See Table 5 on page 50 for this information.

Table 5
Results of t-tests on FD-I Groups- Median Split

| | Cognitive Style | N | Mean | SD | SE | t | df | p 2-tail |
|--------------------------|--------------------|----|--------|-------|-------|------|----|-------------|
| Hours | FI | 27 | 218.52 | 37.46 | 7.21 | 2.22 | 56 | .030 |
| | FD | 31 | 245.19 | 51.62 | 9.27 | | | |
| Apprentice- ship Exam | FI | 27 | 75.74 | 7.52 | 1.45 | 2.15 | 56 | .036 |
| | FD | 31 | 71.64 | 6.99 | 1.256 | | | |
| NAIT exam | FI | 27 | 82.78 | 6.01 | 1.16 | 2.33 | 56 | .024 |
| | FD | 31 | 79.23 | 5.60 | 1.01 | | | |
| Age | FI | 27 | 26.04 | 5.24 | 1.01 | 0.27 | 56 | .791 |
| | FD | 31 | 26.48 | 7.19 | 1.29 | | | |

The t-test on the dependent variable academic success on the⁵¹ Apprenticeship exam produced significant results. Based on this finding the null hypothesis can be rejected. It was found that there is a significant difference between FD-I students and academic success on the Apprenticeship board exam. The FI students tend to do better, achieving a higher grade than the FD students on this exam.

The t-test on the dependent variable academic success on the NAIT exam also produced significant results. Based on this finding the null hypothesis can be rejected. It was found that there is a significant difference between FD and FI students and academic success on the NAIT exam. The FI students tended to do better, achieving a higher grade than the FD students on this exam.

The t-test on the dependent variable time to completion also produced significant results. Based on this finding the null hypothesis can be rejected. It has been found that there is a significant difference in time to completion for FD and FI students. The FI students tended to complete their program of studies faster than the FD students.

Discussion of the Findings

FI Electrician apprentices enrolled in CBAT scored higher than FD students on both the NAIT final exams and the Apprenticeship Board exams. The FI students scored an average of 4.1 % higher than the FD students on the Apprenticeship exam and an average of 3.55 % higher on the NAIT exam. This finding would indicate that FD students are not as successful on these two exams. However, the question remains as to the actual degree of difference this represents. Further research is indicated to try to determine if these differences are indeed significant. The point however, can still be made that FD students are disadvantaged on these exams when compared to their FI coursemates. With respect to time to completion though these same FI students were able to complete their course of studies faster than the FD students. The difference noted here was 26.67 hours or just slightly over 4 days. This is about a 10% difference in total time and appears to be a substantial amount. However, the use of home computers or prior experience working with computers was not studied, and this could have been a contributing factor to time. Finally, there was no significant difference found in age between these two groups.

Chapter Five

Summary

This was an ex post facto study undertaken to determine if a relationship existed between the cognitive style of Field Dependence-Independence and selected variables in the CBAT instructional approach. The variables were academic success, student age, and time on task. The August 27, 1991 NAIT intake of second period Electrician apprentices enrolled in CBAT formed the sample. This resulted in a sample size of 58 having a mean age of 26 years. The GEFT was administered at the NAIT orientation resulting in a range of scores from 1 to 18, with a mean score of 12. School files (NAIT) and Apprenticeship Branch files were the source for exam results. These exam results were analyzed using the SPSS-x statistical package at CRAME in the University of Alberta. Four null hypotheses were tested at the .05 level of confidence. The following conclusions were reached based on the outcome of these computerized analyses. The 'median split' method of determining the two groups FI and FD produced significant findings and is therefore discussed. The 'mean split' method of determining the two groups (FD-I) did not produce statistical significance and is not discussed here.

Conclusions

Field Independent students tended to score higher on both the NAIT exam (82.78% vs. 79.23%) and the Apprenticeship exam (75.74% vs. 71.64%) than Field Dependent students. Therefore, it can be said that they were more successful than their FD counterparts. This finding tends to suggest that FI students had less trouble learning the curriculum in CBAT than FD students. CBAT as an approach to learning in the Electrician trade might favour those students who are Field Independent. Indeed, the literature corroborates this finding. When students are able to study at their own pace, research confirms the proposition that field-independent learners perform better than field dependent learners (Brooks, 1976; Wallace, 1980). The fact that Field Independent students tended to do better than FD students suggests FI students are able to cope with the curriculum and the way in which it was presented better than FD students. According to Witkin, FI students do generally exhibit traits which would substantiate this finding. It appeared that the FI students in this sample tended to be more successful at isolating the elements from the surrounding background. Since they were more successful one might assume that they had fewer problems coping with the curriculum and they were thus more able to successfully complete their school work. These FI students were able to work through the

curriculum faster and more successfully than FD students and this⁵⁵ is also what Witkin (1977) would have predicted. He says FI students do well when they work alone. This finding is supported by what Wittrock (1978) found in his study. He said that FI students have the ability to see separate parts as a total pattern. These students would be able to take the individual modules which make up the CBAT curriculum and put them all together and see how they are interrelated. FI students do not seem to have difficulty with the curriculum in that they are able to piece it all together to form a whole. They were able to deal with the curriculum in a positive manner such that they were able to exhibit academic success.

Dixon (1977) said that FI people tend to be competitive and this may be illustrated by the fact that they spent less time on the course than FD students. If students are competitive they may want to accomplish the task faster than their fellow student. The fact that FI students also tended to complete their studies under CBAT faster than their FD counterparts could be construed as a measure of success. They not only scored higher on their exams as a group, but they also achieved this in a shorter period of time. Indirectly, this can be viewed as being more able to deal with the curriculum in a successful manner.

Factors not Studied

The three factors of feedback, the size of the modules and independent work were not studied in this research. However, the literature had some significant things to say about these three areas. First of all Dixon (1977) found that FI students did not require as much feedback as FD students. This could be an issue in Computer Managed Learning wherein the students spend a significant amount of time working alone or at computer terminals. McLeod, Carpenter, Thomas, McCornack, and Skvarcius (1978) investigated the interaction between Field Dependence-Independence and selected instructional methods. They reported that FI students perform better when allowed to work independently, and that FD students learn more when they have extra guidance from the teacher.

Cross (1976) discussed the implications of the cognitive style of FD-I for educational practice. She cited research which indicated that FI students were able to deal with larger instructional modules and require less frequent feedback than FD students. These findings were corroborated by the work of Renzi (1974) and Schwen (1970).

Jacobs and Gedeon (1982) studied the relationship between Field Dependence-Independence and the frequency of

student/proctor interactions and achievement in a Personalized System of Instruction (PSI) course. They reported that FI persons are significantly more likely to show greater autonomy of others in social situations. FD persons on the other hand are more likely to be oriented toward other persons. They suggested that FI students had learned to rely on internal referents and were less dependent upon the proctors to provide information and structure.

Recommendations

This research indicates that to a degree FI students are more successful than FD students while studying under CBAT. Because this study looked at Second Period Electrician apprentices, some assumptions can be made about the sample. They must all have some basic academic abilities to have made it through the First Period of technical training. Although the FD students did more poorly than the FI students it is probably safe to say that this difference was not due to intellectual ability. This study shows that FD students are somehow disadvantaged when studying under CBAT and this may have to do with their inability to 'disembed' the important information from the curriculum. In order to address this disadvantage, one suggestion would be to have the modules summarized at the outset and to have the important aspects of a module highlighted. Secondly, a conceptual map could be provided

in each subject area to allow FD students to see the program overview in advance of instruction. In this way, FD students could formulate an idea of the depth and breadth of the course material at the outset. This could be achieved by providing both outlines and objectives in advance of any student commencing a module. "Providing FD students with structural support such as an outline...would aid their comprehension and recall because such an organizational aid should complement their passive approach to learning" (Frank, 1984, p. 671). Modules should also tend to be smaller rather than larger in size. If FD students appear to become overwhelmed by the size of the modules, decreasing their size may be a solution.

Finally, it might be feasible to provide the FD learners with actual instruction on how best to deal with the curriculum. Students could all be assessed as to their learning style in advance of the course and the implications of their particular learning style be made known to them. They could be advised of the limitations one style might have over another and of strategies that could be used for overcoming these limitations.

This study indicates that CBAT as an instructional strategy is appropriate for FI learners and puts FD learners at a disadvantage. The literature supports this finding for vocational areas of study. If CBAT as an instructional methodology were to be used in non-vocational areas of study such as the humanities, it might be advisable to investigate this in advance. It appears that vocational

and trades areas are suited to CBAT because the students who chose these vocational areas tend to be FI. However, because FD students tend to chose the humanities as an area of study CBAT may be a poor choice of instructional strategy for these disciplines.

Areas for Further Study

This ex post facto study was of the cross-sectional type. The researcher intervned at a specific time and administered the GEFT. The results of this study might suggest that a longitudinal study as postulated by Block (1971) be undertaken. It would be interesting to track a class of Electrician apprentices through their four periods of study in CBAT. A longitudinal study as suggested here could show if one period of study gave a particular group more difficulty than another. It would also be interesting to find out if an investigation into all four periods of technical training resulted in consistent results with respect to the favouring of one cognitive style over another.

Another type of study which could be undertaken is the aptitude-treatment interaction (ATI) as suggested by Cronbach and Snow (1977). Here a true experimental type of study is suggested, with one group studying under CBAT and a control group studying under traditional classes. This research could point to differences

in student performance in both instructional methods. This researcher also sees benefit to tracking student time on task for each CBAT module, in an attempt to identify any problematic modules. Finally, Post (1987) suggests that both a FD and FI person be consulted when modules are being created. Having the two types of persons review the curriculum in advance might help to remove any bias which could become embedded in the modules themselves.

Various types of studies are indicated here but it should be emphasized that more research is needed in this area. The present study seems to indicate that FD apprentices are disadvantaged when studying under CBAT but even this finding requires further scrutiny. Research into modifications or adaptations to the CBAT methodology to address the needs of FD learners is a possibility. The embellishment of the small group format currently used with CBAT students at NAIT would be another area which might offer some advantage for FD students. This is open to further research.

It is hoped that this study ignites a spark of interest in the area of research into cognitive style and apprenticeship. It is wished that in some small way, this study provides some answers to questions which ought to be asked. In any event, the field of research into apprenticeship and cognitive style remains ready for more research.

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APPENDIX A

Letter of Permission

LETTER of PERMISSION and DEMOGRAPHICS QUESTIONNAIRE

I, the undersigned, hereby give my permission to the researcher Brian Flanagan to include me in his study on Learning Styles. I voluntarily wish to participate in this study and understand that I may withdraw at any time. I give permission for the researcher to have access to my student records both at NAIT and the Apprenticeship Branch. Furthermore, I am assured that all information about me will be kept in the strictest of confidence and that everything reported will remain anonymous. My present employment and any position that I may hold in the future will not in any way be put at risk by this study.

signed _____ Date _____

Address _____ (fill in address only if you
 _____ want to see
 _____ results of this study)

Telephone _____ (home) _____ (work)

Date of Birth _____

Student Number _____ (Apprenticeship Number)

Type of Work (Estimate each by percentage of time spent)

Maintenance ___ Residential ___ Commercial ___ Industrial ___

-Other(specify) _____

Size of Company-Small (less than 10 employees) _____

-Medium (11 to 50 employees) _____ (check
 one)

-Large (over 50 employees) _____

APPENBIX B

Characteristics of Field Dependent-Independent Learners

Table 1

Characteristics of Field Dependent-Independent Learners

| | Field Dependent Learners | Field Independent Learners |
|----------------------|---|--|
| Wilkin et al., 1977a | <ul style="list-style-type: none"> • Warm, socially outgoing and sensitive people who are alert to social cues. • Favour activities which involve others and do not like to study or work alone. • Strongly influenced by others around them and are sensitive to criticism. • More likely to require externally defined goals and reinforcements and extrinsic forms of motivation. • May require more explicit instruction for problem-solving or more definitions of performance outcomes. • Make less use of mediational processes adopting a passive, spectator role in learning. • Are more dominated by salient cues in learning. • Better at learning and remembering information having a social relevance or content. | <ul style="list-style-type: none"> • Appear aloof, theoretical and not sensitive to others around them. • Prefer to work alone, avoid group interaction if given the chance. • Almost oblivious to social criticism. • Will restructure any random or non-hierarchically presented information for better retention and retrieval. • Tend to have self-defined goals and reinforcements. • May perform better when allowed to develop their own strategies for problem-solving. • Make greater use of analyzing and processing, adopting an active, hypothesis testing role in learning. • Are less dominated or governed by the most obvious or salient cues in learning. |

(table continues)

Field Dependent Learners Field Independent Learners

Rosenberg,
Miniz,
& Clark.
(1977)

- Tend to learn socially relevant material better than FIs.
- Usually perform a spectator or passive learning role.
- Are more affected than FIs by negative reinforcement.
- Tend to be more influenced by the opinions of others or authority figures.
- Possess lower "performance expectations".
- Prefer discussions (i.e. interactive methods).
- Play a participant or active role in learning.
- Learn more 'efficiently' in conditions of self-motivation.
- Learn more effectively without performance feedback.
- Do not seem to need an externally provided structure.
- Are more attentive to "non-salient" attributes in concept learning tasks, and tend to favour lectures (i.e. expository methods).

Wehmeyer,
1984

- Global.
- More easily distracted and confused by surroundings.
- Tend to seek guidance and reassurance.
- Enjoy socialization.
- Articulated.
- Analytical.
- Tend to be loners.

(table continues)

Field Dependent Learners Field Independent Learners

- Witrock,
1978
- FD people tend to perceive a pattern as a whole.
 - Have difficulty in focusing on one aspect of a situation or analyzing a pattern with different parts.
 - Able to make finer discriminations than others in what they see.
 - Can isolate important elements from the surroundings or background, these people have good figure-ground perception.
- Dixon (1977)
- FD people are more attentive to body language, facial expressions, and eye contact.
 - FI people are more likely to perceive separate parts as a total pattern and be able to analyze a pattern according to its components.
 - More impersonal in their orientation.
 - Tend to be individualistic, competitive, sensitive to intrinsic motivational factors and more attentive to significant details.
 - FD students are better at history, literature, social sciences and better at group work.

APPENDIX C

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Raw Data

Table 2**Raw Data**

| Student | GEFT score | Apprentice -ship exam | Age in Years | NAIT Exam | Hours to Completion |
|---------|------------|-----------------------|--------------|-----------|---------------------|
| 1 | 18 | 85 | 30 | 90 | 119 |
| 2 | 18 | 83 | 20 | 87 | 234 |
| 3 | 18 | 75 | 22 | 83 | 210 |
| 4 | 18 | 80 | 34 | 80 | 239 |
| 5 | 18 | 70 | 23 | 77 | 198 |
| 6 | 18 | 81 | 31 | 83 | 168 |
| 7 | 17 | 81 | 24 | 89 | 229 |
| 8 | 17 | 65 | 32 | 78 | 239 |
| 9 | 17 | 83 | 28 | 88 | 195 |
| 10 | 17 | 72 | 27 | 77 | 199 |
| 11 | 17 | 78 | 28 | 84 | 195 |
| 12 | 17 | 68 | 30 | 73 | 253 |
| 13 | 17 | 76 | 23 | 83 | 231 |
| 14 | 16 | 83 | 31 | 90 | 179 |
| 15 | 16 | 75 | 21 | 81 | 258 |
| 16 | 16 | 74 | 24 | 82 | 161 |
| 17 | 16 | 69 | 21 | 83 | 196 |
| 18 | 16 | 60 | 22 | 67 | 316 |
| 19 | 15 | 74 | 24 | 79 | 233 |
| 20 | 15 | 73 | 40 | 91 | 210 |
| 21 | 15 | 74 | 21 | 87 | 208 |
| 22 | 14 | 97 | 24 | 94 | 238 |
| 23 | 14 | 80 | 22 | 87 | 227 |
| 24 | 14 | 71 | 21 | 76 | 252 |
| 25 | 14 | 65 | 21 | 80 | 238 |
| 26 | 14 | 75 | 24 | 85 | 236 |
| 27 | 14 | 78 | 35 | 81 | 239 |

(table
continues)

| Student | GEFT score | Apprentice -ship exam | Age in Years | NAIT exam | Hours to completion |
|---------|---------------|--------------------------|-----------------|--------------|------------------------|
| 28 | 13 | 65 | 25 | 78 | 292 |
| 29 | 13 | 73 | 33 | 84 | 269 |
| 30 | 13 | 66 | 28 | 76 | 300 |
| 31 | 13 | 83 | 25 | 77 | 267 |
| 32 | 13 | 68 | 28 | 77 | 299 |
| 33 | 12 | 83 | 22 | 82 | 118 |
| 34 | 12 | 77 | 25 | 86 | 149 |
| 35 | 12 | 88 | 30 | 86 | 197 |
| 36 | 12 | 67 | 21 | 73 | 258 |
| 37 | 12 | 73 | 34 | 86 | 210 |
| 38 | 12 | 70 | 29 | 80 | 228 |
| 39 | 12 | 65 | 23 | 75 | 300 |
| 40 | 12 | 59 | 25 | 67 | 302 |
| 41 | 11 | 69 | 30 | 80 | 252 |
| 42 | 11 | 76 | 37 | 88 | 207 |
| 43 | 10 | 70 | 23 | 87 | 238 |
| 44 | 10 | 76 | 20 | 88 | 224 |
| 45 | 9 | 66 | 21 | 72 | 317 |
| 46 | 8 | 67 | 21 | 82 | 257 |
| 47 | 8 | 76 | 21 | 84 | 196 |
| 48 | 8 | 69 | 23 | 76 | 235 |
| 49 | 7 | 79 | 25 | 79 | 237 |
| 50 | 7 | 66 | 24 | 73 | 295 |
| 51 | 6 | 79 | 23 | 80 | 236 |
| 52 | 6 | 67 | 22 | 72 | 170 |
| 53 | 6 | 67 | 23 | 83 | 279 |
| 54 | 4 | 67 | 23 | 79 | 247 |
| 55 | 4 | 66 | 23 | 73 | 252 |
| 56 | 3 | 71 | 57 | 84 | 239 |
| 57 | 2 | 86 | 34 | 78 | 179 |
| 58 | 1 | 67 | 23 | 71 | 352 |

0-0

the... [faded text]

... [faded text]

... [faded text]

... [faded text]

11.

