The Feasibility of an Extension Education Program for Commercial Shrimpers in Louisiana.

Stanley Jerome Lamendola

Louisiana State University and Agricultural & Mechanical College

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A Dissertation

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by

Stanley J. Lamendola
B.S., Louisiana State University, 1956
M.S., Louisiana State University, 1966
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# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACKNOWLEDGMENTS</td>
<td>ii</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>iv</td>
</tr>
<tr>
<td>ABSTRACT</td>
<td>vii</td>
</tr>
<tr>
<td>I. INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>The Problem</td>
<td>4</td>
</tr>
<tr>
<td>Statement of the Problem</td>
<td>4</td>
</tr>
<tr>
<td>Purpose of the Study</td>
<td>4</td>
</tr>
<tr>
<td>II. RESEARCH METHODOLOGY</td>
<td>6</td>
</tr>
<tr>
<td>The Sample</td>
<td>6</td>
</tr>
<tr>
<td>Questionnaire Design</td>
<td>7</td>
</tr>
<tr>
<td>Collection of the Data</td>
<td>7</td>
</tr>
<tr>
<td>Analysis of the Data</td>
<td>8</td>
</tr>
<tr>
<td>III. THEORETICAL FRAMEWORK</td>
<td>10</td>
</tr>
<tr>
<td>Sources for Educational Objectives</td>
<td>13</td>
</tr>
<tr>
<td>The Discipline</td>
<td>13</td>
</tr>
<tr>
<td>The Environment—The Job</td>
<td>14</td>
</tr>
<tr>
<td>The Learners</td>
<td>16</td>
</tr>
<tr>
<td>IV. PRESENTATION AND ANALYSIS OF DATA</td>
<td>18</td>
</tr>
<tr>
<td>Personal Characteristics</td>
<td>18</td>
</tr>
<tr>
<td>Practices</td>
<td>25</td>
</tr>
<tr>
<td>Attitudes and Opinions</td>
<td>35</td>
</tr>
<tr>
<td>V. SUMMARY AND CONCLUSIONS</td>
<td>44</td>
</tr>
<tr>
<td>Summary</td>
<td>44</td>
</tr>
<tr>
<td>Conclusions</td>
<td>51</td>
</tr>
<tr>
<td>SELECTED BIBLIOGRAPHY</td>
<td>58</td>
</tr>
<tr>
<td>APPENDIX</td>
<td>59</td>
</tr>
<tr>
<td>VITA</td>
<td>83</td>
</tr>
</tbody>
</table>
## LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>I.</td>
<td>A COMPARISON OF PART-TIME AND FULL-TIME SHRIMPERS ACCORDING TO PLACE OF RESIDENCE, LOUISIANA, 1973</td>
<td>19</td>
</tr>
<tr>
<td>II.</td>
<td>A COMPARISON OF PART-TIME AND FULL-TIME SHRIMPERS ACCORDING TO ORGANIZATION PARTICPATION, LOUISIANA, 1973</td>
<td>20</td>
</tr>
<tr>
<td>III.</td>
<td>A COMPARISON OF PART-TIME AND FULL-TIME SHRIMPERS ACCORDING TO EDUCATION LEVEL, LOUISIANA, 1973</td>
<td>21</td>
</tr>
<tr>
<td>IV.</td>
<td>A COMPARISON OF PART-TIME AND FULL-TIME SHRIMPERS ACCORDING TO AGE GROUP, LOUISIANA, 1973</td>
<td>23</td>
</tr>
<tr>
<td>V.</td>
<td>A COMPARISON OF PART-TIME AND FULL-TIME SHRIMPERS ACCORDING TO THEIR KNOWLEDGE OF THE SEA GRANT PROGRAM, LOUISIANA, 1973</td>
<td>24</td>
</tr>
<tr>
<td>VI.</td>
<td>A COMPARISON OF PART-TIME AND FULL-TIME SHRIMPERS ACCORDING TO YEARS IN SHRIMPING, LOUISIANA, 1973</td>
<td>25</td>
</tr>
<tr>
<td>VII.</td>
<td>A COMPARISON OF PART-TIME AND FULL-TIME SHRIMPERS ACCORDING TO THE USE OF NEW SHRIMPING PRACTICES, LOUISIANA, 1973</td>
<td>26</td>
</tr>
<tr>
<td>VIII.</td>
<td>A COMPARISON OF PART-TIME AND FULL-TIME SHRIMPERS ACCORDING TO KNOWLEDGE OF NEW SHRIMPING PRACTICES, LOUISIANA, 1973</td>
<td>27</td>
</tr>
<tr>
<td>IX.</td>
<td>A COMPARISON OF PART-TIME AND FULL-TIME SHRIMPERS ACCORDING TO THE USE OF FLAT TRAWLS FOR CATCHING SHRIMP, LOUISIANA, 1973</td>
<td>28</td>
</tr>
<tr>
<td>X.</td>
<td>A COMPARISON OF PART-TIME AND FULL-TIME SHRIMPERS ACCORDING TO THE USE OF BALLOON TRAWLS FOR CATCHING SHRIMP, LOUISIANA, 1973</td>
<td>29</td>
</tr>
<tr>
<td>XI.</td>
<td>A COMPARISON OF PART-TIME AND FULL-TIME SHRIMPERS ACCORDING TO THE USE OF BUTTERFLY NETS FOR CATCHING SHRIMP, LOUISIANA, 1973</td>
<td>29</td>
</tr>
<tr>
<td>XII.</td>
<td>A COMPARISON OF PART-TIME AND FULL-TIME SHRIMPERS ACCORDING TO THE NUMBER OF DAYS BEFORE CATCH IS BROUGHT INTO PORT, LOUISIANA, 1973</td>
<td>30</td>
</tr>
<tr>
<td>Table</td>
<td>Description</td>
<td>Page</td>
</tr>
<tr>
<td>-------</td>
<td>-----------------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>XIII.</td>
<td>A COMPARISON OF PART-TIME AND FULL-TIME SHRIMPERS</td>
<td>31</td>
</tr>
<tr>
<td></td>
<td>ACCORDING TO METHOD OF STORING SHRIMP CATCHES ABOARD THE VESSEL, LOUISIANA</td>
<td></td>
</tr>
<tr>
<td>XIV.</td>
<td>A COMPARISON OF PART-TIME AND FULL-TIME SHRIMPERS</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td>ACCORDING TO METHOD USED IN DECIDING WHICH AREA TO SHRIMP, LOUISIANA</td>
<td></td>
</tr>
<tr>
<td>XV.</td>
<td>A COMPARISON OF PART-TIME AND FULL-TIME SHRIMPERS</td>
<td>34</td>
</tr>
<tr>
<td>XVI.</td>
<td>A COMPARISON OF PART-TIME AND FULL-TIME SHRIMPERS</td>
<td>34</td>
</tr>
<tr>
<td>XVII.</td>
<td>A COMPARISON OF PART-TIME AND FULL-TIME SHRIMPERS</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>ACCORDING TO THEIR OPINION TOWARDS BROWN SHRIMP MANAGEMENT, LOUISIANA</td>
<td></td>
</tr>
<tr>
<td>XVIII.</td>
<td>A COMPARISON OF PART-TIME AND FULL-TIME SHRIMPERS</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td>ACCORDING TO THEIR SUGGESTIONS FOR IMPROVING THE SHRIMPING SEASON,</td>
<td></td>
</tr>
<tr>
<td>XIX.</td>
<td>A COMPARISON OF PART-TIME AND FULL-TIME SHRIMPERS</td>
<td>37</td>
</tr>
<tr>
<td></td>
<td>ACCORDING TO THEIR OPINIONS AS TO SHRIMP CROP TRENDS, LOUISIANA, 1973.</td>
<td></td>
</tr>
<tr>
<td>XX.</td>
<td>A COMPARISON OF PART-TIME AND FULL-TIME SHRIMPERS</td>
<td>38</td>
</tr>
<tr>
<td></td>
<td>ACCORDING TO THEIR OPINION OF THE EFFORT REQUIRED TO CATCH SHRIMP AS</td>
<td></td>
</tr>
<tr>
<td>XXI.</td>
<td>A COMPARISON OF PART-TIME AND FULL-TIME SHRIMPERS</td>
<td>39</td>
</tr>
<tr>
<td></td>
<td>ACCORDING TO COMMON PROBLEMS IN SHRIMPING, LOUISIANA, 1973.</td>
<td></td>
</tr>
<tr>
<td>XXII.</td>
<td>A COMPARISON OF PART-TIME AND FULL-TIME SHRIMPERS</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>ACCORDING TO THEIR OPINION TOWARDS LIMITING SHRIMPING LICENSES,</td>
<td></td>
</tr>
<tr>
<td>XXIII.</td>
<td>A COMPARISON OF PART-TIME AND FULL-TIME SHRIMPERS</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td>ACCORDING TO THEIR OPINION OF SPORTS FISHERMEN, LOUISIANA, 1973.</td>
<td></td>
</tr>
<tr>
<td>XXIV.</td>
<td>A COMPARISON OF PART-TIME AND FULL-TIME SHRIMPERS</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>ACCORDING TO THEIR OPINION TOWARDS COOPERATIVES FOR SHRIMPERS,</td>
<td></td>
</tr>
</tbody>
</table>
Table

XXV. A COMPARISON OF PART-TIME AND FULL-TIME SHRIMPERS
ACCORDING TO THEIR KNOWLEDGE OF THE COUNTY AGENT
IN THEIR PARISH, LOUISIANA, 1973............................... 43
ABSTRACT

The major focus of this study was one of a descriptive nature designed to define the commercial shrimper in the coastal regions of Louisiana as to their selected personal characteristics, problems, practices employed, attitudes and opinions, and other related factors that would tend to describe the typical shrimper in Louisiana. The parishes included in the study were Cameron, Iberia, Jefferson, Lafourche, Plaquemines, St. Bernard, St. Charles, St. John, St. Mary, St. Tammany, Tangipahoa, and Terrebonne.