12. The following are the names of the persons who have been appointed as members of the Board of Directors of the Corporation for the year ending 31st March 2014:

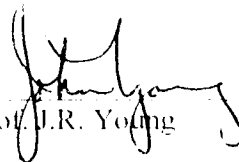
13. The following are the names of the persons who have been appointed as members of the Board of Directors of the Corporation for the year ending 31st March 2014:

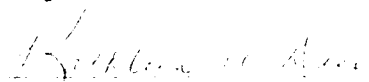
14. The following are the names of the persons who have been appointed as members of the Board of Directors of the Corporation for the year ending 31st March 2014:

UNIVERSITY OF ALBERTA

FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled "The Viability of the Primary Health Care Model for Women's Health: An Ethnographic Study of Women's Health Beliefs, Values, and Practices in Rural Vanuatu" submitted by Donna-Mae Ford in partial fulfillment of the requirements for the degree of Master of Education in Sociology of Education.


Prof. J.R. Young


Prof. K. Dier


Dr. S.H. Toh

May 27, 1994

ABSTRACT

Despite the fact that since 1978 PHC has been accepted, in most countries of the world, as an official guide for health policy planning, little research has focused on the relationship between the premises and assumptions on which the model is based and the beliefs and values which frame the health perspectives of indigenous groups - much less those of indigenous women. In this study, the researcher uses an ethnographic methodology to develop a detailed account of the health beliefs, values, preferences, and practices of a group of rural Ni-Vanuatu women. This account describes: the extent to which improving health is a goal or priority for them; their perceived health status, health needs, and health priorities; the types of health interventions they currently use and the etiological beliefs undergirding them; and their beliefs about the ways and means through which health improves. This account is then placed along side the PHC model so that a comparison can take place and ultimately an evaluation of the viability of the PHC model in this context. What evolves is essentially a feminist critique of PHC, one which underlines the extent to which the health issues identified by these women are rooted in the social and cultural fabric of their society and ultimately in their subordinate social position. The researcher concludes that the PHC model is limited by its failure to adequately *situate* women's health problems in the context of social relationships, more particularly in the context of gender relations. The sociology of knowledge provides a some analytical tools for speculating about how and why this may be the case.

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CHAPTER I

INTRODUCTION AND OVERVIEW

This study evolved from an interest in examining the "interface" of different world views or paradigms that pertain to health and health problems. Those who have been involved in development initiatives at the "macro" level, particularly in developing contexts, will be aware that there is continuous translation and translocation of a process that goes on between indigenous beliefs, values, orientations and those ideas, approaches, and strategies which are brought in from time to time from the "developed" world. Large technical development agencies, which frequently devise new frameworks and strategies for improving health, have considerable influence on how health agendas filter down from the level of international conferences, to governments, ministries of health, and on to the local level where they are translated and operationalized. For various reasons, but the most important is their ability to provide funding, the strategies and approaches which they promote carry enormous weight. While it is true that such agencies often provide valuable expertise and resources for improving the health situation in the developing world, they also define and identify "problems", and sanction "effective" and "appropriate" interventions, and in doing so, inadvertently marginalize alternate interpretations of health phenomena and their approaches and interventions.

In 1978, WHO declared PHC (Primary Health Care) as the vehicle through which "Health for All" would be achieved. Since that time more than 100 countries have accepted PHC as official policy for health planning (Gordon and Walt 1986) and non-government organizations have been diligent to make it the focus of their health care endeavors. In contrast to more conventional health care approaches, PHC represents a relatively progressive and emancipatory innovation with its emphasis on community participation, health education, and prevention. But it would be naive to simply assume that the model and values it embodies and the objectives it promotes as essential to improving health will be equally viable or true for everyone, particularly for those who have not been acculturated or educated into dominant paradigms on health and development. This study represents an attempt to investigate this query, more specifically to explore the "fit" between the PHC model and the health perceptions of a group of women in rural Vanuatu.

Using an ethnographic methodology, the study sought to elicit information from Ni Vanuatu women about their broadly delineated guiding questions. The study focused on: 1) the extent to which improved health was a primary goal for them 2) their everyday health practices and their priorities 3) their current health practices and their

conceived. The other seven components, of which education is stated to be an important and integral part, include the following: promotion of food supply and proper nutrition; an adequate supply of safe water and basic sanitation; MCH (maternal and child health care), including family planning; immunization against infectious diseases; prevention and control of locally endemic diseases; appropriate treatment of common diseases and injuries; and the provision of essential drugs (WHO 1978).

PHC in Retrospect: Issues and Obstacles

The past fifteen years have produced an abundance of literature with documentation of various PHC endeavors, some with considerable success (Morely 1983; Bender and Pitkin 1984), many others with demonstrable failure (Justice 1987; Williams and Satoto 1983; Madan 1987). Furthermore, some feel that PHC is in real danger as WHO's paymasters and other funding agents criticize the slow pace of PHC and show signs of favoring the no-nonsense approach of more recent vertical programs (Van Der Geest, Speckmann, and Streefland 1990).

Reasons cited for the limited success of many PHC endeavors are of a varied nature. Some researchers have focused on the practical difficulties involved in translating PHC from theory into practice. Justice (1987) for example, has highlighted the bureaucratic structures through which PHC is disseminated and implemented and the ways in which the latter prevent the development of programs that are either appropriate at the local level or accurately reflective of official PHC philosophy. Similarly, Bosset and Parker (1984) have focused on the administrative context of PHC and the adverse effects of the latter on PHC planning and implementation. And Boerma (1987) has elucidated the difficulties that result from health manpower shortages, the inequitable distribution of health-care personnel, and the lack of training and preparation received by PHC personnel and participants. He has also highlighted the sorts of sectorial issues and interests that can mitigate against intersectorial collaboration. Although the literature pertaining to PHC in Vanuatu is very limited, what has been written has tended to fit within this category; it has focused on issues such as the difficulties involved in managing and coordinating PHC endeavors at the regional and district levels (Harris et al. 1991).

Another portion of the PHC literature has examined the viability of the PHC model itself in the context of socio-political factors which give rise to poor health, particularly in third world contexts. Many critics, particularly those from a political economy perspective, underline asymmetric relations of power and consequent relations of dominance and dependence, both national and international level. They argue that although PHC pays homage to the

broader context of ill-health and to the need for greater equity in the distribution of health resources, that it still fails to adequately address issues of power and inequality. Sidel and Sidel (1986), for example, assert that a necessary precondition for successful PHC within any developing country is a national commitment to the redistribution of resources and reallocation of power. Werner (1977) argues that even effective preventative strategies associated with the eight elements of PHC (such as immunizations, the construction of latrines, or nutrition education) will, in and of themselves, have very little impact on the lives of the poor so long as these more fundamental constraints to improved health remain unchallenged. Many others (Doyal 1979; Stock 1986; Zaidi 1988) have underlined ill-health as an integral feature of the broader process of underdevelopment and have argued that even the more "innovative" programs (including PHC) of international agencies and governments are relatively insignificant when it comes to addressing the structural barriers to improved health that characterize the economies of dependent capitalist nations.

Of particular interest in terms of the present research, is the literature focusing on the local contexts in which PHC has been implemented and the ways in which the PHC model has failed to articulate with the beliefs, values and priorities of local communities and sub-groups. Although the literature around this theme is quite limited, several researchers have documented the sorts of "malfits" that can exist in this regard.

Community participation, self-reliance, and self-determination, which are basic to PHC philosophy, have recently been brought under scrutiny. Stone (1989), who conducted her research in Nepal, found that the western-based notion of community participation (which, she claims, derives in turn from individualism and an emphasis on "mastering one's own destiny") is not one that automatically fits within villagers' frame of reference and that villagers would more likely welcome a "meaningful sense of interdependence and exchange with outside agencies and institutions" (Stone 1989, 211). She argues that in this Nepalese context, a western type of self-reliance would amount to social and economic suicide. Rifkin (1983), Hamilton (1972), and Madan (1987) have also noted that some third world communities seem to favor a relationship of dependency (on outside agencies) over a move towards greater self-reliance. Van Der Geest, Speckmann, and Streefland (1990) postulate that villagers may have good reason for rejecting the PHC emphasis on self-reliance: "they may rightly gain the impression that highlighting self-reliance is a euphemism for leaving them to fend for themselves" (1990, 1030). The same authors conclude that self-reliance is "a western cultural value that may not be shared at all by those involved in the PHC enterprise at lower levels of social organization" (Van Der Geest, Speckmann, and

Streefland 1990, 1027). In the context of Vanuatu, Harris et al (1991) have noted that some communities have lacked commitment to follow through with the PHC objectives they initially set (usually while attending government-sponsored workshops introducing the PHC concept). This, however, they attribute to community-level political problems or to lack of infrastructural support. They do not consider the possibility that the emphasis on "self-reliance" may not be well-matched with villagers ideas about the means through which desired health changes should come about.

Some researchers have found the PHC emphasis on equity in the planning, implementation, and distribution of health benefits to be at odds with the socio-cultural reality (and belief structures supporting it) of some communities. Madan (1987), for example, in his research in India, has shown how village health committees tend to be composed of village elites and has argued that whenever community welfare measures have been attained, their distribution on an equalitarian basis has been resisted. The moral excellence of equality and equity (or more particularly, the western understanding and application of the terms) may not be a given in all cultural contexts. Failure to recognize this has been the downfall of more than one PHC program (Williams and Satoto 1983).

Research has also indicated that many poor communities would prefer to see the emphasis on cure as opposed to prevention. Stone (1986) found that the Nepalese already had in place an extensive traditional system of preventative beliefs and practices and felt no need for western preventative education; they were more interested in its curative potential. Similarly, Van Der Geest (1982) observed a PHC project in South Cameroon "develop" from a program primarily oriented towards preventative education to an almost entirely curative service differing little from a "pharmacy on wheels", with villagers as well medical staff reasonably pleased with the transition. These researchers argue that in these contexts, PHC has meant the imposition of alien messages and the committant downplaying of immediate concerns. Again, in Vanuatu, it has been noted that, particularly at the community level, many health care workers have tended to focus on curing illness as opposed to prevention. Harris et al (1991) assume that this reflects a professional bias and suggest improved education as the antidote to this. They do not indicate whether or not this curative focus reflects a community preference for curative over preventative.

On a very basic level, there have been hints in the literature to suggest that while the attainment of health may be accorded sacrosanct priority in PHC documents, it may not be similarly enshrined at the village level. While it is probably universally true that individuals value their health, improving health may not be a priority. Health objectives are often side-lined in favor of other more immediate goals and needs such as that for short-term

monetary gain (Van Der Geest, Speckmann and Streefland 1990)⁶. Or, health objectives may be discarded if the social costs of attaining them outweigh their perceived advantages (Foster, 1976). Furthermore, even the WHO definition of health on which Alma Ata mandate is prefaced ("a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity"⁷) may find no easy equivalent in the village setting. Recent studies have shown, for example, that even in western contexts, there is little consensus amongst either lay persons or health professionals when it comes to the meaning of "health" (Morse 1987).

If one were to examine the literature pertaining to each of the eight PHC elements themselves, many more dysjunctions between the PHC model and local viewpoints could probably be identified. The fourth element of PHC, maternal-child health, includes family planning, which is perhaps a prime candidate for poor "cultural fit" as the history of family planning in India, for example, so clearly illustrates. The orientation of most international agencies is neo-Malthusian and governments themselves are usually attuned to national economy and political stability (Van Der Geest, Speckmann, and Streefland 1990). On the other hand, as numerous studies (Banjeri 1980) have shown, the interests and views of peasants with regard to family planning are often of a fundamentally different nature. They have plenty of sound reasons for desiring large families from traditional beliefs about the inherent value of children, to the need for old age security, to the help that extra hands can bring to farming.

One cannot be sure that even the need for the "most basic" of the eight PHC elements, such as "safe water supply and sanitation" or "proper nutrition" will be obvious for those within different socio-cultural settings. One study, for example, on drinking water in some Asian countries, reported that the people's concept of what constitutes "good" potable water does not take into account chemical, organic, or bacterial pollutants (Barnabus 1982). Research on the Pitjantjatjara of Australia has indicated that, within this group, little association is traditionally made between health status and nutritional intake (Hamilton 1972). Furthermore, even if western-based education is welcomed in such matters (and as already mentioned, one cannot assume that it is), finding common ground on which to begin providing a plausible rationale or conceptual basis for the latter can be a difficult task. As many researchers have shown, villagers have often already accommodated the efficacy of certain western preventative and curative modalities within their own traditional frame of reference. Madan (1987) for example, describes how the immunizations involved in the eradication of smallpox in India were interpreted in many communities as part of the successful expropriation of the smallpox goddess (apparently the TB goddess is a current manifestation of the same belief

system). Similarly, Leprowsky (1990) describes how the efficacy of penicillin within a village in Papua New Guinea was attributed to the ancestral spirit inhabiting the health care worker who provided it.

What all of this highlights is the ways in which PHC, rooted within a particular knowledge paradigm, may be difficult to reconcile with local perceptions regarding the nature and meaning of health problems and the means through which health improves. Although within medical anthropology there has been a long tradition in the study of lay opinions regarding health and illness across various cultures, there has been surprisingly little research focusing on the ways in which the perceived needs and preferences of local groups, and their understandings of the nature of health problems, relate to the official PHC agenda, an agenda which, for many reasons, third world governments have felt obliged to take up. Van Der Geest, Speckmann, and Streefland (1990) comment on this paucity in the literature, suggesting that it may reflect the fact that policy makers do not favor research of this nature possibly because they anticipate the sorts of findings that might result and are uncertain as to how they would put them into practice.

If little research has focused on the interface between the PHC model and the beliefs and values of particular communities in the developing world, even less has been written with regard to the *perspective* of specifically *women* in these contexts and on how the latter relates to the PHC mandate. On the whole, the viewpoint of women is sadly lacking in the PHC literature. This is not to say that the *topic* of women is missing; indeed women figure quite prominently in discussions around operational aspects of PHC programs in the context of their reproductive needs, their crucial role as primary caretakers and health educators within the family, and in their role as consumers of health services (MacCormack, 1989). There have also been some ethnographic studies in the more general health literature which have examined particular aspects of indigenous women's health beliefs which would fit under the broad umbrella of PHC; studies pertaining, for example, to infant nutrition (Launer and Habicht 1989) or to family planning (MacCormack 1985). While, in most cases, these researchers draw out the implications of their findings for improving health education and planning, few relate their findings specifically to the PHC framework. And virtually none have attempted to critically assess the underlying premises of the PHC model vis-a-vis the health perspective of women.

Footnotes

¹There is unfortunately no satisfactory term to denote those countries or contexts that are economically poor in relation to their northern (or western) neighbours. "Third world", "underdeveloped countries", "developing countries", "southern", "less developed" are some examples and all are, it seems to me, theoretically and/or politically problematic since they tend to be reductionistic (blanketly grouping all these countries as one), since they assume the western world as the standard or reference point, and because they often subtly (or not so subtly) imply the superiority of the west. Although I do use these terms for lack of an alternative, I do so reluctantly and cautiously, with these qualifications in mind.

²This is, according to Navarro (1984), the intellectual center of the British pharmaceutical industry.

³In addition to those mentioned here, are the "community development" movement in third world countries (originally initiated by colonial officials and missionaries) and trends in western social work and community radicalism. These are not of relevance to the discussion here and so are not expanded upon. See Midgely (1986).

⁴When it comes to reducing health status disparities between advanced industrialized countries and developing ones, the document emphasizes the need for all countries to cooperate in a spirit of "partnership" and "service" since the attainment of the health of people in one country "concerns and benefits every other country" (WHO 1978;5). Apart from emphasizing the important role of disarmament in freeing up more of the world's resources for health, the document forgoes any more critical analysis of the etiology of third world poverty, including the sorts of changes that might be required of north in order for the health of its southern neighbors to improve. At the community level as well, the document seems to emphasize notions of shared interests and cooperation downplaying conflicts of interest and power relations.

⁵At this point, PHC philosophy is translated into methodology. This seems somewhat ironical given that PHC was said to represent an antidote to the more prescriptive approaches of the past.

⁶Some would argue that this is in fact a "health" goal. The issue is discussed more completely in the last chapter of this thesis.

I am aware that in 1984, the definition was changed to read:

Health is the extent to which an individual or group is able to, on the one hand, realize aspiration and satisfy needs, and on the other, to change or cope with the environment. Health is therefore seen as a resource for daily life, instead of as an objective of living.

In either case, the same point holds.

CHAPTER 3

A THEORETICAL FRAMEWORK FOR THE STUDY

This study has been informed, mainly, by two theoretical currents, both of which involve marriages between certain sociological premises and the health domain. These include, firstly, the sociology of knowledge in application to the health literature, particularly with reference to officially sanctioned health discourses. An awareness of theoretical concepts from this sociological tradition is important for the analysis of PHC philosophy that takes place in the final chapter. Secondly, in so far as this study focuses on the health of women in a developing country, the feminist health literature, and more particularly the "gender relations" perspective, also provides a theoretical backdrop for the analysis that takes place.

The Sociology of Knowledge: Health Discourse as Ideological

The sociology of knowledge, broadly speaking, maintains that any knowledge system can be fruitfully analyzed with reference to the social context out of which it has arisen. Moreover, it considers dominant discourses, paradigms, and conceptual models ideological to the extent that they reflect and reproduce the complex of social relations (particularly the power relations between different groups) in the context of which they have evolved. This is not to say that a popular health philosophy like PHC cannot be challenging or even emancipatory in certain respects, but simply that, even so, it will bear the imprint of the social structure in which it gestated. In this study, PHC is not accepted uncritically, as if somehow grounded in an "objective" perception and interpretation of reality; rather it is recognized as being based on certain *assumptions* about the nature of ill-health etiology and the nature of social life. And being a widely accepted and disseminated health philosophy, it is seen as important to at least ask about the ways in which these assumptions may reflect the world view of dominant social groups¹ and about how the model may act to reinforce the current social order.

The effect of social determinants on human thought is a subject which has a long history dating back to the work of Durkheim, and more particularly, within the German tradition, to the work of Marx, and later Mannheim. Although more recent scholarship has rejected the more reductionist Marxist approaches which posit a very mechanistic relationship between the economic base of society and its cultural forms, the basic premise that what passes for "knowledge" in any society is deeply rooted in particular configurations of social relations continues to provide fertile ground for investigation. The concept of hegemony,

Footnotes

"Dominant social groups" refers, in this case, to those groups that are dominant in the global context (i.e. Asians, males, the young, etc.), the national context (the elite vs the poor) and also to the dominance of the metropole centers (western, "developed" countries) over the periphery (those in "developing" countries). The latter assumption particularly, that PHC philosophy may embody and reflect the dominance of the metropole over the periphery is found to be met with some disagreement, since representatives from all over the developing world sit on the WHO Assembly and were involved in the development of PHC. It is contended, however, that it is unlikely that these representatives are typical of those they are to represent; all will have been educated, socialized, and acculturated, during their secondary and tertiary education, through texts, journals, and colleagues into what might be called the dominant world view and health perspective of the metropole. Numerous researchers, for example Altbach (1971; 1973, 1978), have underlined the idea that in most developing countries formal education, despite many attempts to the contrary, acts to homogenize students so that they develop a shared consciousness, a common body of thought, experiences and thought patterns. As Bourdieu (1976) points out of western modeled schooling, there develops a "consensus in discensus" referring to the fact that those who would otherwise have nothing in common are still in agreement concerning the accepted questions on which they are opposed.

²¹ I am using the term loosely. Some of the terms found in the literature would include "gender analysis" approach, or a "gender sensitive" approach.

In particular, "class" (i.e. their class position in the context of the global economy) could be taken as another starting point for the analysis. The discourse of the women in this study highlighted certain economic features of their lives (see Chapter 7, "Perceived Etiology of Health Problems") as important in accounting for their health status.

CHAPTER 4

THE STUDY CONTEXT

An Introduction to Vanuatu

The Republic of Vanuatu, formerly known as "New Hebrides", is located in the south-west pacific, within the area classified as Melanesia. Its neighbors include Solomon islands to the north-west, Fiji to the east, and New Caledonia to the south-west. An archipelago composed of eighty-some small islands, it runs north and south spanning a distance of almost 1100 kilometers. The two largest islands are Santo and Malekula, but there are 10 others of over 100 square miles, and some sixty smaller islands. Most islands have rugged mountainous interiors, with narrow coastal strips where most of the inhabitants live.

According to the 1989 census, the population of Vanuatu is 142,944 (Government of Vanuatu 1991). As in most developing countries, the population is young, with 44% of the nation's people being under 15 years of age (Government of Vanuatu 1991). Approximately 93% of Vanuatu's inhabitants are Melanesian, their ancestors migrating from Southeast Asia several thousand years ago (Republic of Vanuatu 1984). They settled in small villages throughout the islands and lived by means of hunting and gathering and subsistence agriculture. Today Vanuatu is characterized by enormous cultural and linguistic diversity which, together with the geographical features of the country, has made unification a difficult undertaking. Previously a joint condominium of the French and English, independence was secured in 1981. The government, which is a parliamentary democracy, was lead by the Vanuaku party up until the most recent 1991 election when it was replaced by a coalition government. The country's constitution identifies an important role for the National Council of Chiefs which advises on matters pertaining to culture and custom, as well as the Island Councils which also have an advisory role.

The economy of Vanuatu is based on trade, tourism, and agriculture, copra being the most important agricultural product. Although the early 1980s were characterized by a considerable growth in the GNP and an optimism that perhaps the newly-formed government's goal of self-reliance was attainable, the years that followed brought a down-turning of the economy. This resulted primarily from falling copra prices, a reduction in tourism, and a number of cyclones which caused considerable agricultural and infrastructural damage. For a variety of reasons, not the least of which is its strategic location, Vanuatu receives one of the highest amounts of aid per capita in the world (Roberts 1987). Providers include firstly Australia and Japan, but the European Economic Community, particularly the United Kingdom and France, also maintain a high profile.

At present, approximately 86% of the population live in

rural areas (Government of Vanuatu 1989) where traditional village life is the norm. Here the villagers practice subsistence gardening in much the same way as their ancestors did, although cash crops have come to play an increasingly important role in the modern era. Despite the growing influence of the western world, traditional beliefs and values remain strong in many areas. At the same time, and with little apparent conflict, the society is strongly Christian, the church having considerable moral authority at the national¹ and local level.

Health in Vanuatu

Available epidemiological data² would indicate that the health status of the Ni-Vanuatu compares quite favorably with that of people in many other developing countries. Yet compared with many of its south pacific neighbors, and with western countries, it is still quite poor. Infant mortality rates, for example, which are often used as an indice of a nation's health, are estimated to be between 55 and 60 per thousand (UNICEF 1991). The corresponding figure for most African nations would be well over 100, while for western countries, less than twenty.

Respiratory infections, skin diseases, malaria, and intestinal infections are the most common causes of sickness reported by the health service for the population as a whole (Republic of Vanuatu 1991). Malaria is a constant problem, rainfall and topography being important factors in this regard. Other important causes of morbidity include tuberculosis, meningitis, anaemia, and, particularly in the case of children, malnutrition. According to the national nutrition survey (Hung 1983), about 1 in 4 children are underweight for their age, and within the 12-17 month age group, 48%. In general, there are seldom food shortages in Vanuatu (apart from following cyclones) and in most areas some variety of foods is available. Recent health initiatives have therefore focused on educating mothers about how to prepare more nutritional meals for their families from locally available foods.

Inadequate water supply and sanitation pose serious health risks in terms of communicable diseases, particularly diarrheal disease and skin infections. An Environmental Health survey in 1988 (Republic of Vanuatu 1988) found that about 62% of communities had access to what was considered a safe and reliable water supply. This represents a considerable improvement over the situation in the early 1980s when the figure was 30% (UNICEF 1991). Rural water supply projects, funded almost entirely by overseas aid, have played an important role in these improvements, one report stating that nearly 40% of households had benefited from such water supply schemes (UNICEF 1991). With regard to sanitation, the 1988 survey found that only 12.6% of households had what were considered adequate latrines³,

although it was said that 60% used pit latrines that could be upgraded to an adequate level. At present, a national environmental health initiative is underway (also funded largely by overseas aid) to introduce and help construct VIPs (ventilated improved pit-latrines) and water seal toilets in villages throughout the country.

The country's infrastructure has functioned relatively efficiently up until recently⁴. This means that basic health services are available in most areas and secondary- and tertiary-level care in the major centers. However, the geographical features of the country, with concomitant problems of transport, mean that secondary and tertiary level care, particularly, are not readily accessible for many people.

The Health of Women in Vanuatu:
An Overview of Available Information

Unlike global patterns, men have tended to outlive women in Vanuatu. Estimates based on the 1979 census showed that while the average Ni-Vanuatu man could expect to live to 56 years, the average life expectancy for a woman was only 54 years (Bedford 1989). Likewise, the female death rate was estimated at 13 per 1000 while the male death rate was 11 per 1000 (Bedford 1989). Although according to more recent demographic data, the gap may be narrowing (i.e. life expectancies estimated at 62.4 for men and 61.0 for women in 1988 [Republic of Vanuatu 1988]), the underlying pattern is significant. Some have speculated that the differences in mortality rates and life expectancies may be related to the heavy work burden Ni-Vanuatu women carry, in both the reproductive and productive spheres.

The total fertility rate (the average number of children born to women during their child-bearing years) in Vanuatu is 5.1. However, in many rural contexts, families with more than six children are not at all uncommon (Foy, 1991). Furthermore, it has been estimated that in Vanuatu the majority of women will spend over one-third of their reproductive lives either pregnant or breastfeeding (UNICEF 1991). It is not difficult, therefore, to understand that the health status of women in Vanuatu is closely tied to their reproductive role. In 1986, for example, diseases of the reproductive system and complications of birth and pregnancy accounted for nearly 30% of hospital admissions for adult women, excluding normal deliveries (UNICEF 1991). As a result of this close connection between the health of women and their reproductive role, most studies undertaken to date have focused on the maternal role of women, collecting information related to pregnancy, delivery, and post-partum, as well as family planning. Although epidemiological reports often breakdown leading causes of morbidity and mortality by age, they seldom do so by sex. The effect of all of this is that although there is considerable data available about the health status of women

within their reproductive capacity, little information is available with regard to their health status outside of this role.

Maternal mortality figures are actually quite low; there is less than 1 death per 1000 births nationally (UNICEF 1991). This figure is based, however, on reported hospital births, and approximately 30% of births go unreported (Singleton 1988). The actual figure is probably much higher, as it is these women who deliver in the village without medical backup who are at greater risk. The figures do indicate however, that people who deliver in hospitals or dispensaries are at low risk of death, and that the important issue is service coverage.

The National Nutrition Survey (Hung 1983) found that women tend to have diets high in energy foods (i.e. yam, taro, banana) but low in protein and "protective" foods (i.e. vegetables and fruits relatively high in vitamins and minerals). Anaemia is also a significant problem in pregnant and breastfeeding women, the same study finding 55% of these women to be anaemic (having hemoglobins of less than 12g/100mls). A more recent study found one in five antenatal attenders to be anaemic (Singleton 1988). Data with regard to anaemia in the remaining population of women is limited. One study, which surveyed some urban as well as some rural areas, found that the proportion of non-pregnant women who were anaemic varied between 9% and 14% (Department of Health, WHO, & SPC 1985). In some areas of the country, anaemia is thought to be accounted for by the relatively high prevalence of thalassemia but in others it is thought to be primarily a result of dietary insufficiency, malaria (which is more easily contracted during pregnancy due to a lowering of host immunity), and parasitic infections (Hung 1983). This nutritional data is particularly significant when one considers the heavy manual work that many women undertake. According to one survey (Department of Health, WHO, & SPC 1985), in some areas roughly 85% of women are involved daily in what is classified as moderate to heavy work.

A 1985 study indicated that unlike in many other Pacific countries, non-communicable diseases (i.e. hypertension, diabetes) are not yet prevalent in Vanuatu, although they are slowly increasing, particularly in urban areas (Department of Health, WHO, & SPC 1985). Cancer generally has a low reported incidence (UNICEF 1991). Of female cancers, cervical cancer is by far the most commonly reported, and between 1980 and 1986 accounted for 25% of all malignancies in women (UNICEF 1991).

To date, sexually transmitted diseases are primarily a problem of urban areas, where the major reported S.T.D. in 1987 was Gonorrhoea (UNICEF 1991). There have, as yet, been no reported cases of HIV infection in Vanuatu, although a health education program with regard to AIDS has already been in place for some time, since almost all neighboring Pacific countries have some reported cases.

Footnotes

¹For example, the National Council of Churches is a widely respected and very influential organization in Vanuatu.

²One must bear in mind that the reporting systems are not that reliable and many deaths and sicknesses go unreported. Most of these figures are estimates based on reported cases.

³Adequate latrines were considered to be either water-seal toilets or ventilated pit-latrines .

⁴At present (January 1994) the civil servants have been on strike for two months and this has interrupted services.

CHAPTER 5

METHODOLOGY

I) General Framework for Research

In this study, the ethnographic research method was used to elicit and analyze the health-related beliefs, preferences, and practices of a group of village women in Vanuatu. Although the domain of inquiry was very broad, the following questions were used to guide data collection and focus the research: 1) To what extent is improving health a goal or a priority for these women? 2) What sorts of health problems do these women experience in their everyday lives and what do they consider to be their priority health needs? 3) What health interventions do these women currently use and what etiological beliefs undergird them? and 4) How (through what or whom) are desired health changes to come about?

The broad nature of these guiding questions was intended to facilitate a research process that would proceed in an inductive qualitative manner rather than deductively from a predetermined framework. At the same time, the questions were designed to facilitate the collection of data that would result in a descriptive account that would be highly relevant when examined vis-a-vis the premises and presuppositions underlying the official PHC model. Ultimately the data collected would be used to address the following research concern: What is the relationship (i.e. "fit") between the health perspective of these women and the PHC framework? In what ways do the two correspond and where do they diverge? If there are dysjunctions between the two, how are they to be accounted for?

Table 1, on the following page, shows the relationship between each guiding question and the PHC model. It should be apparent that each guiding question calls into question some basic premises of the model. As with most ethnographies, the descriptive account resulting from this study (presented in chapter 7) comprises a broad and comprehensive picture, rather than a "neat" deductive-type answer to each of the guiding questions. The third column of Table A therefore is included so that the reader can see, at a glance, which sections of the ethnography apply to which guiding question¹.

II) The Research Method: Ethnography

Ethnography, which has a long history in anthropology, can be defined as "the descriptive analysis of a culture" (Robertson and Boyle 1984, 44). It is a research method that is used to develop an understanding of life from the "emic" point of view, that is from the perspective of the participants in the setting under study (Morse and Field

TABLE 1
AN OUTLINE OF THE LOGIC OF THE INQUIRY

| SOME BASIC PREMISES OF THE PHC MODEL | GUIDING QUESTION FOR THE ETHNOGRAPHIC INQUIRY | SECTION OF THE ETHNOGRAPHY ADDRESSING THE GUIDING QUESTION: |
|---|--|---|
| <p>* The attainment of health is a most important social goal.</p> <p>* There is a need for urgent action to promote & protect the health of all people of the world</p> | <p>1) To what extent is improving health a goal or priority for these women?</p> | <p>A) Health as a Priority for Women</p> |
| <p>* Health activities in any community should minimally include 8 elements :</p> <ol style="list-style-type: none"> 1. Health education concerning prevention and control of prevailing health problems 2. Promotion of food supply & proper nutrition 3. Safe water supply & basic sanitation 4. Maternal/child health care including family planning 5. Immunizations against infectious diseases 6. Prevention and control of locally endemic diseases 7. Treatment of common diseases & injuries 8. Provision of essential drugs | <p>2) What sort of health problems do these women experience in their every day lives and what do they consider to be their priority health needs.</p> | <p>B) Perceived Health Status and every day Health Problems</p> <p>D) Perceived Health Priorities</p> |
| <p>* Appropriate methods and technologies for improving health are those which are "practical, scientifically sound and socially acceptable".</p> <p>* Recommended interventions are oriented to bio-medical and socio-economic factors in ill health causation.</p> | <p>3) What health interventions do these women currently use and what etiological beliefs undergird them?</p> | <p>C) Common Health Practises and Interventions</p> <p>E) Perceived Etiology of Health Problems</p> |
| <p>* Community participation, self-determination, and self-reliance are keys to improving health.</p> | <p>4) How (through what or whom) are desired health changes to come about?</p> | <p>F) Change</p> |

1985). In health-related research, ethnography has recently been increasing in popularity, to a large extent because it can be used to direct attention to the beliefs and values of health consumers, as opposed to those of health providers (Leninger 1987). Health providers frequently incur difficulty and frustration precisely because they project onto other cultural groups the dominant health paradigm which they themselves use to interpret and understand health phenomena, incorrectly assuming it to be a universally shared perspective.

The ethnographer obtains ethnographic data primarily through participant observation and interviews. As the social structure, language, and world-view of a given cultural group are probed and examined, the researcher attempts to elucidate the beliefs, values, and understandings that characterize the group and ultimately to develop a subjective understanding of life from within the group's frame of reference. Whereas, in quantitative research, the objective is usually to determine the distribution of some predefined attributes within a population or to test the relationship between variables, in ethnography the researcher works inductively in order to produce a holistic account of the life (or a particular aspect of it) of a particular social group, an account that is characterized by richness, depth, and insightfulness (Morse 1986).

The choice of an ethnographic research method was based on several considerations. Given that this study involves a comparison (of the PHC model with the health perspective of a group of Ni-Vanuatu women), it could have been undertaken using a more quantitative methodology such as a survey. It was felt, however, that doing so would mean taking PHC concepts, a priori, and measuring them up in a setting where they did not originate and may well have little meaning. This would not only represent a form of cultural and epistemological imperialism but severely constrict the scope and nature of the data that could be collected. As Sturtevant (1964) has emphasized, irrelevant questions inevitably result in the collection of erroneous data. A fairer approach, it seemed, was to initially "bracket off" PHC (conceptually speaking) and to work inductively, attempting to develop an "emic" description that could later be compared with the model. It was the ethnographic method that best facilitated this research objective.