The shrimpers were divided into two groups, those that were engaged in shrimping activities on a part-time basis and those engaged in shrimping activities on a full-time basis, and comparisons were made between the two groups. Included in the study were 174 part-time shrimpers and 94 full-time shrimpers. The shrimpers were compared according to three factors, namely, personal characteristics, attitudes and opinions, and practices employed. The personal characteristics included place of residence, age, organization participation rating, education, knowledge of Sea Grant, and years in shrimping.

The practices studied included the knowledge and use of new practices, methods of catching shrimp, the number of days spent shrimping before returning to port, storage of shrimp on board the vessel, locating of shrimping area, and in-shore and off-shore shrimping time.

The attitudes and opinions were concerned with brown shrimp management, improvement of shrimp season, shrimp crop trends, effort...
required to catch shrimp, common problems, limiting of licenses, sports fishermen, cooperatives, and the county agent.

The analysis of data indicated that the commercial shrimper in Louisiana would fit the following profile: 1) majority are part-time shrimpers, 2) lived in a rural area, 3) low participator in community activities, 4) had a low education level, 5) middle-aged, 6) had little knowledge of Sea Grant, 7) had little knowledge of Extension, 8) had little knowledge of new practices, 9) did not use many new practices, and 10) had many years of experience as a shrimper. He operated his shrimping business much as he had learned from his ancestors, offering little evidence of change or responsiveness to new ideas. There was no evidence to indicate that new ideas or practices were finding their way into usage in a systematic manner among shrimpers. Additionally, many of the modern ideas such as coastal management, cooperatives, licensing systems, and shrimp management were poorly understood and opinions were divided. There is much evidence to indicate a need for an educational program among the shrimpers in Louisiana.
Enactment of the National Sea Grant College and Program Act by the United States Congress in 1966 gave formal recognition to the nation's need for economic and social development of marine resources and provided for the education and training of personnel to carry out such development. This Act, designed to help develop the nation's marine potential, can be compared with the Land-Grant Act of 1862, which provided for the development of agricultural resources in America (5, p. 1).

In April, 1968, Louisiana State University set forth the University's qualifications to the National Science Foundation for grant support to participate in this program. This program had special relevance to Louisiana because approximately 45 percent of the state consists of coastal and floodplain wetlands containing 80 percent of the state's population and 80 percent of its manufacturing capability. The number of coastal or marine-related businesses in Louisiana is not exceeded by any state and income from such activities provides more than 50 percent of the state's tax revenues. Obviously, the state's coastal zone is a singular resource requiring appropriate governmental organization, expertise and skilled manpower for its optimum development. LSU's selection was based on Louisiana's unexcelled marine and coastal resources and the University's demonstrated capability in investigating aspects of those resources.
critical to their effective conservation, management and development. Throughout the southern region of Louisiana lie potential resources that can and must be developed for the benefit of the people of the state. Many of the people in these areas are involved in commercial fishing; some are part-time, some full-time, some on a large scale and some on a small scale. Examples of commercial fishing activities include shrimping, oyster harvesting, crabbing, fishing, wholesale distribution and retail sales.

The Louisiana Cooperative Extension Service was asked to participate in the Sea Grant program in the hopes of developing an educational program for appropriate audiences.

Created by passage of the Smith-Lever Act of 1914, the Cooperative Extension Service is the designation given to that system of teaching scientific farming and homemaking and related practices. Methods approved and tested by the Experiment Station of the Agricultural College, under the sponsorship of the United States Department of Agriculture, are demonstrated to people throughout the state (4, p. 90).

Through the years, the Cooperative Extension Service has developed concepts, principles and methods of Extension education. It has proven that Extension efforts must be directed toward satisfying the needs of people, and must be started at the populace's own level of understanding. Cooperative Extension work is developed by (a) defining the broad purposes of the Service and what is required to achieve them; (b) assembling and arranging the various resources available to the Service--people, laws, information, funds, physical
facilities—in whatever pattern will most likely result in achieving the agreed upon purposes; (c) clearly specifying the responsibilities of each individual or group and establishing working relationships between them; and (d) developing policies to guide persons in making maximum use of available resources. The Extension Service at the parish level is the focal point of the organization's educational program. The Extension agents' task, as a teacher and advisor, is to relate the findings of research and improved methods to the solution of problems on the farm, in the home and in the local community. Efforts of the Extension agents largely determine whether or not the major objectives and goals of the Service are achieved.

A corps of subject matter specialists aid Extension agents in the development of technical information. In addition, local leaders volunteer their assistance and cooperate with Extension in developing demonstrations of the application of research findings to improved methods of farming, homemaking and community improvement practices (2, pp. 38-39). In so doing, they form an important part of the local Extension organization.

The Extension Service has a built-in delivery system for the conduct of an educational program in all parishes in the state. Extension has proven year after year that it has been successful with its educational efforts, as evidenced by the abundance of agricultural production and generally increased standards of living among Extension clientele. The same educational methods employed by Extension should be applicable to the delivery of an educational program designed to meet the needs and solve problems of people involved in commercial
fishing activities.

The development of the Extension phase of the Sea Grant program rests on two factors: 1) the generation of appropriate technology, and 2) the utilization of the technology by the fishermen and the industries in the operation of their businesses.

THE PROBLEM

Statement of the Problem

The Cooperative Extension Service can serve as the vital link between technology and the commercial fisherman in Louisiana. However, before assuming this important role, Extension must clearly identify and define the potential audience as to their problems, personal characteristics, communication patterns, social systems and leadership structure. This will better enable the development of an effective educational delivery system for the Extension Sea Grant effort within the University.

Purpose of the Study

The study was of an exploratory nature with the main objective being to identify problems and opportunities for the Cooperative Extension Service to deliver Extension education programs to appropriate audiences engaged in commercial fishing activities. The sub-objectives were:

1. To characterize audiences as to personal qualities, sources of information utilized, leadership and participation patterns.

2. To identify felt needs and problems of commercial fishermen.
3. To determine basic practices utilized by commercial fishermen.

4. To foster cooperative relationships with important opinion leaders within the social system of the commercial fishermen.

The data procured could serve as a factual base in the development of a proposal for the Sea Grant Extension education function in the sense that it might provide useful ideas for the development of the organizational arrangements and the strategy and techniques that are likely to be effective. The identified needs and problems could serve as useful tools in helping to develop awareness and interest with respect to the potential for the Extension education program among various units and individuals internal and external to the University.
CHAPTER II

RESEARCH METHODOLOGY

The Sample

The sample of 500 individuals was selected at random from a list of all licensed commercial fishermen in the coastal regions of Louisiana. Names of these individuals were furnished by the Louisiana Wildlife and Fisheries Commission. The parishes included in this coastal region study included Cameron, Iberia, Jefferson, Lafourche, Livingston, Orleans, Plaquemines, St. Bernard, St. Charles, St. John, St. Mary, St. Tammany, Tangipahoa, Terrebonne and Vermilion.

A list of all licensed commercial fishermen in each of the parishes named was made and from this list a seven percent sample was selected at random to make the composite sample of 500 individuals. Numbers from 1 to 14 were placed in a hat and a number from these was selected at random for the purpose of determining a starting point on each parish list to obtain a seven percent sample for that particular parish. Once the starting point was obtained, every 14th name on the individual parish list was selected until the seven percent sample was obtained. As an example, Jefferson Parish had 1240 licensed commercial fishermen who resided within the boundaries of the parish. From this list of 1240, 86 individuals were selected at random to meet the seven percent sample requirement for that particular parish. The same procedure was repeated for each parish in the study to obtain a composite sample of 500 individuals.
Questionnaire Design

The questionnaire was divided into several parts. The first part was composed of a series of questions designed to secure general information related to age; education; income; participation in organizations; knowledge of Sea Grant; opinions of Sea Grant proposals; opinions of the fishing industry in general; attitudes towards license practices; sports fishermen and weather forecasting; leadership identification; friendship patterns; restrictions and law enforcement; communication patterns; underwater obstructions; credit; insurance; loans and years in fishing industry. The other parts of the questionnaire were directed to those persons involved in a specific type of commercial fishing, namely, shrimping, crabbing, fishing, oyster harvesting, and fish bait sales. For example, if the respondent was involved only in shrimping, he was asked questions from the general information section of the questionnaire and also from the section dealing with the shrimp industry. If the respondent was involved in more than one of the specific type of fishing, he was then questioned on each applicable type. In formulating the questionnaire, consideration was given to the coding that would be necessary for the electronic computation and analysis of the data.

Collection of the Data

The questionnaires were forwarded to the parish chairman of the Cooperative Extension Service in each of the 15 parishes from which sample respondents were selected. The questionnaires were administered by the parish chairman to the selected respondents selected in the
sample whose residence was in the particular parish of the Extension parish chairman. A total of 309 questionnaires were completed and returned by the interviewers.

**Analysis of the Data**

Upon completion of the questionnaires, the information was coded in order that tabulations could be made by electronic computers. For purposes of this study, it was decided to apply the chi-square ($x^2$) test to the data. The chi-square test (1, p. 270) is used in statistics to evaluate whether or not a set of obtained proportions coincide reasonably with a set of theoretical proportions, to test for significance of difference between two or more proportions, and to test for significance of relationship in a contingency table. By relating an obtained chi-square value to a prepared table of percentiles of chi-square distribution, it is possible to determine the specific number of times that differences between actual and theoretical distributions might be due to chance. Although the chi-square test was sufficient in this case to test for significance of relationship, it did not indicate the direction or degree of relationship. This direction was observed from the tables of percentages derived from the data collected.

When differences between the expected frequencies and the observed frequencies for a distribution of relationships being studied resulted in a $x^2$ value large enough to occur only one in 20 times due to sampling error (the .20 level of probability), the relationship between the factors being studied was considered to be statistically significant. However, when more significant relationships occurred,
these were especially pointed out. The chi-square test was also applied to data concerned with practices used by the shrimper and their knowledge of new practices.

The remainder of the data dealing with practices employed by the shrimpers and their opinions and attitudes was analyzed in terms of frequency distribution.
CHAPTER III

THEORETICAL FRAMEWORK

In conducting this study, the major purpose was to focus on the identification of potential audiences, their problems, characteristics, communication patterns, and other useful information that could be used in developing an effective educational program for an Extension Sea Grant effort.