III) Study Setting: Access and Entry

This study took place in a coastal village on Malekula island, Vanuatu. The researcher obtained permission to conduct the study from the Vanuatu Department of Health in March of 1991. Once on Malekula, selecting the particular village in which to conduct the study involved consulting with the Malekula area district health supervisor, the

women's affairs officer, and the MCH Maternal and Child Health nurses who regularly visited in the villages to provide and conduct clinics. The researcher spent time with the MCH team as they conducted clinics in the villages of central Malekula. This provided an opportunity to become familiar with the area, informally meet with women in the villages, and obtain information as to which village would be suitable for the study. After some visits, one of two or three, "Nasilat", as it is referred to, was chosen. It was chosen on the basis of its size, its location (size (which meant there would be a large number of women from which to select key informants), its proximity to Norsup where the researcher would be staying (less than an hour's drive), and, most importantly, because it was by all consulted that the women, as well as the pastor of this village, were relatively poor and would permit the researcher to conduct interviews and observations.

After sending letters of introduction to the pastor of the church women's group, this was distributed to the women's affairs officer as the appropriate authority. An introductory meeting was arranged with the women's affairs officer and women were invited to attend. There was a meeting with the women at this meeting early to lobby for the study. At this time, the researcher introduced herself and explained the purpose of the study, the methods to be used, and how the findings would be involved, and the expected results of the study. The women's affairs officer translated the researcher's present and translated some of what was said into the vernacular for the women. After a short time, the women said that they would like to participate in the study. The researcher attended the women's meeting and discussed this as an initial basis for meeting with the women and to arrange to spend time with them. This was done in this way to begin making observations and conducting interviews.

IV. Data Collection

In this study, data was collected through interviews and semi structured interviews and observations. Data collection involved two phases. In the first phase, over the first six months of the study, key informants were identified using a relatively unstructured approach. In the second phase of the study, the data was collected through structured interviews and observations. The first interview was conducted in the first village, and the second interview was conducted in the second village. The first observation took place in the first village, and the second

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for which the interview guide was used) took place inside womens' houses or sitting on mats just outside. This allowed the researcher to interview the women individually in their home environments, which was of some importance in allowing them to feel comfortable and in control. Almost all of the formal interviews (conducted during either the first or second phase of the study) were tape-recorded; out of a total of 86 noted in fieldnotes, 81 were tape-recorded. In addition to these, there were also some more informal, shorter but significant chats that took place more incidentally while planting yams, for example, or carrying firewood. In these cases, it sometimes wasn't possible to tape-record the conversations but the data, as close to verbatim as could be recalled, were entered into fieldnotes immediately thereafter.

All interviews were conducted in Bislama. Bislama is a form of pigeon English spoken throughout Vanuatu, a lingua franca which allows communication between 110 distinct language groups. Although it draws heavily from English (and, to some extent, French) in terms of its vocabulary, it's grammatical structure and word usage is, to a large extent, Melanesian. As such, it is also reflective of some Melanesian concepts and cognitive categorizations. On north-east Malekula, most adults are fluent in Bislama. In Nasilar, although women usually conversed with one another in the vernacular, they also commonly used Bislama, particularly in more formal settings (i.e. during their weekly church women's group meeting) or when speaking with people who were not fluent in the vernacular (there were, for example, a few women who were from other language groups but had married and come to live in Nasilar). They also listened daily to national radio which was broadcast in Bislama. The researcher had a period of six months in Vanuatu to learn Bislama well before entering the research setting.

Although it would have been ideal to conduct the study using the vernacular, the time required to learn the language made this unfeasible. It could also have been conducted in the vernacular using an interpreter, but it was felt that this presented more disadvantages than advantages, the main one being that the researcher would be unable to detect whether the questions and the responses were being accurately translated. Although Bislama is a very simple language with a limited vocabulary⁹ and it was initially seen as rather limited for obtaining detailed and specific information, it was actually found to be quite adequate once learned proficiently. This made the whole aspect of interviewing much less complicated and within the control of the researcher than it would have been using an interpreter.

As noted, interviews were tape-recorded. They were then reviewed, usually on the same day, relevant portions being transcribed for further analysis. This was, particularly in the early phases of the study, very time-consuming since large portions of the interviews had to be transcribed, the

researcher having not yet identified particular patterns or themes to focus on.

Participant Observation

Following the classification scheme set out by Gold (1969), the researcher in this study took a role that is best described as that of "observer as participant", wherein the researcher both participates and observes but the relative emphasis is on the latter. During the eight months of fieldwork, the researcher visited the village at least two to three times per week (for three to six hours each time), usually starting in the early morning, in order to observe the daily life of the women and to conduct interviews. On some occasions, the researcher stayed overnight in the village, went for the evening, or arranged to be present for events of special relevance to health or to women. It was seen as important that observations encompass varying times of the day and the week in order to ensure representativeness.

Particularly during the first phase of the study, observations included the everyday activities of women such as cooking *lap-lap* (traditional food), caring for small children, working in the garden, cutting and carrying firewood, hauling water, washing clothes, and weaving mats. The researcher also attended the weekly meetings of the two women's groups in the village, the "Presbyterian Women's Missionary Union" which met for a devotional and work activity on Tuesday mornings, and the "Women's club" which met to do handicrafts on Fridays. Later on, observations also included some special activities of relevance to health such as traditional healing activities (i.e. *holem bel*) and the monthly visits of the MCH (Maternal-Child Health) team. Some social events, for example the village New Years Eve party, were also attended.

Early in the study, when observations had to be fairly broad and yet detailed, Spradley's "descriptive question matrix" (Spradley 1979, 82-3)¹⁰ was used as a reference to help ensure that maximal (so far as possible) breadth of information was consciously being taken into account. Shorthand fieldnotes were entered into a logbook during or following each visit and, within the day, entered into a computer file. Although the fieldnotes were initially of a very general nature (describing the village setting, the appearance and behavior of individuals, food, gardens, and so forth), they gradually became more focused so as to address the guiding questions outlined earlier and the particular themes and patterns that emerged in this regard. It was seen as important from a methodological and epistemological standpoint to make sure that the data obtained from observations were clearly distinguishable from interview transcriptions. As Werner and Schoepfle (1987) point out, while the former represent an etic and

potentially ethnocentric account of what is observed, the latter provide the basis for an internal view of the culture, in so far as they are products of the natives' minds. The same authors continue to explain that during the course of the fieldwork, the gap between the observations of the researcher and the informants' comments will narrow, ultimately leading to the best approximation of the internal view of the culture.

V) Data Analysis

In ethnography, data analysis occurs almost simultaneously with data collection. The relationship between the two has been described as a reflexive, even dialectical one in so far as data analysis and data collection constantly feed into and transform one another (Hammersley and Atkinson 1989). In this study, the particular data collected determined, to a large extent, the sort of analysis that could take place, while the analytical findings (i.e. the particular themes and patterns that emerged in the course of the analysis) directed and refocused the process of data collection. In addition, inconsistencies and potential sources of bias that were identified during data analysis could then be examined and then dealt with in the ongoing process of data collection.

The first step in data analysis was for the researcher to immerse herself in whatever data had been collected through a careful reading of it. Several ethnographers have emphasized the importance of this as a first and ongoing step since it allows the researcher to attend to recurrent statements, action modes, and themes (Leninger 1987; Hammersley and Atkinson 1989). After being in the study setting for about three months, it was possible to begin identifying the latter and then to begin to sort, code, and classify data accordingly. The classifications utilized at this stage were fairly broad and tentative so as not to prematurely narrow the focus of data collection. They corresponded to a variety of topics and themes including, "reproductive concerns", "gardening", "traditional health interventions", "marital transactions", and so forth. Initially about twenty files were in use but as the study progressed the files narrowed to about ten, which were later subdivided again (for example, the section on "traditional health interventions" had to be subdivided a further five times). Although it would have been ideal to use only emic categorizations (i.e. those reflecting indigenous concepts and using the language of the informants themselves) to classify the data collected, the level of knowledge acquired by the researcher did not make this possible. So although the information collected was "emic" in nature, the way in which it was classified reflected, to a large extent, categories and conceptualizations of a more etic nature. Although ideally ethnographies should be as "emic" as

possible, realistically, as Robertson and Boyle (1984) point out, most involve a combination of both emic and etic components.

Checking and rechecking hunches and hypotheses with information from interview transcriptions and ongoingly with informants was, as mentioned earlier, also an important part of data analysis. This, as Werner and Schoepfle (1987) note, is important in minimizing the development of an account that is ethnocentrically biased by the researcher. Identification and examination of inconsistencies in the data base was also important. For example, the accounts of different informants with regard to the same health phenomena sometimes did not correspond¹¹, and sometimes the researcher identified discrepancies between verbally expressed beliefs and observed behavior. With time it became obvious that these were not necessarily indicative of methodological error but rather could serve as "epistemological windows", that is sources of insight into the native world (Werner and Schoepfle 1987). Sometimes, for example, such inconsistencies revealed the gap between perceived "correct answers" and deeper underlying values and interests (i.e. some women verbally articulated the importance of preparing meals for their families which included the three food groups, while, by their actions, indicating that getting work done in the garden was a much higher priority).

Gradually, as the data base increased in density, particularly during the second phase of the study, the researcher was able to describe more extensively the particular health-related beliefs, meanings, values, and behavioral patterns that characterized this group of women and to provide an account that could answer the guiding questions initially delineated. This account (given in chapter 7) constitutes what would probably be classified as a "thin" ethnography with some "thick" (analytical) features interwoven. A "thick" ethnography does not merely describe a cultural group in a broad, relatively superficial manner, but ultimately addresses the underlying question: "What social meanings and cultural biases lie at the base of social action?" (Morse and Field 1985, 22). In the case of this analysis, there is an ongoing attempt to relate observed health behaviors, stated concerns, and explanations to the underlying social and cultural features of the society, the explication of which is essential to understanding them.

Returning then, to the original research concern, the final phase of the analysis (see chapter 8) involves examining this descriptive account as a response to the four guiding questions delineated earlier and thereby as a context against which to evaluate the viability of the PHC model. In effect, in this final phase, the first and second columns of Table 1 are juxtaposed and compared. The more theoretical discussion that then ensues draws on insights from sociology of knowledge, as well feminist theory, in

order to make sense of the study findings by situating them in their larger social context.

VI) Ethical Considerations

Although there were no direct benefits for women participating in this study (i.e. material or monetary gains), the project will hopefully benefit them in indirect ways. Firstly, a study report (a report containing the findings found in chapter 7 of this document) was submitted to the Vanuatu Department of Health in February of 1993. It is hoped that the submission of this document will contribute, if even in some small way, to better aligning health and development planning with the felt needs of women. Secondly, many women who were interviewed used the opportunity to obtain health information or to discuss personal health problems with the researcher. In this sense, participating in the project had some educational benefits. Thirdly, it is suggested that many women who may have initially felt shy or lacked confidence with regard to participation, not only enjoyed expressing their thoughts and opinions, but also felt affirmed and validated in the process of doing so (in so far as they saw that their thoughts and opinions were taken seriously and considered important). To the extent that this was the case, the study will have also contributed to the empowerment of local women (individually and collectively), particularly by increasing their confidence in identifying and addressing their health-related concerns.

Although there was minimal risk of direct physical or psychological harm for individuals participating in this study, there was some risk in terms of psychological vulnerability. Some women, for example, would have had misgivings about being observed, about being interviewed on personal matters, or about communicating thoughts and beliefs that were, to their minds, liable to be misunderstood or critically evaluated by a non-native. It was here that the ethical standards of privacy were important so that the community and individuals within it maintained the freedom to decide where, when, and to what extent their beliefs, thoughts, and experiences were communicated to others (University of Alberta, 1985).

At the national level, permission to conduct the study was obtained from the Health Information and Research Committee of the Department of Health, as well as from the National Planning and Statistics Office in March of 1991. At the local level, as noted earlier¹², verbal informed consent was obtained from the village women as a group. Verbal informed consent was also obtained (and tape-recorded) from each individual informant before interviews were conducted (since the majority of these women had only some primary education, written consent was untenable). At this time, each woman was again told of the rationale for the study,

the methodology involved, and the expected uses of the study findings. The tape-recorder was shown to each woman and her permission was asked with regard to being tape-recorded. Each informant was assured of confidentiality and anonymity; she was told that the cassettes would not be shared with others but would be used only by the researcher to aid in recalling what had been said. She was also assured that neither her name or the name of her village would appear in the final report. The researcher also made it clear that during the interviews, informants were under no obligation to answer every question were they to find there were some things they would prefer not to talk about.

It is possible that the women may have felt pressured to participate in the study because of the researchers association with the health department and the women's affairs officer, despite the attempts of the researcher, particularly during the initial meeting with all village women, to make it clear that participation was a completely voluntary matter and that other villages could be approached if Nasilar woman were not interested. In actual fact, although the women as a whole agreed quite enthusiastically to participate, there were individual women who declined. Although none declined verbally (at least to the researcher), there were a few who did so non-verbally by being absent (having gone to the garden) on the day of their scheduled interview. Of those who participated there were also a few who declined discussion on some matters, but again this was usually done indirectly, i.e. by claiming to have no knowledge or opinion with regard to a given topic. Although these women were few in number, they do illustrate the fact that women had ways of declining participation if they so desired. An important ethical role for the researcher was to accept and affirm the choice of these women, despite the fact that some of the women's leaders expressed disappointment towards those individuals who chose not to participate.

At the end of the study, the researcher held a formal meeting with the village women to present the main findings of the study for their review and to thank them for their participation. Although the women seemed to appreciate this gesture, it was difficult for the researcher to obtain validation on more than a few of the major points in the completed report, since by then it was quite comprehensive as well as abstract in some parts, requiring more time and attention to validate than most women were interested in giving. (In fact, uninterested in discussing the whole report, the women seized the opportunity to discuss again with the researcher various methods of family planning). A few weeks later the women organized a feast for the researcher and her family as a way of expressing their appreciation.

VII) Issues of Validity and Reliability

Validity

In quantitative research, various measures are taken to ensure the validity of tests and instruments as measures of the phenomena being studied. In qualitative research however, the main research instrument is the researcher herself, using her skills of interviewing and observation. In this case, the term "validity" is better applied retrospectively to the data that has been collected. For one thing, the findings, in this case the resulting descriptive account, must be verified by informants as an accurate description of their way of viewing the phenomena at hand (Spradley 1979). As previously noted, in this study, village women themselves, as well as secondary informants, were involved in validating the descriptive account. Although secondary informants were able to read and assess the final written product, for primary informants (the village women themselves) this represented an untenable ideal, given that it was written in English at a post-secondary level. It was much more feasible to obtain their validation for smaller portions of data at a time, as an ongoing part of data analysis. Indeed, as Robertson and Boyle (1984) emphasize, the fact that data collection and data analysis go on almost simultaneously in qualitative studies is important in ensuring the validity of the findings; any discontinuities, contradictions, or puzzling features that might point to errors in the emerging descriptive scheme can then be addressed in subsequent interviews. Other factors that help to establish the validity of the study findings include the fact that behavioral observations supplemented interview data, that the researcher spent a relatively long period of time in the study setting (over a year on Malekula island), and that data analysis was both intensive and extensive (Robertson and Boyle 1984).

Although the researcher became proficient in Bislama, the fact that it was still a new and not entirely mastered language¹³ meant that language represented a potential threat to the validity of the findings. However, tape-recording the interviews meant that they could later be reviewed so that lost points could be recovered and any ambiguities sorted out with the help of books (i.e. bislama dictionaries), other bislama-speaking people, or subsequent interviews.

Representativeness and Generalizability

As noted earlier, the objectives of this study and the methodology employed meant that a high priority was placed on obtaining information of a rich and meaningful nature and less on attaining findings for which representativeness and generalizability could be scientifically assured.

Nevertheless, questions as to the representativeness and generalizability of these study findings are important to address.

In qualitative studies, any informant belonging to a specific cultural group is assumed to represent that group and the findings of a good ethnography are assumed to have *some* "fit" in related contexts (Sandelowski 1986; Denzin 1978). Rather than focusing on representativeness in sampling however, the qualitative researcher considers representativeness, or more specifically the dangers to representativeness, at the time of data analysis: the researcher must, for example, discern the typicality or atypicality of observed events, behaviors, and responses. Sandelowski (1986) notes that failure to do so can result in "elite bias", in which case stories of key informants (who are frequently articulate, accessible and higher-status members of their group) are overweighted rather than placed in their proper perspective, or in "holistic fallacy" wherein data are made to look more patterned or regular than they really are (Sandelowski 1986). The researcher was attentive to these dangers in so far as a wide range and large number of women were interviewed and observations encompassed a variety of times and places.

As noted earlier, there were some questions included in the formal interview guide which were systematically asked of *all* women interviewed (the responses to which could be tabulated numerically) and representativeness in the case of the data obtained from these particular questions is obviously very good (since over 90% of the village women were interviewed). However, the majority of the data were collected in a more qualitative manner and the above paragraph discussing the importance of checks on representativeness in the context of qualitative approaches is of greater relevance for the study as a whole.

If the findings of this study then, can be said to be reasonably representative of the women in Nasilar, how generalizable are they further afield? Obviously, in the traditional scientific sense, the methodology employed in this study does not permit the researcher to make any generalizations beyond the village setting. However, common sense would suggest that in so far as women in Melanesia do share many common cultural characteristics, lifeways, and circumstances, the findings of this study will have some "fit" and therefore relevance in other village contexts, certainly within Vanuatu, and quite possibly also further afield.

Reliability

Reliability, which is usually taken to be a necessary precondition for validity, is more difficult to ensure in qualitative research. This is because techniques for gathering data are highly individualistic (in this case involving an intermingling of unstructured interviews, semi-

structured interviews and observations) and one is less able to prove that a subsequent study using the same research method would yield a similar result (Robertson and Boyle 1982). Guba and Lincoln (1981) suggest that in qualitative research "auditability" should replace reliability. "Auditability" is present when another researcher can follow the "decision-trail" used by the investigator and also when it is felt that a second investigator could arrive at a comparable conclusion given the same research data and situation. To make auditability possible, detailed documentation of the research process is important, including the manner in which the data are collected, categorized, and analyzed, as is the availability of the original (raw) data obtained from observations and interviews. In this study, original tape-recordings, transcriptions, and fieldnotes were kept, as well as copies of the data at various stages of coding and analysis. All of this helps to ensure that the study is auditable.

Footnotes

¹Although it might have been ideal to organize the sections of the ethnography so as to chronologically answer each of the guiding questions, it was seen as preferable to organize the account so as to maximally facilitate understanding. For example, some sections of the ethnography were closely related and built on each other and were, therefore, best presented in sequence despite the fact that this meant the guiding questions were not chronologically answered.

²Interviews were conducted in Bislama, a form of pigeon English. The use of Bislama is discussed later on.

³"Saturated" is a term used in qualitative research. When the data are not saturated this means that there are still a lot of "blank spaces" in the account and there is therefore still a lot of new information to collect. When one is no longer collecting any new information, then one can assume that the data are saturated. See Morse (1986).

⁴This is another kind of sampling sometimes used in qualitative research. In this case, the researcher has informants suggest friends or others who they feel could also provide useful information for the study. These individuals then become informants and these, in turn, suggest others (Morse 1986).

⁵I heard, for example, about one occasion when a nurse had come and given a talk on "family planning" methods. Apparently the younger single women who were present were asked to leave.

⁶This is relatively speaking. It is recognized that it is impossible to come into a study situation as a "blank slate", that one always uses, to some degree, a predetermined framework.

⁷Admittedly, this had also some disadvantages which I had to attempt to "off-set", for example women telling me what they thought a "health" person might like to hear.

⁸There is obviously a range of verbal interchanges, some of which can provide data, from the shortest and most superficial to the longest and most intense. Obviously it wasn't possible to tape-record all of these. Therefore I arbitrarily consider a formal interview an interview which was usually prearranged, the main purpose of the exchange being to interview, as opposed to a shorter less formal one that was incidental to another task.

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belongs to the local government council. A village committee with responsibilities pertaining specifically to health has never been formed. There was a water supply committee in existence three years ago when, for a short time, the village had a functioning piped water system. The system is no longer functioning, however, and the committee has long been dissolved.

Every household in Nasilar has access to land and almost everyone plants copra and cocoa in addition to their forest gardens. A few families have livestock: seventeen are reported to have cattle (usually one or two head) and there are five families who own horses. There are three men in the village who own trucks. A few families are active in business; one, for example, owns a chain of small stores which sells domestic goods such as tin foods, sugar, rice, and kerosene. Another runs a "nightclub". In the case of the latter, a large traditional building had been erected by the side of the main road and people (the majority of which are men from neighboring villages or further afield) congregate there on Friday nights to dance and drink.

The villagers sometimes travel by "mini-bus" to Norsup and Lakatoro which are the main administrative centers for the island. The buses charge 100 vatu (about one Canadian dollar) for the twenty minute drive each way and even though some villagers complain about the cost, it does not seem to be prohibitive. Some frequent Norsup in order to go to the stores (there are three or four that offer more variety than the local ones) or to sell their produce at the market.

Others in order to visit the district hospital which has an active outpatient department. Although there is also a government dispensary not far north of Nasilar, most villagers choose to come to the hospital, as transport is not a problem and the quality of care is considered to be better.

The Everyday Life of Women

For the women in Nasilar, the day begins early. Not long after the roosters have started crowing and the sun has begun glowing red on the horizon, they are up carrying kindling and firewood into their kitchens. As each fire is lit, a grey stream of smoke curls upwards into the morning air. Some women can be seen returning from the well; each has a long piece of bamboo balanced across her shoulders with plastic buckets full of water suspended from each end. Water will be heated on the fires for tea, the remainder used later for washing dishes and other household tasks. The children mustn't be late for school: their mothers hurry to wash and eat, and pack their lunches for them, usually rice or *lap-lap*⁹ bundled in banana leaves.

With the children off to school, the women have a minute to eat breakfast or even to steal a quick nap. But they are anxious to complete their morning chores so that

they can set off to the garden and get a good portion of work done before the sun gets too high in the sky.

First, there is the housework. Grass mats are taken outdoors to air and the floor is swept with a broom made from the stems of coconut leaves. Next the dishes, which are usually few in number, are washed just outside the kitchen and placed on a wooden rack to dry. Iron cooking pots are taken down to the nearby beach where the sand is used as an abrasive for scrubbing. Then the family's clothes are washed; they are submerged in a large tin basin of soapy water, scrubbed vigorously with a bristle brush against a wooden board, wrung out by hand, and then hung in the hot sun to dry. Some women prefer to carry their washing to a location nearer the well itself in order to avoid walking back and forth with heavy buckets of water. But most prefer to wash nearer their homes, usually choosing a cool place under a shade tree. The animals have yet to be fed; old coconuts and other leftovers are carried to the pigs, most of which are fenced just outside the main village.

The women move and work at a pace that is steady but not hurried; there is time to chat with a neighbor who is passing by, to ask her about her plans for the day, to "story" a little. For those with infants and young children, there are many interruptions and the work progresses more slowly. Sometimes a young girl or a grandmother will look after a baby while his mother works. Other times the baby is fastened comfortably to his mother's back while she goes about her morning's activities.

Once the housework is finished (or sometimes before—especially if it is planting season), the women are off, bush-knives in hand, to the garden. They are usually accompanied by two or three other family members or sometimes by their husbands. Typically, they are barefoot and dressed in their oldest, most tattered, "island dresses"¹⁰ now relegated to garden use. The latter usually forms a second layer of clothing protecting another dress worn beneath, and under this, a layer or two of shorts, lest one be exposed by a sudden gust of wind.

Some gardens are as close as five minutes walk away, others as long as one and a half hours depending on the location of the family's *graon* (land), that is the husband's family's *graon*. Each extended family will have a large section of land which will have been parceled off, an area designated to each of the sons. Hence it is often sisters-in-law who are seen walking together to do the garden work. Unmarried women work in the gardens of their parents until they marry and go to live with their husband's clan.

The women appear to enjoy the walk to the garden, smiling and talking, swinging their bushkives to remove obstructive vines as they go along. There is a creek to wade; the clear cool water is a welcomed tonic in the hot weather. There are usually several stops along the way; to check another family member's garden, to collect banana

leaves, to carry some vegetables or fruit to transplant in another location.

During planting season (roughly July to December), gardening work can be quite intensive and the women will spend up to six days of the week in their gardens. Women with young babies, and a supportive extended family, can sometimes leave the gardening work for others until the baby is at least a few months old and can be more easily carried to the bush. Likewise, especially if the garden is quite a distance away, small children will sometimes be left in the village under the supervision of a relative. But often small children go along to the garden as well, tied in a *kalico*¹¹ to their mothers' back or trundling along side. If possible (sometimes, because of schooling, it is not) young girls of the extended family will come along to look after children in a shaded area while their mother works. Girls of only ten or eleven can be quite adept at caring for their younger relatives; entertaining and supervising them, finding food for them, making fires and cooking for them.

Garden areas must be cleared and burned, then there is the planting, tending, and harvesting. The women plant traditional crops such as yam, taro, banana and island cabbage, although they also plant vegetables such as tomatoes, onions and cucumbers which are popular for selling at the market in Norsup. Some of the planting is not difficult as the foods are found naturally in the environment and require only transplanting into the garden area. For example, planting island cabbage involves only loosening the soft black soil with a spade or a bush-knife and then gently inserting the branches into the ground and packing the dirt around them with one's feet. Planting yams however, can be very hard work. For some yams, a circular hole has to be dug, almost 2 feet in depth. For this, a heavy iron bar is used to loosen and break-up the soil, which is then scooped out by hand. The person pounding usually takes several rests, leaning against the bar, wiping the sweat from his or her brow. One woman told me that she sometimes planted up to fifty yams in one day.

There is no longer a strict division of labor when it comes to gardening work; men or women can perform any of the required tasks although it is thought most appropriate for men to do the heavier work such as clearing the garden areas or digging the holes for the yams. Although some men, it was observed, did undertake these heavier gardening tasks, several women complained that on Malekula women often did the work of men, performing much of the heavy work themselves.

Although the main purview of the women is seen to be domestic gardening, they are often expected to help out with the cash crops as well, particularly with copra. Shelling-out copra involves gathering coconuts into piles, splitting them open with an axe or bushknife, and prying out the contents (the oil-yielding kernels or "copra"). The copra is then dried in a large bin over a fire, put in gunny sacks,

and sold to the "middle-man" who ships the product off to the city of Santos¹². Women stated that shelling out copra, and carrying the heavy gunny-sacks, was very tiring work and that they much preferred working in their domestic gardens.

Although women often spend the full day at the garden (or nearby in the copra grove), they seldom need carry anything to eat or drink. Bananas, paypayas, and other fruits can usually be found in the garden or nearby in the bush. At noon, they usually make a fire on which taro, corn, or banana are roasted. When thirsty, a long piece of bamboo is used to prod and dislodge green coconuts from the tops of the coconut trees. Banana leaves, which grow abundantly, are used for a multitude of purposes; to sit on, as plates for eating, to provide shelter from the rain, and to wrap garden produce in. Barring cyclones, the bush is a place of abundance, and despite the hard work of gardening, not an unpleasant place to spend the day.

In the late afternoon the women can be seen returning from their gardens laden with vegetables, fruit, banana leaves, and/or firewood. Sometimes their heavy loads are fastened to their backs with *kalicos*, other times the goods are wrapped in leaves and vines and suspended from a long stick of bamboo which is carried between two women. Sometimes the women's husbands are with them, also carrying a heavy share of garden produce. Other times the men return to the house separately - from working on the cash crops, fishing, or sometimes from just "storying" with other men.

Not long after returning home, the women start preparing the evening meal, which is almost invariably¹³ *lap-lap*, the traditional mainstay. Yams and coconuts are grated, the fires, on which the cooking stones will heat, are lit. Banana leaves and vines, in which the lap-lap will be packaged to roast, are carefully laid out. Almost always, I was told, cooking was the work of women, although there were said to be a few men, considered atypical, who did help out their wives from time to time. Women were not allowed to cook, however, during their monthly period, at least not for men. This "taboo" was strongly adhered to and it was believed that carelessness in this regard could cause men illness. During this time, the menfolk of a women's family would eat with other relatives. A menstruating woman was allowed to cook for herself, for other females, and for young boys, but never for men.

Around dusk, the men begin to disappear; it is kava time, when they congregate in the *nakamal* to pound and prepare kava, to discuss, to "story", and then to *lisen*¹⁴ while its sedating effects take hold. Whilst once a ceremonial custom, it has now become a nightly routine for many. Although there are a few women in the village who drink kava from time to time at home, they would never consider entering a *Nakamal* since this continues to be a strictly male domain. Men's kava drinking is accepted by women, quite pragmatically, as a normal part of everyday life; but many complain that it means they have no help with

the children in the evenings, that the men come home late, only to eat and sleep. Some concede that at least its effects are better than that of alcohol.

While the *lap-lap* cooks, some women find time to go fishing off the reef or to sit down with their children near the sea where there is a cooling breeze. Sometimes they can be found in groups of two or three weaving mats; this is a time to relax and socialize together. The mats, which are woven from the dried leaves of the coconut or pandanus tree, are sometimes sold at the market in Norsup but more often, they are constructed for domestic use or as gifts. Traditionally, they have always been important objects of exchange.

As evening falls in the village, kerosene lamps are lit and can be seen flickering behind bamboo walls. Mothers are heard summoning their children from playing outdoors; they need to bathe and, in the modern era, to do their homework. The *lap-lap* is also ready to come off the fire and the hungry children sit down, arranging themselves in a circle around the bundle, which their mother carefully unwraps and lavishes with coconut cream. In some households the father is home by now and the family will eat together; in others he will be out until much later. Not long after eating, the sleepy children settle on their mats for the night. Now their mother's work is complete; wearily she bathes, goes to her mat, and falls asleep.

Footnotes

¹*Bigman* is a bislama term commonly used. It means an important person; one of high social or political status.

²*Kastom* is a bislama term used in a variety of contexts to refer to custom, i.e. to traditional ways of doing things.

³*Natanggura* are thatch slabs woven of leaves from the sago palm.

⁴He mentioned that the present population would be slightly higher as several babies had been born since then.

⁵I use the term "story" because the word they actually use in bislama, *storian*, is derived from the english word "story". To *storian* means to visit, chat, yarn, swap stories. It is a very descriptive term and I have chosen to use "story" as its closest english equivalent.

⁶There are sometimes exceptions. For example, a couple may choose to live near a wife's aging parents if there are no sons in the family to care for them, or if there are severe family tensions between parents-in-law and a daughter-in-law, the couple can sometimes relocate in the vicinity of the wife's father and brothers (I knew of one couple where this was the case).

⁷It is used in the area extending from Atchin in the north to Wala, Rano, and Uripri islands, and south to Potinder on the mainland.

⁸*Nakamal* are common throughout Vanuatu. They are traditional buildings or sometimes designated areas (i.e. under a large banyan tree) that are the central meeting places in the villages. Commonly there is restricted access to them, preventing women, and sometimes men of low status, from entering. Kava, which is a mildly narcotic drink made from the kava plant (*piper methysticum*), is drunk by men in the *Nakamal*. Traditionally, kava was important for religious and political ceremony and in modern times it continues to have to have social, political, and ceremonial importance. In most villages kava drinking is an important part of every day life; every evening men congregate in the *nakamal* to "story" and to drink. Although today some women drink kava, they generally do not enter the *nakamal* in traditional village settings.

⁹*Lap-lap* is a traditional dish, a sort of starch pudding made from tuber (root crops). Usually yam, taro, or banana is grated, mixed with coconut milk, wrapped banana leaves, and then placed on hot cooking stones to roast.

¹⁰Island dress, or *aelan dres*, as said in Bislama, is the name for the Mother Hubbard dresses introduced by the missionaries during the nineteenth century. They are commonly worn by women throughout Vanuatu. They are colorful loose dresses with lace and ribbon trim.

¹¹This is a bislama term meaning cloth or clothing.

¹²The final product is coconut oil.

¹³There were occasions on which other foods (i.e. rice, boiled taro, kumala, breadfruit) were eaten, but in this village it was common to have lap-lap almost every evening.

¹⁴*Lisen* is the Bislama equivalent of the english word "listen" although it has a much broader meaning. It means to pay attention or "tune into" something, often to bodily sensations. The word is commonly used to describe what men do after they have drunk kava, that is they paying attention or "tune into" its effects (it has a very sedating, quieting effect).

CHAPTER 7

THE STUDY FINDINGS

A) Health as a Priority for Women

They [the women here] work hard, they grow lots and lots of food and they get money for it too...if you try and make them think about health... they aren't concerned at all, they don't think much at all about the sickness that can come, all the women in this village, they don't think about it. They get up in the morning, they drink tea, O.K. they shoot for [go directly to] the bush and work till its dark...all the mothers in this place, they don't think seriously about health...the nurses come and talk about the many bad things that are affecting our health. All the women come out and listen but they don't do anything.

The above statement, made by one informant in this study, encapsulates well the situation and sentiments of Nasilar women. Women were found, in general, to have little time for or interest in health-related activities such as attending health education talks, participating in village health initiatives (such as cleaning the village and cutting the grass to decrease mosquito breeding), or even in terms of giving priority to basic nutritional and hygiene needs of children. Of all of the women interviewed, all but a very few said that they felt women were much more concerned about gardening than about health:

I don't think they're very concerned [about health] ...cause look, when you wanted to hold a little health talk in the center, they didn't come, they don't think about this [health], they think about their gardens... some have interest but some haven't...if you talk about this [health], they don't listen, when your thinking is on this big issue here, their thinking is a *long* way off, a *long* way off from anything you might be telling them...its at the garden.

...they think about yam, they think about planting food only...if you talk about health, if you talk about this good thing here (health), what you've been talking about together stays right there where you've been talking about it [it doesn't move or have any effect]...that's it now, all the women go to the bush, carrying their bush-knives, they shoot [go directly] for the bush, now [since the cyclone] they're strong on planting sweet potatoes.

I think they think only about their work in the garden...in the morning...in the morning, they get up,

they go...they don't think first, they don't think about doing anything at the house.

...they forget health--they think only about the garden, cause they want money to buy some things.

Some informants emphasized as well, that the availability of curative services, that is the presence of the hospital, was very important to women, but that they had little time or energy for preventative endeavors such as health education:

...they just come and they listen, then it's over [they don't do anything]. When malaria catches one they fall down...then they think only of the doctor..."take me to the hospital" [they say], "the doctor will make me alright, then I'll come back."

When they go to work in the garden, if they get sick, they have to go to the hospital - but if you try and explain something [about health] so they can understand it, they don't want it! oh...all the women here, sorry!

Some informants commented that women participated in health activities primarily because they felt obligated to come (i.e. to show a good community response) but the motivation to follow through on advice or teaching given was often lacking. Some of the women commented that the only time the village really got cleaned was when Rural Health told them of an upcoming village competition, usually organized as part of the activities of "National Health Week":

When "Health" comes and says "you guys clean up all the villages"...O.K. at this time we clean...but since then there's been nothing at all...the grass grows but...[no one does anything about it]. But if health week comes and we are told that they [the Rural Health staff] will come and visit...that's it, we clean the village--this was last year, this year I think it won't happen [since there is no competition in this area].