Education has been defined as the process whereby desirable changes in human behavior are produced within people. These desirable changes can be in three forms: changes in concepts or ideas, changes in skills, and changes in values. The forecasting of the changes to be brought about, consequently, represents a basic step in the curriculum process since one must have a clear vision of the goals before he can determine the kinds of strategy that may be necessary in order to reach them. In so doing, it is important to remember that the ultimate goals must be kept clearly in mind so that initial effort, for example, moves one in the general direction he wants to go (6, p. 1).

The educational process aims at the achievement of objectives by the learner. The learner is involved in the kinds of experiences that the learner must undergo in order to master the desired behaviors as implied in the objectives. The essential ideas must be conceptualized within the learner's mind and he must learn to apply those concepts effectively in new situations. The learner must have the
opportunity to practice the behavior implied in the objective. Therefore, the teacher must encourage this process by offering opportunities to the learner to practice the implied desired behavior.

In planning for an educational program, the first consideration should be given to development of the curriculum. Tyler (3, p. 1) suggests a rationale for curriculum development based on four fundamental questions:

1. What educational purposes are to be sought?
2. What educational experiences can be provided that are likely to help the learner attain these purposes?
3. How can these educational experiences be effectively organized?
4. How can it be determined whether these purposes are being attained?

Tyler's framework is a rationale for the practitioner to examine his problems and find answers which will define a curriculum. It indicates an initial value position with regard to educational objectives, then suggests logical comparison and organization of the several means of reaching these objectives. Tyler regards objectives as an essential starting point, without which learning experiences cannot be rationally selected and assessed. The importance of carefully defined educational objectives for the improvement of curricula and instruction is essential to any educational program. In Tyler's rationale, statements of objectives serve as the criteria of standard by which content is selected, instruction is planned and evaluations are conducted.
Pesson's (6, p. 3) curriculum development model, which is based on Tyler's model, helps one to think constructively about the design, execution and evaluation of educational programs. It enables one, first of all, to visualize the relationship of the educational process with the expected roles to be performed by the incumbents of a category of learners. Viewed from another standpoint as an illustration, Pesson points out that emphasis is placed on the learner being able to deal better with the requirements of his job.

In this sense, Pesson states that it is important to determine with some degree of precision the competencies that are required for successful performance of the job, and, based on these premises, to design and organize an efficient and effective series of learning experiences that will aid the learner to develop the required competencies. In this connection, the question arises as to education versus training. Education deals with behavior changes, and these behavioral changes can be either cognitive, affective or psychomotor in nature. Training, on the other hand, deals most often with a lower level of behavioral change. The emphasis is specific and frequently stresses current problems or issues. It is also associated with skill-type occupations where manipulative type operations are developed sequentially over time. Education, however, is concerned with the broader scale behaviors, developing competence for a generalized job. It serves to develop the cognitive abilities in the form of conceptual maps that are useful in guiding the person in his behavior. It should also be concerned with the orientation of the individual toward the future, seeking to make active, life-long inquirers out of the learners (6, p. 4).
Sources for Educational Objectives

In trying to determine what educational purposes are to be sought with a particular program, several sources of information can be useful in aiding one to be objective in making wise and comprehensive decisions about objectives. Pesson (6, p. 5) identifies three sources from which information can be obtained. These are the discipline, the job-environment and the learners themselves.

The Discipline

The discipline represents a body of accumulated knowledge, derived over time through systematic ways of observing and analyzing phenomena. As such, it represents a particular way for looking at a rather specific set of phenomena. To illustrate, agronomy as a discipline deals with the soil and the plants that grow in it. It includes the theory and practice of field-crop production and soil management, and encompasses both crop science and soil science.

To a greater or lesser degree, all disciplines are composed of a series of inter-locking concepts that form the structure of the discipline. Concepts are ideas or basic notions that reflect major areas of knowledge in a discipline. They are tools for thinking and learning, thus forming the basis for the intellectual aspects of educational objectives.

In utilizing the discipline as a source for educational objective, Pesson (6, p. 6) points out that disciplines that seem to offer potential concepts should be explored. This exploration would involve, first of all, the identification and description of the concepts that characterize the discipline. Frequently, discipline
specialists are utilized in the process in order to bring to bear their intimate knowledge of the area in question. Other ways in which this could be done include the study of the literature and the review of research in the field. Unless the person doing the review, however, has some degree of competence in the field, it would be difficult for him to be able to explore the discipline in enough depth to explicitly identify the concepts and sub-concepts that form the structure of the discipline. This is the reason that the involvement of the specialist is important.

The question of relevancy is another factor stressed by Pesson (6, p. 7). He states that some determination of the relevance of the various concepts that are potential areas of knowledge must be made because time, most often, is a limiting factor. The central proposition rests, therefore, on determining those which are more vital and necessary for the particular learners in question. The job and the learners themselves, as the other two sources, must be considered in this determination of relevancy. On occasion, some discipline specialists have a problem in this area in the sense that they feel everything about a discipline is important because of their intimate acquaintance and commitment with the area.

The Environment--The Job

An important consideration to be remembered in developing a curriculum is the purpose for which a person is undergoing an educational experience. He is preparing for something. It may be a general education, vocational or professional. Pesson (6, p. 8)
points out that it is of paramount importance to focus on the requirements of the job, and this includes the job or profession in an environmental or contemporary life context. Some questions raised by Pesson in regards to this are: What are the behavioral aspects of the job? What and how must one be able to do in order to fulfill the expectations of the job and under what sort of environmental conditions? What is required for successful performance of the job? These are the kinds of questions that must be dealt with in order to arrive at some objective decision about the curriculum. The answers to these questions must be related to potential disciplines that offer potential concepts so that relevancy of the concepts can be determined.

Another important aspect brought out by Pesson (6, p. 8) relates to the past-present-future context. Each of these concerns must be taken into consideration. The past tells us how things were and it helps to indicate trends or directions. The present indicates things as they are now, and the future is concerned with projections about the way things will be at some future date. The future aspect is very important as things which are learned now may very well be obsolete ten years from now. It becomes extremely critical to be concerned about providing the base for continued learning so that maximum professional development can occur. The open-endedness of concepts, for example, is an illustration of this idea. As new knowledge is developed and new dimensions are added to concepts, the person is able to alter or enlarge his conceptual map to fit the new situation.

The capability for dealing with change, and for dealing with
new situations becomes an important concern for the whole curriculum. The learner must be equipped to deal with reality, enabling him to proceed in problem-solving so that he will know what to do when problems are encountered for which solutions are not readily evident. Therefore, it is essential that the job itself be properly defined. This means getting into the critical aspects of performance. In other words, the roles to be played by the learners must be identified, the potential concepts that relate to the job must be selected, and the learner capable of applying it to problems (6, p. 9).

The Learners

The learners themselves must be considered as a source for educational objectives, particularly from the standpoint of where they are in relation to the other two sources; the discipline and the job. Information is needed from the learners that indicate their ability to perform the job requirements and to use effectively the knowledge required for optimum job performance. Some techniques must be utilized to study the learners in order to procure this information. Techniques frequently utilized are interviews or questionnaires, tests of various sorts and evaluations or observations by outside observers.

Determining what the learners are like is paramount to the selection of objectives. It is necessary to determine their characteristics, capabilities and practices, their needs, problems and interests, their behavior patterns, conceptual maps, values and attitudes and other information particularly as they relate to job performance that may be of benefit in determining what the learners
are like as a source of objectives for curriculum planning (6, p. 10).

Studies of the learners themselves suggest educational objectives only when the information about the learner is compared with some desirable standards, some conception of acceptable norms so that the difference between the present condition of the learner and the acceptable norm can be identified. This difference or gap is what is generally referred to as a need. Need in this sense is the gap between what is and what should be and should be distinguished from the meaning of need as interpreted by psychologists who consider needs as tensions in the organism which must be brought into equilibrium for a normal healthy condition of the organism to be maintained.

In deriving objectives from studies of learner's needs, the educator must identify implications relevant to educational objectives and not confuse them with implications that do not relate to education. That is to say, he should identify desirable changes in the behavior patterns of learners which would help to meet the needs indicated by the data collected.

For purposes of this study, two of the three suggested sources for educational objectives have been studied, namely, the job-environment and the learner. The job in an environmental context has been studied in an attempt to answer the questions as to what is required for successful performance of the job by the learner and what are the environmental conditions in which the learner must perform the job. The learner has been studied to identify certain characteristics, capabilities, practices, needs, problems, attitudes and other pertinent and useful information that may be of benefit in determining objectives for curriculum planning.
CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

This study was one of an exploratory nature designed for the purpose of obtaining information about people engaged in commercial fishing activities in the coastal regions of Louisiana. The parishes from which questionnaires were returned by the interviewers included Cameron, Iberia, Jefferson, Lafourche, Plaquemines, St. Bernard, St. Charles, St. John, St. Mary, St. Tammany, Tangipahoa, and Terrebonne.

Because of the fact that 86 percent of those respondents interviewed were engaged in the shrimping industry on a part-time or full-time basis as their major commercial fishing activity, it was decided to limit the analysis to only that collected data pertaining to the shrimping industry.

A comparison was made between part-time shrimpers and full-time shrimpers in an attempt to identify or define the shrimper, their problems, characteristics, practices employed, and other related factors that would tend to describe the typical part-time and full-time shrimper in Louisiana.

PERSONAL CHARACTERISTICS

Place of Residence

The place of residence of part-time and full-time shrimpers is shown in Table I. Two possible responses were included in the
questionnaire, namely, urban or rural. If the respondent had a street address, his place of residence was listed as urban. If the respondent had a rural route address, his residence was listed as rural. Of the total respondents, 55 percent lived in an urban area and 41 percent lived in a rural area.

TABLE I
A COMPARISON OF PART-TIME AND FULL-TIME SHRIMPERS ACCORDING TO PLACE OF RESIDENCE, LOUISIANA, 1973

<table>
<thead>
<tr>
<th>Residence</th>
<th>Part-time N=174</th>
<th>Full-time N=94</th>
<th>Total N=268</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban</td>
<td>46</td>
<td>71</td>
<td>55</td>
</tr>
<tr>
<td>Rural</td>
<td>52</td>
<td>21</td>
<td>41</td>
</tr>
<tr>
<td>No response</td>
<td>2</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

x² = 21.494 with 1 d.f.  P < .0005.

In the part-time shrimper group, 46 percent of the respondents lived in an urban area and 52 percent lived in a rural area. In the full-time shrimper group, 71 percent of the respondents lived in an urban area and 21 percent were domiciled in a rural area. The chi-square value of 21.494 indicated a significant difference in the place of residence between part-time and full-time shrimpers. More of the full-time shrimpers were domiciled in the urban areas.
Participation in Organizations

A participation rating based on participation in religious and civic organizations for part-time and full-time shrimpers is shown in Table II. Participation in one organization or none was assigned a rating of low, participation in two organizations was assigned a medium rating, and participation in three or more organizations was assigned a high rating.

TABLE II

A COMPARISON OF PART-TIME AND FULL-TIME SHRIMPERS AS TO ORGANIZATION PARTICIPATION, LOUISIANA, 1973

<table>
<thead>
<tr>
<th>Participation Rating</th>
<th>Part-time N=174</th>
<th>Full-time N=94</th>
<th>Total N=268</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low (one or none)</td>
<td>79</td>
<td>82</td>
<td>80</td>
</tr>
<tr>
<td>Medium (two)</td>
<td>15</td>
<td>10</td>
<td>13</td>
</tr>
<tr>
<td>High (three or more)</td>
<td>6</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

\[ x^2 = 2.092 \text{ with } 2 \text{ d.f. not significant.} \]

In the total group of respondents, 80 percent of the respondents had a low organization participation rating, 13 percent had a medium rating, and seven percent had a high organization participation rating.

Very little differences were noted between the part-time and full-time shrimpers with regard to a low, medium, or high participation rating. However, the majority of both part-time and full-time
shrimpers had a low participation rating in civic and religious organizations. The chi-square value of 2.092 indicated no significant differences between organization participation by part-time and full-time shrimpers.

**Education Level**

Four years or less, five to eleven years, and high school or more were the three groups into which the respondents were divided for the purpose of analyzing their education level. A comparison of part-time and full-time shrimpers, according to education level, is shown in Table III.

**TABLE III**

A COMPARISON OF PART-TIME AND FULL-TIME SHRIMPERS ACCORDING TO EDUCATION LEVEL,
LOUISIANA, 1973

<table>
<thead>
<tr>
<th>Education Level</th>
<th>Part-time (N=174)</th>
<th>Full-time (N=94)</th>
<th>Total (N=268)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 years or less</td>
<td>10</td>
<td>22</td>
<td>15</td>
</tr>
<tr>
<td>5 to 11 years</td>
<td>53</td>
<td>59</td>
<td>54</td>
</tr>
<tr>
<td>High school or more</td>
<td>35</td>
<td>19</td>
<td>29</td>
</tr>
<tr>
<td>No response</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>100</strong></td>
<td><strong>100</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

\[x^2 = 11.595 \text{ with } 2 \text{ d.f.} \quad P < .005.\]
Fifty-four percent of the total respondents had from five to eleven years of formal education with very little difference noted between full-time and part-time shrimpers in this category. However, 22 percent of the full-time shrimpers had only four years or less of formal education as compared with 10 percent of the part-time shrimpers. The only real difference between part-time and full-time shrimpers' educational level was in the third category where 35 percent of the part-time shrimpers had completed high school or additional formal education as compared with 19 percent of the full-time shrimpers in the same category. The chi-square value of 11.595 indicated a significant difference in the education level between part-time and full-time shrimpers. Part-time shrimpers had a higher education level.

**Age**

Table IV shows the age of part-time and full-time shrimpers. The respondents were divided into three different age groups, namely, below 40 years of age, between 40 and 59 years of age, and 60 years of age or older.

Fifty-one percent of the total respondents were between the ages of 40 and 49. Very little difference was noted between the part-time and full-time shrimpers who were below 40 years of age. However, more of the part-time shrimpers were 60 years of age or older as compared with the full-time shrimper. The full-time shrimpers had a larger percentage of respondents in the 40 to 49 year-old age group. The chi-square value of 8.028 indicated that there was a significant difference in age between part-time and full-time shrimpers. The full-time shrimpers tended to be slightly older.
TABLE IV
A COMPARISON OF PART-TIME AND FULL-TIME SHRIMPERS
ACCORDING TO AGE GROUP,
LOUISIANA, 1973

<table>
<thead>
<tr>
<th>Age</th>
<th>Percent</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Part-time</td>
<td>Full-time</td>
</tr>
<tr>
<td>No response</td>
<td>3 (N=174)</td>
<td>4 (N=94)</td>
</tr>
<tr>
<td>Below 40 years of age</td>
<td>34 (N=174)</td>
<td>32 (N=94)</td>
</tr>
<tr>
<td>Between 40-59 years of age</td>
<td>48 (N=174)</td>
<td>60 (N=94)</td>
</tr>
<tr>
<td>60 years of age and over</td>
<td>15 (N=174)</td>
<td>4 (N=94)</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>100 (N=268)</td>
<td>100 (N=268)</td>
</tr>
</tbody>
</table>

x² = 8.028 with 2 d.f.  P < .025.

Knowledge of Sea Grant Program

The knowledge that the part-time and full-time shrimpers had of the Sea Grant Program is shown in Table V.

In analyzing the knowledge that the respondents had of the Sea Grant Program, the researcher divided the individuals into three groups, namely, those that answered yes, those that answered no, and those that were not sure as to the purpose of the Sea Grant Program.

Seventy-three percent of the total group had no knowledge of the Sea Grant Program. However, the full-time shrimper indicated a greater knowledge of Sea Grant when compared with the part-time shrimper.
TABLE V
A COMPARISON OF PART-TIME AND FULL-TIME SHRIMPERS
ACCORDING TO THEIR KNOWLEDGE OF THE SEA
GRANT PROGRAM, LOUISIANA, 1973

<table>
<thead>
<tr>
<th>Knowledge of Sea Grant Program</th>
<th>Part-time N=174</th>
<th>Full-time N=94</th>
<th>Total N=268</th>
</tr>
</thead>
<tbody>
<tr>
<td>No response</td>
<td>1</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Yes</td>
<td>19</td>
<td>32</td>
<td>23</td>
</tr>
<tr>
<td>No</td>
<td>78</td>
<td>64</td>
<td>73</td>
</tr>
<tr>
<td>Not sure</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

\[ x^2 = 6.386 \text{ with } 2 \text{ d.f. } P < .05. \]

The chi-square value of 6.386 indicated a significant difference in knowledge of Sea Grant between part-time and full-time shrimpers. The full-time shrimper group had a greater knowledge of Sea Grant.

Number of Years in Shrimping

Table VI shows the number of years in shrimping by the part-time and full-time shrimpers. The researcher divided the respondents into three groups, namely, those that had been shrimping from one to ten years, those that had been shrimping from eleven to twenty years and those that had been shrimping for more than twenty years.

The data indicated that the full-time shrimpers had more years in shrimping than did the part-time shrimpers. Forty-four percent of
the part-time shrimpers had only been shrimping from one to ten years as compared with 42 percent of the full-time shrimpers being involved in the shrimping industry for over twenty years. The chi-square value of 6.2888 indicated a significant difference in the number of years in shrimping between part-time shrimpers and full-time shrimpers.

### TABLE VI
A COMPARISON OF PART-TIME AND FULL-TIME SHRIMPERS ACCORDING TO YEARS IN SHRIMPING, LOUISIANA, 1973

<table>
<thead>
<tr>
<th>Number of Years in Shrimping</th>
<th>Part-time N=174</th>
<th>Full-time N=94</th>
<th>Total N=268</th>
</tr>
</thead>
<tbody>
<tr>
<td>No response</td>
<td>1</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>1 - 10 years</td>
<td>44</td>
<td>28</td>
<td>38</td>
</tr>
<tr>
<td>11 - 20 years</td>
<td>23</td>
<td>27</td>
<td>24</td>
</tr>
<tr>
<td>Over 20 years</td>
<td>32</td>
<td>42</td>
<td>36</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

x² = 6.288 with 2 d.f. P < .05.

### PRACTICES

**Use of New Shrimping Practices**

Table VII shows the percentages of part-time and full-time shrimpers using new shrimping practices.

Eighty-six percent of the total respondents were not using new shrimping practices. However, 16 percent of the full-time
shrimpers were using new practices as compared with only 8 percent of the part-time shrimpers. The chi-square value of 4.013 indicated a significant difference in the use of new practices between part-time and full-time shrimpers. More of the full-time shrimpers were using new practices.

TABLE VII
A COMPARISON OF PART-TIME AND FULL-TIME SHRIMPERS ACCORDING TO USE OF NEW SHRIMPING PRACTICES, LOUISIANA, 1973

<table>
<thead>
<tr>
<th>Use of New Practices</th>
<th>Part-time N=174</th>
<th>Full-time N=94</th>
<th>Total N=268</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>8</td>
<td>16</td>
<td>11</td>
</tr>
<tr>
<td>No</td>
<td>89</td>
<td>81</td>
<td>86</td>
</tr>
<tr>
<td>Uncertain</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>No response</td>
<td>2</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

$x^2 = 4.013$ with 1 d.f. $P < .05$.

Knowledge of New Practices

Table VIII shows the knowledge that the part-time and full-time shrimpers had of new shrimping practices. Fifty-eight percent of the total respondents were not aware of new shrimping practices as compared with 11 percent of the total group who were aware of new shrimping practices.
### TABLE VIII
A COMPARISON OF PART-TIME AND FULL-TIME SHRIMPERS ACCORDING TO KNOWLEDGE OF NEW SHRIMPING PRACTICES, LOUISIANA, 1973

<table>
<thead>
<tr>
<th>Knowledge of New Shrimping Practices</th>
<th>Part-time N=174</th>
<th>Full-time N=94</th>
<th>Total N=268</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>9</td>
<td>15</td>
<td>11</td>
</tr>
<tr>
<td>No</td>
<td>67</td>
<td>45</td>
<td>58</td>
</tr>
<tr>
<td>Don't know</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>No response</td>
<td>24</td>
<td>39</td>
<td>30</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

\[ x^2 = 4.863 \text{ with 1 d.f. } P < .05. \]

The chi-square value of 4.863 indicated a significant difference in the knowledge of new shrimping practices between part-time and full-time shrimpers. More of the full-time shrimpers had greater knowledge of new practices.