If "Health" sends a letter to the chief, it says that next month they will all come and visit, all the women turn up...but *after* they don't worry, its over, its over...

Quotes as to the priority of gardening or going to the bush (the latter being inclusive of domestic gardening as well as helping with cash crops) became replete in the interview transcriptions. Observations recorded in field-notes concurred that most women expended the best of their time and energy on gardening activities and that the health of themselves and their families was considered secondary.

Some women, for example, had young children with severe scabies and who were obviously underweight. While they liked to ask my advice and see if they could obtain medicine from me, often they did not follow through with advice given because of other priorities. For example, although I told them that the day the MCH team came they could come and get scabies lotion, some of them went to the bush instead. Likewise, small children were often taken with parents to the garden and given food that was convenient (i.e. ripe bananas) despite the fact that knowledge about the importance of the different food groups was quite well known and at least two of the three food groups were usually available. There are, of course, a multitude of factors that could explain these behaviors, but the evidence from this study would suggest that the time and energy invested by mothers in gardening activities makes other priorities secondary. Some women stated that they rarely participated in any community activities because of their workload. This seemed to be especially the case with women who had several young children. Leaders of the women's groups in the village complained that the turnout for women's activities was poor:

I look, ... if its our time on Tuesday [for Presbyterian women's group], we ring the bell to go to church, there are only a few [women]. So *where* are all the women that live in this village? ...every one, when they hear the bell in the morning they pass, using another road, and go to the bush..they go to their gardens.

National studies have underlined the important role that women play in terms of domestic and cash cropping and the time and work pressure this means for them, especially in areas like Malekula where, relative to other islands in Vanuatu, people are very active in cash cropping. In 1989, Malekula produced over 28% (the second highest of all islands in Vanuatu) of the country's copra and over 60% of the cocoa (Republic of Vanuatu 1990). These figures are accounted for, to a large extent, by the presence of two large plantations on the island but smallholders (i.e. household units) are also very active in growing and processing copra. According to 1989 figures, 95% of households on Malekula have access to coconuts and the percentage of households to have cut copra in the twelve months preceding the smallholder survey was 84% ,the highest of any island in Vanuatu (Republic of Vanuatu 1990). Women themselves told me that all families in the village grow and process copra. Although these cash crops are considered to be primarily the purview of men, women are expected to help.

Although both men and women are active in domestic gardening, this is considered to be more the purview of women, and although there were some exceptions, most informants felt that they did more work and carried more of the responsibility for gardening than their husbands:

I think that it's all the women now, they do the most work in the garden. Because I look and I see that sometimes a man will just stay at the house, he doesn't think to go to the garden to work or to carry food and bring it to the house...the woman now, she's there and she must think about going to the garden.

In addition to providing food for domestic consumption, many of the women in Nasilar sell their garden produce in the market at Norsup. "This place is strong [keen] on selling at the market," I was told on my first visit to the village, "because it's full of food." The soil is rich and fertile and, barring cyclones, the women are able to plant and harvest a large surplus to sell. This provides a welcomed extra income but also means that their workload is considerably increased when coupled with gardening for domestic consumption and helping out with the production of copra and cocoa. The agricultural census report (Republic of Vanuatu 1986) found that in the Malekula area, higher than average (national average) proportion of time was spent on cash crops by women and a lower proportion of time was spent by men in these regions on food crop production. This means that women on Malekula have an especially heavy workload when food crop production is combined with cash cropping.

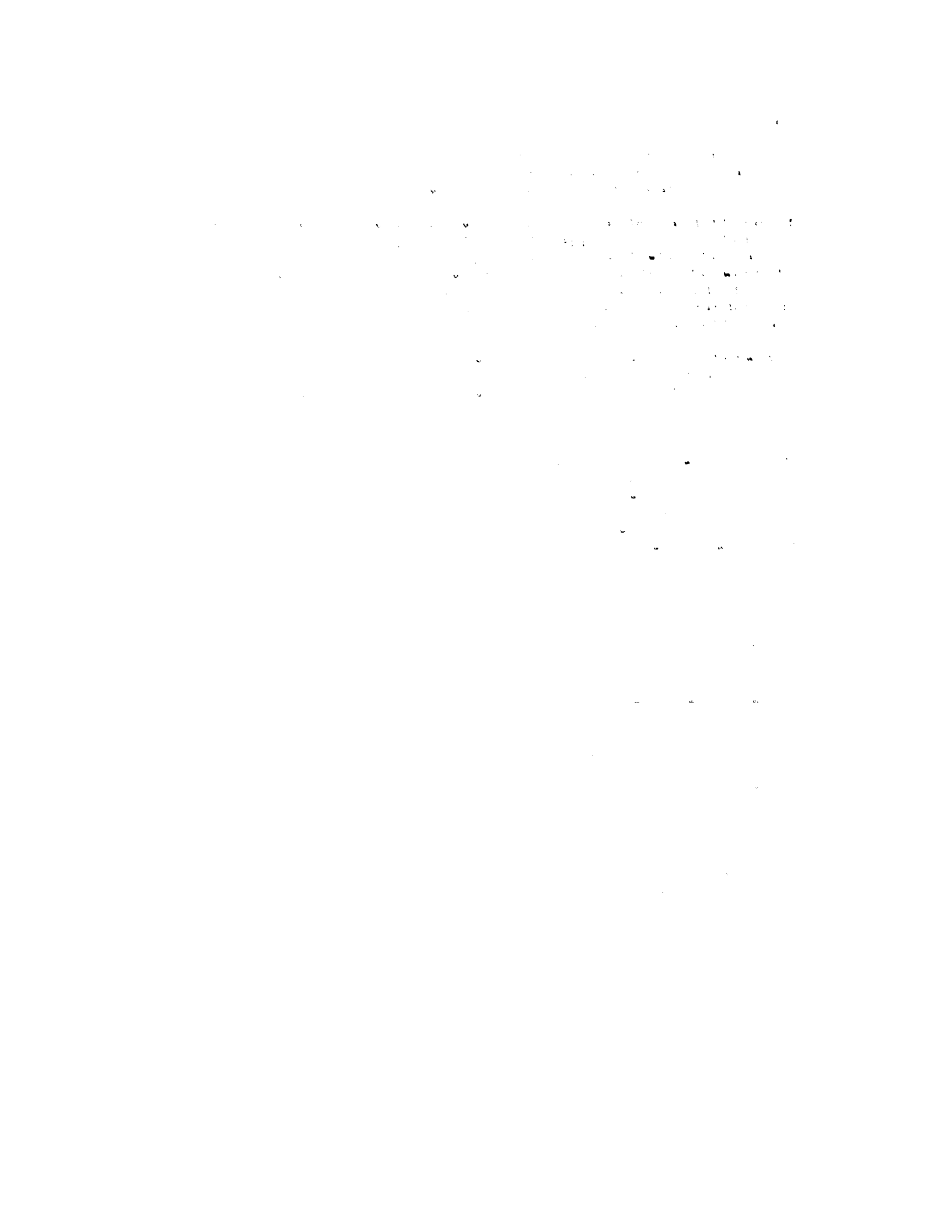
Putting "objective" data to the side, however, the motivating factors for gardening that women themselves disclosed were also investigated in the course of this study. It was obvious that women not only spent a significant proportion of their time and energy on garden activities, but that they were also quite internally motivated to do so. Explanations as to the impetus for gardening revealed a number of motivating factors.

Some informants, when asked to explain why gardening was so important to them, seemed to feel that the question was unnecessary and the answer redundant. They explained that having a garden was basic to survival and an important source of security. It meant that they would have food for their family regardless of whether or not they had vatu:

If you have no food, what are the children going to eat?... the life of everyone, it is in food...if you don't have money, but you have food, you'll be alive.

Man is alive because of the garden only...when you get up in the morning, you think only of the garden, you go look for food for the children.

For many informants, the main impetus for gardening was said to be the cash income that one could acquire by selling garden produce. Every Saturday morning before sunrise, several of the women of Nasilar load up their vegetables and fruit, climb into the back of a "pickup", and



This same informant explained that although *her* husband never forced her to go work in the garden, that she, herself, sometimes felt obligated to go for these reasons, even if she wasn't feeling well.

In conclusion, the time and energy women expend on gardening preclude a high degree of investment in activities that are more specifically health-related. One informant summed it up this way:

There's not much worry about health...cause I look, I see that every morning you get up, you carry your bush-knife, you go to the bush - you don't think about your body anymore, you think about the work you're going to do...if you really thought well of your body, then you'd stay at the house and clean up well, only sometimes you'd go to the garden.

The fact that women felt they could not afford to make health a priority did not, of course, mean they had no health concerns. In fact, as some of the subsequent sections of this paper show, informants identified several health issues that they felt were central to improving the life of women and some were quite desperate to obtain health information that they felt could improve the quality of their lives.

B) Perceived Health Status and Everyday Health Problems

When informants were asked open-ended questions about the health status of the village women, many of them found it difficult to generalize about the health of women as a whole. One informant said "I don't know...you and I see the women ...they are walking about, but we don't know...they walk about, they do go to the garden". Another said, "I think there are some who are sick, but they don't say". Women did not seem to be accustomed to making generalizations of this nature, many of them finding it quite difficult to formulate an opinion. Also, it seemed that many women simply felt they did not have access to this sort of information about other women. Some said that women were reluctant to share personal health information with one another. As the above quote illustrates, some women felt they could only make inferences from what was outwardly observable (i.e. they could see that women were at least well enough to go work in the garden).

Of those informants who were able to respond to the question (see appendix 1, question B]2) many felt that the health of women was good at present, or at least unremarkable. When asked about the health state of the village women, they typically replied "they're good" or "they're strong". The following are some of the remarks that this group of women made:

My feeling is that they're quite all right...cause they do a lot of work.

I haven't heard that they're feeling tired, they feel quite all right, they're not sick...its like one's husband is the one to do it [who it depends on] - he makes it so that the woman isn't too tired and she won't be sick...like the man too, he helps.

Oh, it's [their health] the same everywhere.

I think they're quite all right, they catch some small small sicknesses only, its like that.

Although none of the women interviewed conveyed that they felt the health of women was very poor, there was another large group, roughly a third of those interviewed, who described the health of women as in the middle range, the response in bislama that best typifies this being *igud lelebei* (which might be best translated "quite good but with room for improvement"). When asked to explain, some informants named sicknesses such as flues or malaria. A few others identified problems such as irregular periods and recovery after childbirth. But these responses were few in number, and didn't fall into any particular pattern. A common theme that did emerge though, from the remaining informants within this third category was that of women feeling tired, weary, or sore in relation to heavy work and in relation to the work associated with bearing and caring for children:

Its hard for mothers...to clean the house, look after all the children,...like at the house eh...like husbands too, they don't look after them [their wives] well, this makes it so that the women they feel that they're so weary...this place is no good, no good.

They're feeling tired,...like me, I want to go do something, but I feel I'm tired.

When there's too much work like this, like today, tomorrow, no rest like this, we just drag our bodies..and they don't have much power anymore.

Some they are slack [tired, weak]...some are just lazy...some can't work, they're tired because of all the children, they're having too many.

Some are sick...like their backs are sore, legs no good.

One woman, who was known to be skilled in traditional healing techniques and whose help many women sought, told me:

I'll tell you... some, like its their backs, some, their legs are sore...so that in this place, for plenty of women its their backs, legs too...I think because they work too much, they carry many heavy things.

In addition to being questioned about the health status of the village women in general, women were also asked how their individual health was, and then, using a conventional medical systems approach, about the various parts or systems of their body (see Appendix 1, question C]1). There were found to be only a few women with conditions they considered serious and who would consider themselves "sick". There was one woman, for example, who had diabetes and another with fairly severe abdominal pain who was later admitted to hospital with a possible diagnosis of cirrhosis of the liver. There were also two women who had recently (i.e. in the last two weeks) had malaria and felt they were still recovering. A high proportion of informants, however, reported that although their general health was quite good, they were troubled by certain bodily ailments which, although not considered to be sicknesses as such, were nevertheless troublesome. For example, many informants described their bodies as "strong" or "*i oraet nomo*" ("quite all right") but then added a qualification such as "except for my knee" or "but my back only." When informant responses were tabulated, it was found that on the day of the interview, 48% of women had muscle, joint, or back problems, and 44% suffered from skin conditions of some sort.

Skin conditions included itchy rashes, scabies, sores, boils and ringworm. Several of the women were plagued with widespread ringworm which seemed to be resistant to treatment; although they had tried various remedies, both western and *kastom*, it always returned. Scabies was a severe problem in some families, particularly those with small children. One woman had, in desperation, sprayed house, bedding, and clothing with household fly-killer having already tried, with little success, more conventional remedies.

Women related joint problems to undertaking heavy work, particularly to carrying heavy loads of produce back from the garden or working long days in the copra grove. One woman, for example, twisted her knee when carrying a heavy bag of copra. Another sprained her wrist while slashing grass. In a few cases, the injuries were quite incapacitating. One woman in her early thirties, for example, injured her hip while carrying a heavy load of produce back from the garden and was unable to walk for two or three days. More often joint problems caused less incapacity but were chronic and intermittent, being aggravated by heavy work.

Although on the day of the interview only ten women reported that their backs were sore, for one third of those interviewed backache was said to be an intermittent problem

(women would commonly state "oh, plenty of times my back is sore"). Again women associated backache primarily with heavy work in the garden and with splitting and shelling out copra. Both back and joint problems were common in younger as well as older women, although they did seem to intensify with older age. It was interesting as well, that three of the women reported having very tender (probably bruised) sternums as a result of fastening their *kaliko* against their chests when carrying heavy loads of produce back from the garden.

Many of the women interviewed also reported that they commonly had headaches. On walking through the village, it was not uncommon to see them with *kaliko* wrapped around their heads so as to provide a measure of symptomatic relief. Headaches were said to occur most commonly as a result of working in the hot sun, or from missing or being late with meals (which often happened if the women were working in the garden). They were also associated with malaria.

Eye problems⁴, especially pterygiums, injected sclera (due to infection or allergic reaction) and refractive problems, were also common, as were dental problems (i.e. "toothache"). For most toothaches women took analgesic tablets (purchased at the local store) for pain relief and persevered, rather than going to the dentist at the nearby hospital (some confessed that they were afraid of the needle while others said that they were just too busy to go). A few of them did venture off to the dentist, but only when they reached a point of desperation. A few informants reported gynecological concerns such as pelvic pain, irregular periods, painful periods, or heavy bleeding associated with menopause. Likewise, there were a few scattered complaints with regard to chest, heart, stomach and urinary problems but these were generally uncommon.

Four of the women had sustained recent⁵ injuries as a result of violent assault which were, at the time of the interview, still causing them some incapacity. Two of the women had fractures of the forearm as a result of beatings from their husbands. Another two women had injuries as a result of assaults from other relatives. In one case, a woman had been involved in a dispute with her brother-in-law and had received a blow to the scapula with a piece of wood. At the time of the interview the shoulder was still tender and had limited mobility. A second woman had received a blow to her ear from her (male) cousin in a dispute over fishing.

C) Common Health Practices and Interventions

Not surprisingly, the people of Nasilar were found to have a well-developed (and constantly evolving) system of health beliefs and practices which resulted in a wide range of therapeutic options⁶. These ranged from simple home remedies, to the use of *kastom* leaves, to abdominal massage

techniques, to counter-sorcery techniques, to prayer, to western medicine, and, on the preventive side, to the observance of various taboos. Each of these will be briefly considered.

Women reported the use of steam treatments, hot compresses, binding their heads with *kalikos*, rubbing coconut oil into the skin, drinking lemon tea, the use of modern analgesics, sleep, and various other measures to treat or prevent minor illnesses in their families. These minor illnesses most commonly included coughs, colds, chills, headaches and fevers. Home remedies were usually used as a first line of intervention, before the help of other healers was sought or in cases where the medicine provided by the hospital or mobile health team was found to be ineffective:

When my boy, that is my grandson, he catches a cold, when the people from Rural come, they give cough medicine to him, ...I'm supposed to give it to him in the morning and at night. I give it but I look, the child's not all right. There is one way to do it, my thinking on this is sure. When I go off to the garden, I tell his mother, "You must bath the child, but not outside, in the house only...after he is bathed you rub the coconut oil that I made on every part of his body. After, you must put clothes on him, he must not go naked or he can catch a cold." [That night] I go, I boil some water, after I boil it, I let it cool a bit, I take a towel and put it in the hot water, ... after, I put it on his throat, his back, arm, leg....O.K. I look, now the child's cold is going away, tonight he will sleep well.

Kastom leaves, that is traditional medicines made from locally available plants, were also in common use. Some of these, such as those used to treat common illnesses like colds and fevers were known to many people, although there were a few women in the study who claimed to have no knowledge of *kastom* leaves at all. Of these, a few said they were afraid of them; the others claimed that they didn't have knowledge of them because they had no old folk in their extended family who were knowledgeable about them. Most of the women however, had knowledge of at least some *kastom* leaves. There were also some people in the village who were known to be experts in *kastom* leaf medicine; I was able to identify and speak with four, although there were quite possibly a few others. Many women in the study had sought out these experts from time to time. On other occasions, they had simply consulted with members of their own extended families who had greater knowledge of leaves than they themselves.