**Use of Flat Trawls**

Table IX shows the percentage of fishing time that part-time and full-time shrimpers use flat trawls as a method for catching shrimp.

Forty-four percent of the total group of respondents were using flat trawls 100 percent of the time. The part-time shrimper group used the flat trawl for catching shrimp more than did the full-time shrimper group. The chi-square value of 17.871 indicated a significant difference.
TABLE IX

A COMPARISON OF PART-TIME AND FULL-TIME SHRIMPERS
ACCORDING TO THE USE OF FLAT TRAWLS FOR
CATCHING SHRIMP, LOUISIANA, 1973

<table>
<thead>
<tr>
<th>Use of Flat Trawls</th>
<th>Part-time N=174</th>
<th>Full-time N=94</th>
<th>Total N=268</th>
</tr>
</thead>
<tbody>
<tr>
<td>No response</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>None</td>
<td>31</td>
<td>43</td>
<td>35</td>
</tr>
<tr>
<td>Up to 50 percent</td>
<td>11</td>
<td>21</td>
<td>15</td>
</tr>
<tr>
<td>51 - 75 percent</td>
<td>3</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td>100 percent</td>
<td>54</td>
<td>26</td>
<td>44</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

\[ x^2 = 17.871 \text{ with } 3 \text{ d.f. } P < .0005. \]

Use of Balloon Trawls

The percentage of part-time and full-time shrimpers using balloon trawls as a method for catching shrimp is shown in Table X.

Twenty-nine percent of the total group of respondents were using balloon trawls 100 percent of the time as a method for catching shrimp. The full-time shrimper group used balloon trawls more than did the part-time shrimper group in their shrimping operations. The chi-square value of 9.228 indicated a significant difference.

Use of Butterfly Nets

Table XI shows the percentage of use of butterfly nets by part-time and full-time shrimpers as a method for catching shrimp.
### TABLE X

**A COMPARISON OF PART-TIME AND FULL-TIME SHRIMPERS ACCORDING TO THE USE OF BALLOON TRAWLS FOR CATCHING SHRIMP, LOUISIANA, 1973**

<table>
<thead>
<tr>
<th>Use of Balloon Trawls</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Part-time N=174</td>
</tr>
<tr>
<td>No response</td>
<td>3</td>
</tr>
<tr>
<td>None</td>
<td>60</td>
</tr>
<tr>
<td>Up to 50 percent</td>
<td>6</td>
</tr>
<tr>
<td>51 to 75 percent</td>
<td>5</td>
</tr>
<tr>
<td>100 percent</td>
<td>26</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>100</td>
</tr>
</tbody>
</table>

\[ x^2 = 9.228 \text{ with } 2 \text{ d.f. } P < .01. \]

### TABLE XI

**A COMPARISON OF PART-TIME AND FULL-TIME SHRIMPERS ACCORDING TO THE USE OF BUTTERFLY NETS FOR CATCHING SHRIMP, LOUISIANA, 1973**

<table>
<thead>
<tr>
<th>Use of Butterfly Nets</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Part-time N=174</td>
</tr>
<tr>
<td>No response</td>
<td>2</td>
</tr>
<tr>
<td>None</td>
<td>92</td>
</tr>
<tr>
<td>Up to 50 percent</td>
<td>2</td>
</tr>
<tr>
<td>51 - 75 percent</td>
<td>4</td>
</tr>
<tr>
<td>100 percent</td>
<td>0</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>100</td>
</tr>
</tbody>
</table>

\[ x^2 = 12.344 \text{ with } 2 \text{ d.f. } P < .005. \]
Eighty-seven percent of the total group of respondents were not using butterfly nets as a method for catching shrimp. Sixteen percent of the full-time shrimpers were using butterfly nets up to 50 percent of the time as compared with only 2 percent of the part-time shrimper group. The full-time shrimper group made more use of butterfly nets as a means of catching shrimp than did the part-time shrimper group. A significant difference was indicated by the chi-square value of 12.344.

Number of Days Before Returning to Port

Table XII shows the number of days before shrimp catch is brought into port.

<table>
<thead>
<tr>
<th>TABLE XII</th>
</tr>
</thead>
<tbody>
<tr>
<td>A COMPARISON OF PART-TIME AND FULL-TIME SHRIMPERS ACCORDING TO THE NUMBER OF DAYS BEFORE CATCH IS BROUGHT INTO PORT, LOUISIANA, 1973</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of Days</th>
<th>Part-time N=174</th>
<th>Full-time N=94</th>
<th>Total N=268</th>
</tr>
</thead>
<tbody>
<tr>
<td>No response</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>One day</td>
<td>81</td>
<td>44</td>
<td>68</td>
</tr>
<tr>
<td>Two to five days</td>
<td>14</td>
<td>26</td>
<td>19</td>
</tr>
<tr>
<td>Over five days</td>
<td>3</td>
<td>30</td>
<td>12</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

\[ x^2 = 36.626 \text{ with 2 d.f. } P < .0005. \]

Sixty-eight percent of the total group of respondents brought their shrimp catches into port on the same day. However, more of the part-time shrimpers returned to port the same day as compared with the
full-time shrimper. As could be expected, the full-time shrimpers spent more days shrimping before returning to port than did the part-time shrimper group. The chi-square value of 36.626 indicated a significant difference.

Shrimp Storage

Table XIII shows the method employed for storing shrimp catches aboard the vessel by part-time and full-time shrimpers. In considering the total respondents, 2 percent of the total respondents were storing shrimp catches in some type of refrigeration unit and 95 percent were storing shrimp catches in an ice filled container. These containers were ice chests, ice holes, hampers with ice, shrimp tubs, and ice boxes.

TABLE XIII

A COMPARISON OF PART-TIME AND FULL-TIME SHRIMPERS ACCORDING TO THE METHOD OF STORING SHRIMP CATCHES ABOARD THEIR VESSEL, LOUISIANA, 1973

<table>
<thead>
<tr>
<th>Method of Storage</th>
<th>Part-time N=174</th>
<th>Full-time N=94</th>
<th>Total N=268</th>
</tr>
</thead>
<tbody>
<tr>
<td>No response</td>
<td>3</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Refrigeration unit</td>
<td>1</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Ice chest</td>
<td>75</td>
<td>33</td>
<td>61</td>
</tr>
<tr>
<td>Ice hole</td>
<td>9</td>
<td>37</td>
<td>19</td>
</tr>
<tr>
<td>Hampers with ice</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Shrimp tubs</td>
<td>1</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Ice box</td>
<td>10</td>
<td>12</td>
<td>11</td>
</tr>
</tbody>
</table>

TOTAL 100 100 100
Only one percent of the part-time shrimper group was using a refrigeration unit as compared with four percent of the full-time shrimper group in the same category.

**Identifying Shrimping Area**

The method used in deciding which area to shrimp is shown in Table XIV.

<table>
<thead>
<tr>
<th>TABLE XIV</th>
</tr>
</thead>
<tbody>
<tr>
<td>A COMPARISON OF PART-TIME AND FULL-TIME SHRIMPERS ACCORDING TO METHOD USED IN DECIDING WHICH AREA TO SHRIMP, LOUISIANA, 1973</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Method Used</th>
<th>Part-time</th>
<th>Full-time</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Past experience</td>
<td>78</td>
<td>83</td>
<td>80</td>
</tr>
<tr>
<td>Reports from shrimpers</td>
<td>55</td>
<td>35</td>
<td>47</td>
</tr>
<tr>
<td>Reports from Louisiana Wildlife and Fisheries Commission</td>
<td>0</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Random</td>
<td>11</td>
<td>11</td>
<td>11</td>
</tr>
</tbody>
</table>

\[ x^2 = 3.787 \text{ with } 2 \text{ d.f. } P < .20. \]

In analyzing the method used by part-time and full-time shrimpers in deciding which area to shrimp, four possible responses were included in the questionnaire, namely, past experience, reports from other shrimpers, reports from the Louisiana Wildlife and Fisheries Commission, and at random. The respondent could answer the question by indicating yes or no to each of the responses. Only those responses indicating a yes answer are being presented in this table.
Eighty percent of the total respondents used their past experience in making a decision as to where to shrimp. Very little difference was noted between the part-time and full-time shrimper in this category. Fifty-five percent of the part-time shrimper group used reports from other shrimpers as a means for locating shrimp as compared with 35 percent of the full-time shrimper group. Only the full-time shrimper group used reports from the Louisiana Wildlife and Fisheries Commission as a guide to finding shrimp and this was only a small 5 percent. The chi-square value of 3.787 indicated a significant difference between part-time and full-time shrimpers in deciding where to shrimp.

**In-shore Fishing**

Table XV shows the amount of time spent fishing in-shore by part-time and full-time shrimpers.

Seventy-three percent of the total group of respondents shrimped in-shore waters from 90 to 100 percent of the time. However, 83 percent of the part-time shrimpers fished in-shore from 90 to 100 percent of the time as compared with only 53 percent of the full-time shrimper group in the same category. Very little difference was noted between part-time and full-time shrimpers in the other two categories pertaining to the percent of time spent shrimping in-shore waters. The chi-square value of 6.127 indicated a significant difference. Part-time shrimpers shrimped more in-shore.

**Time Spent Shrimping Off-shore**

The amount of time spent shrimping off-shore by part-time and full-time shrimpers is shown in Table XVI.