Leaves were sometimes boiled and the water drunk, sometimes squeezed into water, the water then being drunk, sometimes used topically, and sometimes heated and applied as compresses. Women claimed to have used *kastom* leaves for a wide range of conditions including cough, fever, malaria,

dengue, fish poisoning, back pain, joint pain, pelvic pain, ringworm, rashes, boils, eye infections, and anaemia. Women had also used leaves as contraceptives, as abortives, to augment labor, and to treat infertility. Some healers claimed to have leaves to treat illnesses such as tuberculosis, cancer, and diabetes, although none of the women interviewed were currently using these. One even claimed to have a treatment for AIDS.

Kastom leaves were equally important in treating *kastom* illnesses⁷, that is illnesses caused by supernatural forces such as devils in the bush, the spirits of trees, or sorcerers. In almost all of these cases, a leaf was the require treatment. Two of the women interviewed lamented regarding the deaths of their children; the cause in both cases had been *kastom* but they had realized it to late. They had taken the children for treatment at the hospital. Had their children instead been given leaf medicine immediately, they claimed, they would still be alive.

Although there were some individuals who believed strongly in the efficacy of leaf medicines, many, even though they used them, were skeptical and felt that although they were worth trying, they were often a bit of a "hit and miss" affair. Some would try a *kastom* leaf for fever, for example, with the expectation that they would go to the hospital if it proved ineffective. Several informants expressed reservations about leaf medicine, explaining that it could be helpful if one really had the expertise, but that, in many cases, healers just guessed and didn't really have a good understanding of what was going on inside the body. Surprisingly, one woman who was known to be an expert in *kastom* leaves commented "*kastom* medicine...its good, but the hospital - yes! [its *really* good, better]"

The commonest therapeutic intervention that informants reported using was that of abdominal massage, or what is known as *holem bel*. When informants were asked about the sorts of treatment modalities they had made use of in the past year, 25 had been to the hospital outpatient department (most commonly for treatment of malaria), 16 had used *kastom* leaves, but 33 had sought out someone to *holem bel*⁸. *Holem bel* refers to a technique of deep abdominal palpation, wherein internal organs, if found to be to be enlarged or out of position, are slowly maneuvered back into place. Most commonly the spleen is said to be enlarged, to have fallen down, or to be in the way of other organs and for this reason the technique is sometimes also referred to as *holem splin*. Sometimes it is said that the two spleens (usually meaning the spleen and the liver) have come too close together, sometimes that the trachea, liver, or spleen are blocking the esophagus, or, sometimes, that the heart has fallen down out of place. Apparently, these abnormalities can occur for many reasons but the usual explanation is that they have resulted from undertaking heavy work. One woman who regularly treated women using *holem bel* explained the etiology of the spleen falling down as follows: "[its from]

the type of work where you carry an axe to cut firewood or anything heavy, like if you lift up something, then the spleen is coming [down or out of position]". Some women claimed that these problems could also result from not eating on time, or that they came concomitantly with malaria. But even in the case of the latter, malaria was not seen to be the sole cause, and heavy work was usually implicated as well. This condition affected men, women, and children. When I asked how it was that children could be affected, one informant simply commented that they too sometimes carried heavy things, i.e. they sometimes lifted up other children.

Symptoms that were most commonly relieved by *holem bel* included sore abdomen, sore back, loss of appetite, a sensation of "tightness" in the abdomen, and "malaria" (which usually included the preceding symptoms plus some additional ones such as headache and fever). The following are some responses women gave when asked how they felt when their spleen fell down:

The spleen is too hard, I can't eat well and my body is very slack...

I feel that my stomach is sore from it, I feel too that my back is sore from it, and I just can't eat well either...when I eat, the food reaches my stomach, it just comes back out, I throw up...like my stomach is hot, oh its hot... after, my back is the same.

Although the symptoms just described are the ones *holem bel* was most commonly used to treat, the technique was, at times, also used to treat a wider range of disorders including pelvic pain, morning sickness, heart palpitations, heartburn, sore chest, convulsions, or general malaise. It was also sometimes used for diagnostic purposes. One woman explained that when she had had pelvic pain, she first went to a woman to *holem bel*. After examination the woman told her that her illness wasn't a serious one and that the doctor wouldn't have to operate on her. She was then happy to go off to the hospital to see the doctor for diagnosis and treatment. Some women who practiced *holem bel* were also skilled in midwifery techniques. Pregnant women often saw these healers so that they could check the position of the fetus and turn the fetus as necessary.

Individuals who were skilled in *holem bel* sometimes combined this practice with not only the administration of *kastom* leaves, but with other healing techniques as well. These included warm compresses applied to the whole body in order to make the person sweat (this helped "let out" the sickness), back massages, head massages, and massages to other sore or injured parts of the body. Sometimes pieces of broken glass were used to make small incisions in the skin. This technique was used, for example, on the back for relief of back pain.

There were many women (and some men) who were said to be skilled in *holem bel*. I spoke with five although there were undoubtedly several others. Women preferred to go to someone with this skill who was part of their own extended family but if necessary would venture to someone beyond. So popular was this form of therapy that one informant told me that a workshop had been organized three years earlier. A woman from a neighboring village had apparently come and given demonstrations and explanations to the women with regard to *holem bel*. In the case of most healers, however, the skill had been passed on to them through a family member, usually a parent or grandparent.

Some traditional healers used, along with the administration of *kastom* leaves and *holem bel*, another healing technique known as *singsing*. *Singsing* referred to a form of therapy in which the healer would sing to the body and/or illness of the affected individual or, more often, to a dead ancestor who was thought to be causing the illness. The healer would place her hand on the part of the body affected and then softly sing or chant. Sometimes the singing would simply involve telling the individual that they would be all right and affirming that the sickness would leave them. More often it involved singing to an ancestor suspected of causing the illness. If the healer was correct in her identification of the particular ancestor causing the illness, she would begin to make yawning motions with her mouth. The correct identification of the individual causing the illness would be enough to end the illness. One woman related her experience of this form of treatment as follows:

... that Saturday, back when I was pregnant and didn't feel good, I said to John, I told him, 'Let's go to Pemili... to see that woman.' We went and she sang [*sing-sing*] to me. After, I was tired and I slept. Then she held [*holem bel*] my belly, after she held it, she sang to it again. Then she told me, '*olfala* [old man] Bobby has done this to you.' And she asked me 'Have you been going outside alone at night?' I told her 'yes, I go outside alone at night, if I want to go outside I just go...to the toilet'. 'Yes' she said, 'this is what has caused it'.

Women who healed using this method (I was able to identify only three) explained that whereas in the past, many people had sought their help, more recently *singsing* had fallen into disrepute. This, they said, was mostly as a result of the church, more particularly the activities of an evangelist from a neighboring island who preached against this practice. Some informants, even other healers, spoke negatively of the technique, stating that they never used it. "She gives *kastom* leaves, but she prays" said one informant of a healer she sometimes saw, "she doesn't sing to Satan".

Finally, some women consulted with *kleva* with regard to their illnesses. Although the term *kleva* was sometimes used rather loosely by informants to refer to a range of traditional healers, it was generally recognized as the more specific term to refer to a healer with the power of clairvoyance, that is the ability to dream and thereby disclose the underlying reason for an illness and the appropriate cure. The *kleva* I interviewed functioned as a sort of medium, receiving her wisdom from spiritual beings who she communicated with during her sleep.

Kleva were not consulted on an everyday basis. In fact, only three of the women interviewed said they had consulted a *kleva* during the past year. Although there were said to be some individuals within the village who claimed to have this power, several informants told me that they were skeptical. "They just deceive us" said one woman, "because of the money". There were, however, two *kleva* who were relatively well respected: one, a woman who lived about fifteen minutes walk from the main village, and another, a man from the southern island of Tanna, who lived a longer distance away, about one hours drive by truck.

Kleva were usually consulted in cases of sudden severe illness or death, strange unusual illness, or illness that seemed to be resistant to all other forms of treatment. One woman, for example, had been troubled for months by a pulsating sensation behind the sternum. When the sensation was present she felt nauseated and couldn't eat anything. After seeing the doctors at the hospital and a local man for *holem bel*, she finally went to a *kleva*. The *kleva* "dreamed" for her, detected the source of her illness (sorcery performed by one man in the village), and prescribed the leaf medicine that finally cured it. When speaking about it with me, the woman reflected on the fact that the medicine of *waetman* (white people) was only effective for some kinds of illnesses: "if it is a straightforward sickness, yes" she said, "but if its something like an evil spirit ...[no]"

Prayer was another intervention that was common in all households; all the women interviewed indicated that they had at one time or another had someone come and pray with them with regard to an illness in the family, in many cases during the past year. It might be the pastor, some church elders, or just parents, aunts, and uncles of one's more immediate family. Sometimes it would simply be a woman's husband who would pray with her, although this was more often the case in those households where the husband was an elder in the church. The pastor had also recently announced in church that a prayer group had been formed and that anyone who was sick should call on them to pray for them. Women had had prayer for fever, cough, joint pains, abdominal pain, pelvic pain, diabetes, malaria, and many other illnesses. One woman reported that she had had very difficult labors until the elders had prayed for her; with the birth of her last three children, she had had no difficulties.

During the interviews, many of the women articulated the importance of their Christian faith and prayer in the context of health and illness. Many said that prayer was important in ensuring the efficacy of both *kastom* medicines and western medicine. Informants who were themselves healers usually mentioned that ultimately the power to heal came from God, no matter what the healing modality, and that prayer in conjunction with healing techniques was very important. One woman said that she never went to the hospital without praying first. This was essential in terms of determining what the outcome at the hospital would be:

I never go to the hospital without seeing the elder first - so that the power of God can work.... then I go to the hospital and the doctor gives me the *right* medicine and my sickness heals quickly...but if I don't seek God first, I know that I'll go to the doctor and he may tell me my sickness is a big one....cause the doctor is wise, but God gives the doctor his wisdom.

Women spoke less of interventions that were undertaken primarily to prevent illness than they did of those undertaken to cure. There were some women who did speak of the importance of avoiding chills and draughts, of eating well, of not over-working. With time, it became apparent as well though, that in a certain sense, there were many traditional preventive practices the women followed: although most informants could not give comprehensive accounts as to why they respected certain taboos, the common underlying fear they expressed was that failure to adhere would bring misfortune, often in the form of impaired health. In other words, the observance of traditional taboos was, in a certain sense, preventive practice.

Although some of the younger women were skeptical of the need to observe traditional taboos, there were few, if any, who were certain enough to completely disregard them. There were various food taboos, for example, that women followed when pregnant or lactating. A pregnant woman could not eat turtle or the baby wouldn't be able to walk well, she could not eat certain kinds of fish or the baby would have trouble breathing. Impurity taboos related to menstruation and post-partum were also quite strictly observed by the village women. Menstruating women were not allowed to cook or handle food to be received by men or men could become ill. Particularly if men had abdominal pain, carelessness in this regard was sometimes postulated as the cause. There were also taboos that governed the relationship between a woman (or a man) and her in-laws. A daughter-in-law, for example, should not address her mother or father-in-law by their name and she should avoid being in close physical proximity to them. She ought not to walk past them without cowering down, or even wash her clothes in the same basin as theirs. Again, failure to adhere could bring illness. One older woman told me how she had transgressed

this taboo once as she had wanted her daughter-in-law to massage her back for her. Her daughter-in-law agreed to do so, but not long after she started her eyes became grotesquely bloodshot and red. She emphasized, in summarizing the story, that here she had thought the taboo custom was nothing, but sickness had come suddenly because of her failure to observe it.

Finally, it was found that western medicine also had a well-established role in the prevention, diagnosis, and cure of illness (particularly the latter two). Women from Nasilar frequently commuted by bus to the hospital out-patient department in Norsup. They most commonly reported going to out-patients for the treatment of malaria⁹, but they also reported seeking treatment for cough, fever, toothache, skin infections, and injury or trauma. Often they came to hospital accompanying their children who were commonly sick with fever and/or cough.

Some women were so familiar with modern treatments for malaria, chest infections, or skin infections that they would access and administer the medications themselves. This might mean getting antibiotics from a friend who had some leftover, asking for medicine from the mobile MCH team, or purchasing simple medicines (such as analgesics) at one of the local stores. One woman, for example, who was eight months pregnant, had not yet been to ante-natal clinic (she was atypical). She had been too busy gardening to go. Instead she acquired iron tablets and niviquine locally and put herself on the appropriate ante-natal regime.

Almost all of the women in the study went to hospital for ante-natal care and delivery. Although some of the older women (now past child-bearing age) had delivered some of their children at home, over the last five years I was able to identify only four women who had delivered a child outside of hospital or health center. Three of these said they had wanted to deliver in hospital but were obstructed by weather (i.e. heavy rain) and transport problems. The fourth had thought she should stay at home since her father-in-law had just died and custom dictated that the immediate family not leave the house for 30 days. She had delivered the baby at home, assisted by an older woman who had practiced as a traditional midwife in the past. In general, women spoke favorably of the services at Norsup and assumed that this was the appropriate channel for ante-natal care and delivery. None of the women in the study expressed concern about the quality of ante-natal or delivery care, although some women reported that transport to the hospital could be a worry (particularly in the evening or night when there were no buses running.)

In addition to the curative services provided by the hospital, the women also had intermittent contact with Rural Health, primarily through the MCH team which visited the village every one to two months. Although the broader responsibilities of the team include monitoring and promoting the health of mothers as well as children, the

coconuts and all the work that we must do, life has been like this for a long time now... until we too are becoming old.

I think water supply only [needs to change] - because its very hard work.

The water supply situation had not always been like this; in the late 1980s the government set up a water supply system in this and several other villages in the area. The system included a deep well with an engine and pump, a large water storage tank and a series of pipes through which the water ran by gravity to various outlets throughout the village. A village committee composed of about eight members, two of whom were women, was set up. One young man, the son of the landowner on whose ground the pump was located, was sent away to a two week mechanical course and was responsible for the upkeep and repair of the system. A monthly fee of 100 vatu (about one Canadian dollar) was charged of every household to provide the income necessary for the purchase of the petrol for the pump and the general upkeep and repair of the system. The system functioned for only about a year: there were several breakdowns of the pump, which despite his mechanical training, the young man was unable to fix. A mechanic from the local government was called in a few times to fix the pump, but the pump continued to have frequent breakdowns and the villagers were told that they themselves would have to find and fund an outside mechanic. This never happened, partly because by this time the villagers were convinced that there was something inherently wrong with the system (which there was; the pump had been pumping up sand which kept damaging it), but also because there were not adequate funds in the "kitty" to hire outside help.

When women were asked about the failure of the system, they emphasized not so much the faulty mechanics, as the fact that collecting the 100 vatu per month was a difficult task and that there were many defaulters in terms of payment. On a few occasions, the committee had shut-down the water supply system completely because too many households were failing to pay. One informant told me, "a few only, they paid it" and said that had people paid, there probably would have been enough vatu to call in a mechanic to repair the pump the last time it had broken down. Regardless then, of the mechanical problems inherent to the particular water system that had been installed, payment, and therefore upkeep, had been an ongoing problem.

When inquiries were made as to why many households didn't make their monthly payments, it was clear that although there were *possibly* a few households that might not have had the vatu to pay, this would not hold true for the majority, since all would have access to some cash income and 100 vatu was not considered an expensive monthly fee (equivalent to a bus ride to Norsup or two or three shells

of kava). The issue was obviously one of priority or perhaps principle. For some, informants explained, there was resentment about having to pay for something as basic as water, the implication being that it should be provided it free. One informant told me:

If they are paying for that [water supply] then their money goes there, cause it needs money too [to run]...but if we carry the water from the well, its good, because we don't have to pay...but this [water system], if its in use, we have to pay for water again and again...they [some villagers] talk crossly because of this.

Discussions with other informants however, brought to light another dimension of the problem; they felt that many times men didn't recognize or value the work that women did. If they did, they said, there might be less dispute about paying for the water. As it was, paying for water wasn't a high priority. Vatu was diverted to other "priorities", for example, to paying for kava. Here are one woman's comments on the water supply problem:

I don't know what their thinking is [those who don't pay]...but it was one very good thing to help all women, to give them water...it's like they don't think seriously about the hard work of women, some men they recognize the hard work of women, some men they don't recognize it...this is it now, I'll tell you that when they have vatu, they want to spend it on kava only, but they don't recognize the hard work of women...if a woman holds the vatu, if you come and ask her to pay for water supply, she will pay, and some men too, who understand, they'll give it, but those now, who don't understand, they won't pay the vatu... but if in this place, if they were paying the vatu, the water supply would run all the time... when it was no good [in disrepair], they'd have the vatu to pay a man to come and fix it...but that's it now, the situation remains like this.

Family Planning

Family planning, more specifically the ability to limit or space pregnancies, was an issue that was of paramount concern for many women. Not only was it identified by many informants as an important issue in response to direct questioning techniques (just over one fifth of informants identifying this as a health priority in response to question D)1), but it was the health concern that informants themselves raised the most frequently in the context of unstructured interviews and open-ended questions about how women's lives might be improved. Furthermore, women did not discuss the issue in an abstract theoretical

way as some did when discussing, for example, sanitation; the issue was, rather, a highly personalized one. For example, one woman, just after I had explained the purpose of the study and obtained her consent, asked, in an almost interruptive manner, "Like myself, I want to ask about family planning, how is it? How does a woman use it?" She went on to explain that she had a daughter who was one year old and was now six months pregnant with her third child. Another woman, when asked a very general question at the beginning of the interview regarding the health concerns of women blurted out "I want to use tablets or something...I'm easy [have few reservations] about this, but my husband is strong, he wants children again and again but I'm already tired". This woman was eight months pregnant, this being her 9th pregnancy. These examples are not atypical; many women expressed a strong desire to space or limit pregnancies. They were, however, for a number of reasons, also quite skeptical about modern family planning methods, and only a very small number were currently using any. Women commonly told me "like I want to, but I'm afraid."