The full-time shrimper spent more of his time shrimping in
TABLE XV
A COMPARISON OF PART-TIME AND FULL-TIME SHRIMPERS ACCORDING TO TIME SPENT SHRIMPING IN-SHORE, LOUISIANA, 1973

<table>
<thead>
<tr>
<th>Time Spent In-shore</th>
<th>Part-time N=174</th>
<th>Full-time N=94</th>
<th>Total N=268</th>
</tr>
</thead>
<tbody>
<tr>
<td>No response</td>
<td>5</td>
<td>26</td>
<td>12</td>
</tr>
<tr>
<td>Up to 59 percent</td>
<td>6</td>
<td>12</td>
<td>8</td>
</tr>
<tr>
<td>60 to 89 percent</td>
<td>6</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>90 to 100 percent</td>
<td>83</td>
<td>53</td>
<td>73</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

\(x^2 = 6.127 \text{ with } 2 \text{ d.f. } P < .05.\)

TABLE XVI
A COMPARISON OF PART-TIME AND FULL-TIME SHRIMPERS ACCORDING TO TIME SPENT SHRIMPING OFF-SHORE, LOUISIANA, 1973

<table>
<thead>
<tr>
<th>Time Spent Off-shore</th>
<th>Part-time N=174</th>
<th>Full-time N=94</th>
<th>Total N=268</th>
</tr>
</thead>
<tbody>
<tr>
<td>No response</td>
<td>80</td>
<td>56</td>
<td>71</td>
</tr>
<tr>
<td>Up to 59 percent</td>
<td>15</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>60 to 89 percent</td>
<td>2</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>90 to 100 percent</td>
<td>3</td>
<td>24</td>
<td>10</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

\(x^2 = 9.347 \text{ with } 2 \text{ d.f. } P < .01.\)
off-shore waters than did the part-time shrimper, particularly in the
category of from 90 to 100 percent of the time. Very little difference
was noted between the part-time and full-time shrimper in the other
categories. The chi-square value of 9.347 indicated a significant
difference. The full-time shrimper shrimped more off-shore.

**ATTITUDES AND OPINIONS**

**Brown Shrimp Management**

Table XVII shows the opinion of part-time and full-time shrimpers
as to the management practices being followed for brown shrimp.

**TABLE XVII**

A COMPARISON OF PART-TIME AND FULL-TIME SHRIMPERS
ACCORDING TO THEIR OPINION TOWARDS BROWN
SHRIMP MANAGEMENT PRACTICES,
LOUISIANA, 1973

<table>
<thead>
<tr>
<th>Opinion of Brown Shrimp Management</th>
<th>Part-time N=174</th>
<th>Full-time N=94</th>
<th>Total N=268</th>
</tr>
</thead>
<tbody>
<tr>
<td>No response</td>
<td>4</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>Favorable</td>
<td>50</td>
<td>57</td>
<td>53</td>
</tr>
<tr>
<td>Unfavorable</td>
<td>29</td>
<td>25</td>
<td>27</td>
</tr>
<tr>
<td>No opinion</td>
<td>17</td>
<td>11</td>
<td>15</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>100</strong></td>
<td><strong>100</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

$x^2 = 1.9633$ with 2 d.f. not significant.

Fifty-three percent of the total respondents expressed a
favorable attitude towards brown shrimp management practices as
compared with 27 percent expressing an unfavorable opinion. Very
little difference was noted between the opinions of the part-time
shrimper group as compared with the opinions of the full-time shrimper group with reference to having a favorable or unfavorable opinion towards brown shrimp management.

Improving the Shrimping Season

Table XVIII shows the suggestions that part-time and full-time shrimpers had for improving the shrimping season.

**TABLE XVIII**

A COMPARISON OF PART-TIME AND FULL-TIME SHRIMPERS ACCORDING TO THEIR SUGGESTIONS FOR IMPROVING THE SHRIMP SEASON, LOUISIANA, 1973

<table>
<thead>
<tr>
<th>Suggestions for Improving Shrimp Season</th>
<th>Part-time N=174</th>
<th>Full-time N=94</th>
<th>Total N=268</th>
</tr>
</thead>
<tbody>
<tr>
<td>No response</td>
<td>8</td>
<td>16</td>
<td>11</td>
</tr>
<tr>
<td>Adjust opening and closing of season</td>
<td>40</td>
<td>28</td>
<td>36</td>
</tr>
<tr>
<td>Satisfied or no suggestions</td>
<td>33</td>
<td>19</td>
<td>28</td>
</tr>
<tr>
<td>Stricter law enforcement</td>
<td>19</td>
<td>36</td>
<td>24</td>
</tr>
<tr>
<td>Technical assistance</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>100</strong></td>
<td><strong>100</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

$x^2 = 10.707$ with 2 d.f. $P < .005$.

Thirty-six percent of the group were of the opinion that the closing-opening dates of the shrimping season should be adjusted. However, 40 percent of the part-time shrimpers were of this opinion as compared with only 28 percent of the full-time shrimper group in the same category. Thirty-six percent of the full-time shrimper group
favored stricter law enforcement as compared with only 19 percent of the part-time shrimper group in the same category. Thirty-three percent of the part-time shrimper group expressed satisfaction or had no suggestions as to improving the shrimp season as compared with only 19 percent of the full-time shrimper group in the same category. One percent of the total group suggested technical assistance as a means of improving the shrimp season. A significant difference between part-time and full-time shrimping was indicated by the chi-square value of 10.707.

Trend in Shrimp Crop

The opinion of part-time and full-time shrimpers as to the shrimp crop is shown in Table XIX.

TABLE XIX

A COMPARISON OF PART-TIME AND FULL-TIME SHRIMPERS ACCORDING TO THEIR OPINIONS AS TO SHRIMP CROP TRENDS, LOUISIANA, 1973

<table>
<thead>
<tr>
<th>Opinion of Shrimp Crop Trend</th>
<th>Part-time N=174</th>
<th>Full-time N=94</th>
<th>Total N=268</th>
</tr>
</thead>
<tbody>
<tr>
<td>No response</td>
<td>2</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Increased</td>
<td>13</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>Decreased</td>
<td>46</td>
<td>54</td>
<td>50</td>
</tr>
<tr>
<td>Same</td>
<td>35</td>
<td>31</td>
<td>33</td>
</tr>
<tr>
<td>No opinion</td>
<td>4</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

\[ x^2 = 1.268 \text{ with 2 d.f. not significant.} \]
Fifty percent of the total group of respondents were of the opinion that the shrimp crop had been reduced over the past years while only 12 percent felt that the shrimp crop had shown an increase. Thirty-three percent of the total group of respondents were of the opinion that the shrimp crop had remained the same over the years. The part-time and full-time shrimpers differed very little in their opinions in each category.

**Effort Required to Catch Shrimp**

A comparison as to the effort required to catch shrimp today as compared to ten years ago is shown in Table XX.

**TABLE XX**

A COMPARISON OF PART-TIME AND FULL-TIME SHRIMPERS AS TO THEIR OPINIONS OF THE EFFORT REQUIRED TO CATCH SHRIMP TODAY AS COMPARED TO TEN YEARS AGO, LOUISIANA, 1973

<table>
<thead>
<tr>
<th>Effort Required to Catch Shrimp</th>
<th>Part-time</th>
<th>Full-time</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>No response</td>
<td>2</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>More</td>
<td>43</td>
<td>60</td>
<td>49</td>
</tr>
<tr>
<td>Less</td>
<td>30</td>
<td>17</td>
<td>19</td>
</tr>
<tr>
<td>Same</td>
<td>28</td>
<td>17</td>
<td>24</td>
</tr>
<tr>
<td>No opinion</td>
<td>7</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>100</strong></td>
<td><strong>100</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

\[ x^2 = 8.851 \text{ with } 2 \text{ d.f. } P < .025. \]
Forty-nine percent of the total respondents were of the opinion that more effort was required to catch shrimp today than ten years ago. However, the full-time shrimper, 60 percent, felt that it required more effort as compared with the part-time shrimper group. Only 43 percent of the part-time shrimper group felt that more effort was required. About the same amount of part-time shrimpers felt that the effort was either less or about the same although a higher percentage was of this opinion when compared with the opinion expressed by the full-time shrimper. A chi-square value of 8.851 indicated a significant difference.

Common Problems in Shrimping

Table XXI shows common problems in shrimping shared by part-time and full-time shrimpers.

TABLE XXI

A COMPARISON OF PART-TIME AND FULL-TIME SHRIMPERS ACCORDING TO COMMON PROBLEMS IN SHRIMPING, LOUISIANA, 1973

| Common Problems            | Percent |  |   |
|----------------------------|---------|  |   |
|                            | Part-time | Full-time | Total |
| No response                | 28       | 24         | 26    |
| Obstructions               | 38       | 42         | 39    |
| Pollution                  | 5        | 1          | 3     |
| Labor                      | 3        | 3          | 3     |
| Poor shrimp crops          | 16       | 23         | 19    |
| Boats passing discourteously | 8       | 5          | 7     |
| Unfair gas tax             | 1        | 0          | 1     |
| Trash fish                 | 1        | 1          | 1     |
| Double rigging             | 0        | 1          | 1     |
| TOTAL                      | 100      | 100        | 100   |
Underwater obstructions and poor shrimp crop were the two main problems listed by the respondents.

Thirty-nine percent of the total respondents were of the opinion that obstructions were the major problems in shrimping. Very little difference was noted between the part-time shrimper group and the full-time shrimper group in this category. Nineteen percent of the total group felt that poor shrimp crops were a common problem with little differences between part-time and full-time shrimpers in this category. In the other categories very little differences in opinions as to common problems were noted between part-time and full-time shrimpers.

Limiting Licenses for Shrimping

The opinion of part-time and full-time shrimpers as to the limiting of licenses for shrimping is shown in Table XXII.