Motivating Factors Accounting for Women's Interest in Family Planning

Analysis of interview transcriptions revealed a number of motivating factors which accounted for women's interest in family planning. For some, economic considerations were paramount since raising a large family was, in modern times, becoming an expensive proposition. Furthermore, few families had a regular income, apart from copra and market earnings which were perceived as unreliable given market fluctuations and cyclones. When asked what was most important in improving the lives of women, one informant replied:

I think this is it now, the side of family planning - I think this is it - because if you and I have got plenty of children, then there's not enough vatu to pay for school fees, clothes, food and housing...if you work for a big company, they can pay you, you can get a good salary, but if not...

Another informant commented, "because lots of children means vatu...and like the price of copra, it's no good".

One informant commented that she couldn't understand why it was that white men, who to her thinking always had plenty of money, had just small families, and black men, who were poor, continued to have large ones. She emphasized that it now takes considerable vatu to look after children well, but that, despite this, many women continue to have six, seven, or eight children.

A few of the younger women, particularly, felt that family planning was important in order to space children, so that there would only be one baby in the family until the first one could walk. They felt that a rest in between was

important for the mother so that she could cope with the work that was already involved in mothering a child and managing all her other domestic responsibilities. In a similar vein, there were a few women who stated that you needed to look after the children that you already had well, and that closely spaced pregnancies might interfere with this.

Some women were motivated towards family planning by a desire to avoid pregnancy in unstable relationships. There were three women in the study who had small children but were neither married or cohabiting. One of these, a woman in her early thirties who had two children, expressed concern about the unavailability of family planning methods to single women. She explained that sometimes a girl will make friends with a boy and then he will "*lego long hem*" (leave her). This had happened in her case, as a previous boyfriend, by whom she'd had one of her children, had moved elsewhere to work, leaving her alone. In her situation, she reflected, she would have been better off using "family planning"¹¹. She was doubtful however, about the possibility of obtaining contraceptives from the midwives at the district hospital, even now. Family planning, she felt, was reserved for married women who had two or three children already and the consent of their husbands.

This informant's perception, based on hearsay and on her own observations, was, in fact, quite accurate. Midwives are wary of distributing contraceptives to unmarried women because of the community criticism that will fall upon them, particularly in rural settings where there continues to be considerable debate (albeit quiet debate) around the use and availability of family planning methods. Religious leaders, as well as government and community leaders, emphasize the importance of promoting stable traditional family relations and curbing promiscuity, and many of them view family planning as a threat to these. So although family planning is available, it is most readily available to married women who have at least two or three children and the consent of their husbands. Beyond this (and in the absence of a national policy¹²), much is left to the discretion of the midwives who must deal with the pressure of the community at large.

For the majority of the women interviewed, the biggest motivating factor for family planning had to do with the workload, that is the time and energy that bearing and caring for a large number of children involved. One woman, when asked generally about the life of women replied:

...it all right, but this is the thing - you and I have such hard work with all the children, one or two only are good but plenty like this, its *hard* work, it makes it so that all the mothers, they can't work very well...two or three children only are good but plenty make hard work for everyone.

Other women made similar statements:

... because when we have full-up children, this is hard work...its hard to look after them all - as for myself, if I feel that I'm pregnant, I feel cross, cause I must carry it and its heavy, on and on...I am cross at this man [her husband]... I am cross at him because he now, he is the one making children.

I think there's enough now [children in my family] cause we look after the children, on and on...you and I are tired already.

Some women emphasized that because of the heavy responsibilities associated with child-care, they were not free to *wokbaot*¹³ and visit with their friends, to join in women's activities (i.e. P.W.M.U. or women's club) or other community activities:

I think its good that we talk about family planning...you could help a lot of women in this area - too many children means the women, they're not interested in doing things to improve life here.

Similarly, some linked having many children with having to work harder in the garden:

I think it would be good if they had less children and took family planning, cause when there's too many children, they can't join together and work, they think about all their children, they think too much about the gardening.

As mentioned earlier, most women felt they did more domestic work than their husbands, that is child-care, cooking, home-care, and gardening. Often discussions with regard to family planning arose within this larger context, that is within conversations regarding the roles and responsibilities of women. Often the descriptions informants offered of home-life were characterized by a deep dissatisfaction, sometimes resentment, and even cynicism with regard to this perceived imbalance, with the women carrying a much heavier work burden. One woman described her interest in family planning in this way:

...like myself, I'm interested in family planning because I look at my home, my home-life, ...its too hard, because my husband doesn't help me much, he doesn't think very much about us [here at the house]...if he gets some money, he just spends it on nothing [useless things], like kava or cigarettes...he doesn't think about us.

She later continued:

Its good if we have three or four children, like that... because I feel this [life as it stands] is too hard...I look...all the men, they feel good, but me, I don't feel good because there's too much hard work here at home and they [the men] just walk around like that...they walk around, they come and see that we are working hard at the house but they're not sorry for us, sorriness they haven't got.

Another woman commented cynically, "To make children, that's the work of the man...you look, he will make children until he has full-up, ...then he spoils his woman [with hard work]". Several other women expressed similar feelings, which although cannot be said to be representative of *all* village women, do underline a strong sentiment that many women hold:

...but there are some [men], once they've given their wives children - its done... now the mother *she* works, ... he just walks around ...this makes the mother tired she looks after all the children, goes to the garden, comes back, cooks...

The style of a man is like this...he makes his woman pregnant, she has the baby, she works hard...then he walks around, on and on, he drinks kava, spends money on kava, goes to the nightclub.

Having discussed, at some length, the issues and factors that motivated women to limit family size, consideration must also be given to the impetus some women felt to have more children. Although several informants claimed that they thought a family of three or four was a good size, it was clear that more important than the *number* of children, was having *both* boys and girls, preferably a balance of each. A few informants emphasized that it was important for children to have a sibling of the same sex. More often though, it was the differing roles and relationships to parents that the women emphasized: one informant explained that girls were good because they could help you with your work (i.e. cooking, child-care) and boys were good because they would be with you when you were older (the area is patrilocal). Likewise another woman, who had three girls, the youngest of which was five, explained to me why she was pregnant with her fourth. "When you are old" she said, "the girls will go away to live with their husbands, but boys will stay near you". Another informant curtly stated "a girl is just like a bird [will fly away]".

Family Planning and Decision-Making:
The Issue of Control

Regardless of women's own sentiments about family size and family planning, it was clear that they had only limited power and control when it came to making decisions on such matters. I once asked, in a group setting, who it was that wanted large families: mama, papa, grandparent, or who? The reply was that it was not so much a matter of conscious decision-making, as that men often demanded intercourse, with little thought (or responsibility) taken for the consequences (that is pregnancy). "Its good that we talk about this" said one woman, "because us mothers, we don't need more children...the men are responsible - they're no good [laughter], they are always wanting something [intercourse] all the time". This informant went on to explain that unlike women, who were usually acutely aware of the risk of pregnancy, men often insisted on intercourse, with little thought of the consequences. Furthermore, women were not uncommonly threatened with violence if they did not concede: "if you... if you don't let them have your body, then you'll get a beating".

For many couples, family planning was a contentious issue. One informant explained it this way:

Some men, they are glad [for family planning] ...but sometimes, the woman (only) wants to take family planning...they fight, fight, fight, fight...on the side of the women, plenty of them want family planning and they would use it...but this is the problem now.

In some cases, informants simply said that their husbands wanted more children while they didn't. One woman commented, "He wants children, on and on, but I am tired already". When asked why she thought he wanted lots of children she replied "because he thinks there's no shortage of land". This line of reasoning is not uncommonly heard from Ni-Vanuatu men who oppose family planning. It obviously reflects an association between family planning and population policies, and a minimal awareness of the role of family planning for women's and children's health.

In many cases though, it was not that men were altogether against limiting family size¹⁴. Some were unsure about what methods of family planning they considered safe or acceptable, and some men apparently felt uncomfortable accompanying their wives to the hospital which they perceived as an unfamiliar and even threatening environment¹⁵. In some cases, men seemed to be very distrusting of modern methods; afraid particularly of invasive procedures associated with doctors and hospitals. One informant, who was very anxious to have a tubal ligation, told me about how her husband had agreed to the procedure and her name had already been put on the list. Shortly before the day of the surgery however, they had

heard that an Aunt of hers had died of appendicitis. This aunt had, several years earlier, had a tubal ligation and this informant's husband was sure that the more recent illness was related. As a result, he changed his mind about his wife's surgery. This informant described how angry she felt, and lamented that if only the surgery had been scheduled before the death of her Aunt, she would have been able to have it done.

Whatever the case, it was clear that women did not have the authority to take family planning without their husbands' consent. The woman mentioned above concluded her story saying, "I don't know now [what will happen]... cause the man is the boss...but he doesn't know what you and I [we women] feel. I keep telling him but...". She wasn't hopeful. Another informant, who had recently given birth to her eighth child in hospital, described how the nurses had tried to talk to her husband about the possibility of a tubal ligation but he had refused: "All the nurses - they tried to tell him but they couldn't do a thing...because the man, he's the boss" she concluded despondently. In some cases, the issue had become the focus of a power struggle, men simply refusing to relinquish control over their wives, regardless of the particular benefits that others (i.e. health professionals) might have felt family planning could bring to them and their families.

During the interviews, several women mentioned that it would be better for men and women to be interviewed together and also for health education talks about family planning to be directed to both¹⁶. They were, of course, acutely aware that family planning education directed solely to women would have very limited effects:

The thinking of the women is this: there must be men *and* women together, not women only, its better men with women - because the women know that if the men won't agree, they can't use it [family planning]that's it.

Current Contraceptive Use

It was found that of all 69 village women interviewed, 6 had had tubal ligations and 1 currently used a condom with her husband. There were no others who reported current use of a modern family planning method¹⁷. Nine couples used the "calendar method" (some version of calculating "safe days" on the basis of the last menstrual period), although only 4 of these were found to be using the method correctly. There were also a few couples who had agreed to use abstinence as a temporary measure (i.e. to abstain from intercourse for a year following the birth of their last child) and a few who claimed to control their fertility simply by having intercourse very infrequently. Nine women used *kastom* leaves as contraceptives.

As noted earlier, many women expressed fear and suspicion with regard to modern methods of family planning¹⁸. Women had serious misgivings, for example, about using oral contraceptives because they knew they had to be taken every day and felt that there were too many variables in their everyday lives that might interfere with this¹⁹. Furthermore, there were some widespread rumors about the effects of failing to follow the tablet regime exactly; if, for example, you were taking tablets and missed a day, you would definitely get pregnant (your chances were higher than were you not on the pill) and any child so conceived (while his mother was taking oral contraceptives) was likely to be born with birth defects. IUDs and condoms were, for a variety of reasons, similarly distrusted and although it was common knowledge that some of the women had had tubal ligations, most women expressed fear with regard to the latter, particularly with regard to being "cut" (having surgery).

Contraceptive leaves were considered a viable option by many women, although most didn't know how to identify or prepare the leaves themselves. There was said to be one woman in Nasilar who knew. A few women had obtained the leaf from her, others had gotten it from relatives or friends on other parts of the island. According to some informants, the *kastom* leaf had to be taken only once in order to be effective; according to others, it had to be taken twice with a six week interval between doses. Some informants claimed that it always caused permanent sterility, while there were others who said that another leaf could be used to reverse its effects. Few women were completely confident in the efficacy of the leaf; some stated that they were afraid to try it lest it be ineffective or lest it make them sick. Those women who had used it said that they found it to be effective and spoke positively of their experience with it, although one of the younger ones was concerned about whether or not she would be able to conceive again.

In cases of unwanted pregnancies, leaves were sometimes used as abortants. Only a few women told me they had used these (there may have been many more). Again, knowledge of how to obtain these leaves was not widely distributed, nor was there confidence in their efficacy even for those who had used them. One woman in her mid-thirties, who was a mother of eight, called in her youngest child and showed me some deformities on his leg and foot. She told me of how she had wanted to have a tubal ligation but her husband had refused. When she had become pregnant with this child, her seventh, she had, in desperation, tried an abortant leaf at one month. It had failed to abort the fetus but these deformities, she believed, were the result. It was a painful story for her to relate. Another older woman related how she had used a leaf abortant several years ago. It too had been unsuccessful in aborting the fetus but had made her so ill that she had been hospitalized for several

weeks. She later gave birth to an apparently healthy girl. But when the girl grew up, she died in child birth; the mother was sure that the abortant leaf was in some way implicated.

As already mentioned, a small but considerable number of couples used natural methods of birth control. Nine couples used some sort of "calendar method" wherein they calculated "safe days" for intercourse on the basis of the last menstrual period. Those couples who had used the calendar method successfully for a number of years were very satisfied with it and felt it to be the method of choice. These were mostly older couples (i.e. in their late thirties or their forties) who had misgivings about modern contraceptives and somehow (through reading a book in one case, through the midwives at the hospital in another) learned about this natural method. There were also women in the study who were attempting to follow the calendar method but were doing so incorrectly, not abstaining from intercourse on the right days of the cycle or not for long enough periods. Even though some were pregnant as a result, they were, surprisingly, not disheartened with the method itself, but anxious to be corrected and discover where they had gone wrong. For these women, and for a surprising number of informants, natural family planning was considered the method of choice, despite warnings that the method had a fairly high failure rate and despite the admission of some women that they might well have difficulties getting their husbands to comply. Women felt that it offered the advantage of being within their control (in so far as they were not reliant on doctors, midwives or hospitals for supplies or check-ups), of being natural ("I don't have to take medicine" they would comment), and in cases where husbands were motivated to limit family size but were reluctant to accompany their wives to the hospital or clinic, it was "portable" and immediately accessible. Even women who were doubtful about their husbands desire or ability to comply with the method badly wanted information about it. Given the reluctance of their husbands to consider modern family planning methods (and their own reservations about the latter), natural family planning seemed the only alternative; for them, it was this method or nothing, and they felt it was worth a try.

Infertility

Although the women in this study who identified infertility as a health priority were few in number (there were only five women who reported having difficulties conceiving²⁰), these women were highly concerned and motivated with regard to seeking help. On some occasions, hearing a nurse was present in the village, they sought me out, asking me to come and talk with them in the hope that I might be able to offer them some advice. One woman had a child previously but was unable to conceive in a subsequent

relationship, another had used a *kastom* leaf contraceptive a few years ago, was now having irregular periods, and was unable to conceive a second child. Another had been married for three years but had not yet conceived.

Although infertility is a highly sensitive and personal issue in any cultural context, in this setting, where alternate roles for women (other than that of mother) are few, and where women have traditionally been valued and exchanged to a large extent because of their ability to reproduce (Lini 1982), it definitely constitutes a crisis. Although these particular women seemed as much motivated by their own internal desire for offspring as by external pressures, they did tell me that if one was married for two or three years and a child was not forthcoming, one's husband's family would be grumbling. One informant also mentioned that failure to get pregnant was sometimes an underlying reason for beatings. "Sometimes, if a woman hasn't had children," she said "her husband can beat her because of this."

Domestic Violence

Defining the Problem

Wife-beating was an issue that key informants raised early on in the study and one that was of paramount concern for some women. Although most informants didn't identify it as their top health priority, considering, for example, water supply or family planning as more important, for those that did, the issue was considered a very serious and personal one. Furthermore, when informants were asked directly (Appendix 1, F11) whether they thought wife-beating was a significant problem in the lives of women, all but 10 of the 69 women interviewed stated that they thought that it was. The following are some of the comments women made in response to that question:

...no, this is a *big* problem...as for me, in my situation, its number one. My husband is just like this - we are fighting, fighting...always he is hitting me. (This woman then related that five years ago she had been hospitalized with severe bruising and swelling of all her limbs when her husband had beaten her with a piece of wood. Then last year she had had her forearm broken in the same way).

Oh, in this place, they can beat the women, kick them just like a football...this habit is rubbish, but there's lots of it that goes on here.

...a *big big* one- this is one big trouble for women!

...some, they beat the hell out of them, they would
spoil them, they would take them away from
the shore, to the rear of the island, to the
bush. They come, they carry them, they
hide with an abundance of care, but it's
no good, oh it's no good. You have to work
and help you, help you in the morning, you
sweep, then we look, you look, you look
of this goes on.

For these few women, who were told that a wife
beating wasn't a major problem, that it was
that happened only occasionally, they were
acknowledged that it was a problem, but it was
merely a normal result of a man's anger, it
didn't cause them a great deal of trouble. For
vast majority of the women, however, it was
problem, the abuse, the physical violence.

Of all of the women with whom the researcher
violence was discussed, only one of the women
interviewed, only one of the women who
husbands and 20% of the women who had
been beaten physically in the past year. During the
in the village require a certain amount of
severe beatings; he had a broken
the forearm fractured, a broken
forearm, and a third, a broken
less serious injuries that included
eyelids or blindness, but she said
that she had been beaten with a stick
young husband's extreme anger, she
black..." she said. After a while
some time she lowered her head and
asking, "can you help me, can you
tell me?"

Of course, all women were not
discussing the problem in the same way,
who considered the problem a serious one,
considered the problem to be a normal
spontaneously, with the researcher
that wife beating "was a normal
said "I don't think men are the
good to them, I think in a
place, all the women in the village
them, they don't go to the
did, however, had a different
felt and the need that some help
their families and their villages.

Although the majority of the women who
beating was a serious problem, it was not
exactly, constituted the problem was not
almost all informants felt that men
hit their wives under certain circumstances.