**TABLE XXII**

A COMPARISON OF PART-TIME AND FULL-TIME SHRIMPERS ACCORDING TO THEIR OPINIONS TOWARDS LIMITING SHRIMPING LICENSES, LOUISIANA, 1973

<table>
<thead>
<tr>
<th>Opinion Towards Limiting Licenses</th>
<th>Part-time N=174</th>
<th>Full-time N=94</th>
<th>Total N=268</th>
</tr>
</thead>
<tbody>
<tr>
<td>No response</td>
<td>3</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>Favorable</td>
<td>16</td>
<td>31</td>
<td>37</td>
</tr>
<tr>
<td>Unfavorable</td>
<td>77</td>
<td>55</td>
<td>71</td>
</tr>
<tr>
<td>Undecided</td>
<td>4</td>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

\[ x^2 = 9.743 \text{ with } 2 \text{ d.f. } P < .01. \]
Seventy-one percent of the total group of respondents had an unfavorable opinion towards the limiting of shrimping licenses. The part-time shrimper group had a much more unfavorable opinion towards limiting licenses than did the full-time shrimper group. Thirty-one percent of the full-time shrimper group were in favor of limiting shrimper licenses as compared with 16 percent of the part-time shrimper group in the same category. The chi-square value of 9.743 indicated a significant difference. The part-time shrimpers were more unfavorable.

**Opinion Towards Sports Fishermen**

Table XXIII shows the opinions of part-time and full-time shrimpers toward sports fishermen.

**TABLE XXIII**

A COMPARISON OF PART-TIME AND FULL-TIME SHRIMPERS ACCORDING TO THEIR OPINION OF SPORTS FISHERMEN, LOUISIANA, 1973

<table>
<thead>
<tr>
<th>Opinion of Sports Fishermen</th>
<th>Part-time</th>
<th>Full-time</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td>66 N=174</td>
<td>29 N=94</td>
<td>53 N=268</td>
</tr>
<tr>
<td>Fair</td>
<td>13</td>
<td>14</td>
<td>13</td>
</tr>
<tr>
<td>Poor</td>
<td>12</td>
<td>51</td>
<td>26</td>
</tr>
<tr>
<td>No opinion</td>
<td>9</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>No response</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>100</strong></td>
<td><strong>100</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

\[ x^2 = 38.552 \text{ with 2 d.f. } P < .0005. \]
Fifty-one percent of the full-time shrimper group had a poor opinion of sports fishermen while 66 percent of the part-time group had a good opinion of sports fishermen. Very little differences were noted between part-time shrimpers and full-time shrimpers in the other categories. The chi-square value of 38.552 indicated a highly significant difference.

Cooperative Management and Marketing

Part-time and full-time shrimpers' opinions toward cooperatives for shrimpers is shown in Table XXIV.

<table>
<thead>
<tr>
<th>Opinion Towards Cooperatives</th>
<th>Part-time N=174</th>
<th>Full-time N=94</th>
<th>Total N=268</th>
</tr>
</thead>
<tbody>
<tr>
<td>Favorable</td>
<td>22</td>
<td>40</td>
<td>28</td>
</tr>
<tr>
<td>Unfavorable</td>
<td>43</td>
<td>40</td>
<td>42</td>
</tr>
<tr>
<td>Undecided</td>
<td>17</td>
<td>18</td>
<td>18</td>
</tr>
<tr>
<td>No response</td>
<td>18</td>
<td>2</td>
<td>12</td>
</tr>
</tbody>
</table>

TOTAL 100 100 100

\[ x^2 = 3.972 \text{ with 2 d.f. } P < .05. \]

Forty percent of the full-time shrimper group had a favorable opinion towards shrimp cooperatives as compared with only 22 percent of the part-time shrimpers in the same category. However, 42 percent
of the total group had an unfavorable attitude toward shrimper cooperatives with little differences noted between the part-time and full-time shrimper. The chi-square value of 3.972 indicated a significant difference. Full-time shrimpers were more favorable toward cooperatives.

Knowledge of County Agent

Table XXV shows whether or not the part-time and full-time shrimper knew the county agent in his parish.

TABLE XXV

A COMPARISON OF PART-TIME AND FULL-TIME SHRIMPERS
ACCORDING TO THEIR KNOWLEDGE OF THE COUNTY AGENT IN THEIR PARISH, LOUISIANA, 1973

<table>
<thead>
<tr>
<th>Knowledge of County Agent</th>
<th>Part-time</th>
<th>Full-time</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N=174</td>
<td>N=94</td>
<td>N=268</td>
</tr>
<tr>
<td>Knows him</td>
<td>50</td>
<td>38</td>
<td>46</td>
</tr>
<tr>
<td>Uncertain</td>
<td>4</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Does not know him</td>
<td>45</td>
<td>56</td>
<td>48</td>
</tr>
<tr>
<td>No response</td>
<td>1</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

\[ x^2 = 2.957 \text{ with 2 d.f. not significant.} \]

Forty-eight percent of the total respondents did not know the county agent in their parishes. The remainder either admitted they did know him or they were not sure. More of the part-time shrimpers knew the county agent than did the full-time shrimper group.
CHAPTER V

SUMMARY AND CONCLUSIONS

SUMMARY

The major focus of this study was of a descriptive nature designed to draw a profile of commercial shrimpers in the coastal regions of Louisiana for determining the feasibility of an Extension education program directed towards them.

In trying to determine what educational purposes are to be sought with a particular program, several sources of information can be useful in aiding one to be objective in making wise and comprehensive decisions about objectives. Three sources from which information can be gained are the discipline, the job-environment and the learners themselves. Two of these three suggested sources for educational objectives have been studied in this study, namely, the job-environment and the learner. The job in an environmental context has been studied in an attempt to answer the questions as to what is required for successful performance of the job by the learner and what are the environmental conditions in which the learner must perform the job. The learner has been studied to identify certain characteristics, practices employed, attitudes and opinions, and other pertinent and useful information that may be of benefit in determining objectives for curriculum planning.

In this study, the commercial shrimpers were divided into two
groups, namely, part-time shrimpers and full-time shrimpers and comparisons were made between the two groups in regards to the following factors:

a) selected personal characteristics
b) attitudes and opinions
c) practices utilized.

The findings of this study are summarized on the basis of the primary objective set forth in the study.

A. Information obtained from part-time and full-time shrimpers

1. Personal Characteristics

a. Seventy-one percent of the full-time shrimpers lived in an urban area as compared with 46 percent of the part-time shrimpers. This was a significant difference at the .0005 level.

b. The majority of both the part-time and full-time shrimpers had a low participation rating in both civic and religious organizations. No significant difference existed between part-time and full-time shrimpers in regard to this characteristic.

c. The part-time shrimper group had a higher education level than did the full-time shrimper group. Thirty-five percent of the part-time shrimper group had completed high school or additional formal education as compared with only 19 percent of the full-time shrimper group. This was a significant difference at the .005 level.
d. Fifty-one percent of the total respondents were between the ages of 40 and 49. Very little differences were noted between the part-time and full-time shrimpers who were below 40 years of age. However, more of the part-time shrimpers were 60 years of age or older as compared with the full-time shrimper. The full-time shrimper group had a larger percentage of its respondents in the 40 to 49 year-old age group. The part-time shrimpers tended to be slightly older. This difference was significant at the .025 level.

e. Seventy-three percent of the total group of respondents had no knowledge of the Sea Grant Program. However, the full-time shrimper indicated a greater knowledge of Sea Grant when compared with the part-time shrimper. The difference was significant at the .05 level.

f. The full-time shrimper had more years in shrimping than did the part-time shrimpers. Forty-four percent of the part-time shrimpers had been shrimping from one to ten years as compared with 42 percent of the full-time shrimpers being involved in the shrimping industry for over twenty years. This difference was significant at the .05 level.

2. Practices

a. Eighty-six percent of the total respondents were not using new shrimping practices. However, 16 percent of the full-time shrimpers were using new practices as compared with only 8 percent of the part-time shrimpers. A significant
difference at the .05 level existed.

b. Fifty-eight percent of the total respondents were not aware of new shrimping practices as compared with 11 percent who were. The full-time shrimper group was more aware of new shrimping practices than was the part-time shrimper group. This was significant at the .05 level.

c. Forty-four percent of the total group of respondents were using flat trawls exclusively. The part-time shrimper group used the flat trawl for catching shrimp more than did the full-time shrimper group. This was significant at the .0005 level.

d. Twenty-nine percent of the total group of respondents were using balloon trawls exclusively as a method for catching shrimp. The full-time shrimper group used balloon trawls more than did the part-time shrimper group in their shrimping operation. A significant difference at the .01 level existed.

e. Eighty-seven percent of the total group of respondents were not using butterfly nets as a method for catching shrimp. Sixteen percent of the full-time shrimpers were using butterfly nets up to 50 percent of the time as compared with only 2 percent of the part-time shrimper group. The full-time shrimpers made more use of butterfly nets as a means of catching shrimp. A significant difference existed at the .005 level.

f. Sixty-eight percent of the total group of respondents brought their shrimp catches into port on the same day.
However, more of the part-time shrimpers returned to port the same day as compared with the full-time shrimpers who remained in shrimping waters for more days before coming into port. This was significant at the .0005 level.

g. Only 2 percent of the part-time shrimpers were storing their shrimp in refrigeration units on board the shrimping vessel as compared with 4 percent of the full-time shrimpers. Ninety-six percent of the part-time shrimpers and 92 percent of the full-time shrimpers were storing their shrimp catches in some type of ice filled container on board the vessel.

h. Eighty percent of the total respondents used their past experience in making a decision concerning where to shrimp. Very little difference was noted between part-time and full-time shrimpers in this same category. Fifty-five percent of the part-time shrimper group used reports from other shrimpers as compared with 35 percent of the full-time shrimper group. Only 5 percent of the full-time shrimper group used reports from the Louisiana Wildlife and Fisheries Commission as a guide to finding shrimp. This was significant at the .10 level.

i. Seventy-three percent of the total respondents shrimped in-shore waters from 90 to 100 percent of the time. However, 83 percent of the part-time shrimpers shrimped in-shore from 90 to 100 percent of the time as compared with only 53 percent of the full-time shrimpers in the same category. This was significant at the .05 level.

j. The full-time shrimper spent more of his time shrimping.
off-shore than did the part-time shrimper, particularly in the category of from 90 to 100 percent of the time. Very little differences were noted between part-time and full-time shrimpers in the other categories. This was significant at the .01 level.

3. Attitudes and Opinions

a. Very little differences were noted between the opinions of part-time shrimpers and full-time shrimpers with reference to having a favorable or unfavorable opinion towards brown shrimp management. Fifty-three percent of the total group of respondents expressed a favorable attitude as compared with 27 percent expressing an unfavorable attitude towards brown shrimp management. No significant difference existed.

b. Thirty-six percent of the total group of respondents were of the opinion that the closing and opening of the shrimping season should be adjusted. However, 40 percent of the part-time shrimpers were of this opinion as compared with only 28 percent of the full-time shrimper group in the same category. Stricter law enforcement was favored by 36 percent of the full-time shrimper group as compared with only 19 percent of the part-time shrimper group in the same category. Thirty-three percent of the part-time shrimper group expressed satisfaction with the shrimping season as compared with only 19 percent of the full-time shrimper group in the same category. Only one percent of the total group suggested technical assistance as a means of improving the shrimp season. A significant difference existed at the .005 level.
c. Fifty percent of the total group of respondents were of the opinion that the shrimp crop had decreased over the years as compared with 12 percent who were of the opinion that it had increased. Thirty-three percent of the total group of respondents were of the opinion that the shrimp crop had remained the same. Very little differences were noted in the opinions of part-time and full-time shrimpers in each category. No significant differences existed.

d. The full-time shrimper group was of the opinion that it required more effort to catch shrimp today than it did ten years ago as compared with the opinions of the part-time shrimper group. However, both groups were of the opinion that more effort is required to catch shrimp today. This was significant at the .025 level.

e. Underwater obstructions and poor shrimp crops were the two main problems listed by the part-time and full-time respondents. Only 3 percent of the total group felt that pollution was a problem.

f. Seventy-one percent of the total group of respondents had an unfavorable opinion towards the limiting of licenses. The part-time shrimper group had a much more unfavorable opinion than did the full-time group. This was significant at the .01 level.

g. Fifty-one percent of the full-time shrimper group had a poor opinion of sports fishermen while 66 percent of the part-time shrimper group had a good opinion of sports fishermen. This was significant at the 38.552 level.
h. Forty percent of the full-time shrimper group had a favorable attitude towards shrimp cooperatives as compared with only 22 percent of the part-time shrimpers in the same category. However, 42 percent of the total group had an unfavorable attitude towards shrimper cooperatives with little differences noted between the part-time and full-time shrimper groups. A significant difference at the .05 level existed.

j. Forty-eight percent of the total respondents did not know the county agent in his parish. The remainder either admitted they did know him or they were not sure. More of the part-time shrimpers knew the county agent than did the full-time shrimper group. No significant difference existed.

CONCLUSIONS

The analysis of the data indicated that the commercial shrimper in the coastal regions of Louisiana would fit the following profile: 1) majority are part-time shrimpers, 2) lived in a rural area, 3) low participator in community activities, 4) low education level, 5) middle-aged, 6) had little knowledge of Sea Grant, 7) had little knowledge of Extension, 8) had many years experience as a shrimper. He operated his shrimping business much as he had learned from his ancestors, offering little evidence of change or responsiveness to new ideas. There was no evidence to indicate that new ideas or practices were finding their way into usage in a systematic manner among shrimpers. Additionally, many of the modern ideas such as coastal management, cooperatives, licensing system, and shrimp management were poorly understood and opinions were divided.
The majority of both the part-time and full-time shrimpers had a low participation rating in organizations. Implications are that an Extension education program directed towards shrimpers must be conducted on a local or neighborhood level. Sanction of the program by the local power structure, as well as identification of the leadership in the neighborhood, will be an important preliminary to the education program.

Only one-third of the total number of shrimpers had completed high school or additional formal education. Any educational program directed towards this group must begin where the group is and be taught at the level of understanding of the group.

Over half of the total group of shrimpers were middle-aged or older. Adults differ in their ability to learn and these differences should be considered before embarking on an educational program for this group.

Three-fourths of the total group had no knowledge of the Sea Grant program. However, the full-time shrimpers knew more than the part-time shrimpers. Since the full-time shrimper depends on shrimping as a livelihood, he will be inclined to be more receptive to any information concerning or affecting his source of income. However, the data does seem to indicate that not much publicity concerning Sea Grant has been disseminated to this segment of the marine industry.

The full-time shrimper group has had more years in shrimping than the part-time group. Because of the fact that the full-time shrimper depends on shrimping as his major source of income, it would seem normal that his tenure would be longer than part-time shrimpers who shrimp as a hobby or for a secondary income. The full-time shrimper,
because of his tenure and life-long occupation, should be more receptive to any educational program designed to improve his career by helping him to solve his problems. Pilot educational projects should possibly be started with full-time shrimpers.

Over three-fourths of the total respondents were not using new shrimping practices. This data seemed to indicate that the dissemination of information concerning new shrimping practices is not reaching the shrimper or indicates that little research is being conducted as to the development of new shrimping practices.

Over half of the total group of respondents had no knowledge of new shrimping practices. Again, this data indicates that little information concerning new practices in shrimping is available to shrimpers.

Shrimpers differ in their methods of catching shrimp, the majority using either a balloon trawl, butterfly net or flat trawl as indicated by the data. This seems to indicate that there is a difference of opinion among shrimpers as to what is the best method for catching shrimp. This seems to have implications for research and Extension education to find the correct answer to this question.

Ninety-eight percent of the total group of respondents were storing their catches, on board the vessel, in ice filled containers of many sorts while only 2 percent were using some type of refrigeration unit for storing shrimp on board the vessel. Research should provide the most economical and practical method to use. An education program could be responsible for getting the shrimpers to adopt the appropriate method for storing shrimp on board the vessel, once this is determined.
More than three-fourths of the shrimpers depended on past experience in locating shrimp catches. Reports from other shrimpers was important in making a decision as to where to shrimp. Only a few shrimped at random and an even smaller number of shrimpers depended on reports from the Louisiana Wildlife and Fisheries Commission as a guide for making the decision as to where to catch shrimp. This data seemed to indicate that not much confidence is placed on information outside of the local social setting, indicating a possible skepticism on the part of shrimpers, both full-time and part-time, to seek "outside" help.

A larger percentage of the part-time shrimpers shrimped in-shore waters when compared with the full-time shrimper group. However, a larger percentage of the full-time group shrimped off-shore when compared with the part-time shrimper. Regulations pertaining to in-shore and off-shore waters may differ or change from time to time. Ecological changes also affect in-shore and off-shore waters bringing about changes in shrimping patterns. Extension education programs could establish a vital link between research and the shrimper in solving problems of in-shore and off-shore shrimping.

One-fourth of the total respondents expressed an unfavorable opinion towards brown shrimp management, however, over half expressed a favorable opinion. The unfavorable opinions may point out the fact that the commercial shrimper is not aware or does not understand the purposes of brown shrimp management. Here, too, is an area in which Extension education could disseminate information to shrimpers and at the same time produce a "feed-back" from the shrimper to research.
There were some differences in opinion among shrimpers with regard to suggestions for improving the shrimp season. Over one-third of the total group suggested the adjustment of the opening and closing of the season, one-fourth were satisfied with the present system, one-fourth favored stricter law enforcement, and only one percent favored technical assistance. Skepticism on the part of the shrimper may be indicated by the fact that only one percent suggested technical assistance. An education program could possibly make the shrimper become aware, as well as create a better understanding, as to what technical assistance could do for the shrimping industry and how he might benefit from this assistance.

Half of the total group of shrimpers indicated a decrease in shrimp crops. Less than one-fourth indicated an increase. If this is the trend in shrimp crops, the shrimper needs to know and understand why and what can be done to improve the situation. An Extension education program could be the delivery system needed.

Many of the shrimpers were of the opinion that more effort is required today to catch shrimp than it was ten years ago. By effort, it is assumed that the shrimper had reference to locating good shrimp catches rather than the physical effort involved. If location of shrimp is the problem, possibly research and Extension could make a contribution towards reducing this problem.

Both groups of shrimpers were of the opinion that underwater obstructions and poor shrimp crops were the main problems facing the commercial shrimper today. Underwater obstructions such as oil pipes, pilings, and submerged logs tear shrimp trawls and nets. This may
have an implication that research could help in developing methods for catching shrimp that would not be bothered by such obstructions. Poor shrimp crops may warrant promoting research investigations designed to enhance future shrimp crops. Extension education programs can provide shrimpers with such research findings.

Three-fourths of the total group of respondents had an unfavorable opinion as to the limiting of shrimping licenses. The part-time shrimper group had the highest percentage of unfavorable opinions than did the full-time group. Since many of the part-time shrimpers practice shrimping as a secondary source of income or as a hobby, they felt that anyone should be able to get a shrimping license if so desired. However, the full-time shrimper who depends on shrimping for a livelihood had a stronger opinion towards limiting licenses. A modified version of licensed limitation may be the answer.

The part-time shrimper had a good opinion of sports fishermen as compared with the full-time shrimpers who expressed a poor opinion of sports fishermen. The reason for this difference is probably due to the fact that a large number of part-time shrimpers are actually sports fishermen who shrimp for home consumption. Perhaps both groups can compliment each other if each group better understands each other's position. Extension could play a role in bringing these two groups together.

Almost one-half of the total respondents were against the organization of shrimp cooperatives. However, the full-time shrimper group expressed a more favorable opinion than did part-time shrimpers in regard to this question. The full-time shrimper is actively seeking
better prices for his catch to raise his annual income and is considerably more receptive to better marketing. On the other hand, many part-time shrimpers practice shrimping for a hobby or for a secondary source of income. Top market prices are not always the concern of all of the part-time shrimpers because many do not sell their catches but use them for home consumption. A greater knowledge and understanding of cooperatives may bring about a more favorable opinion of shrimpers towards cooperatives.

Half of the total respondents did not know the county agent in their parish. The remainder either admitted they did know him or they were not sure. More of the part-time shrimpers knew the county agent. Extension work has not been concerned with the marine sciences and, consequently, this is probably an expected finding. However, if Extension is to be successful with an education program toward shrimpers, the county agent will have to establish a confidence in the people with whom he will be working and at the same time make use of every available facility for delivery of the education program.

There is much evidence in the data to indicate a definite need for an educational program for the commercial shrimper in Louisiana. It is the author's opinion that Extension has the delivery system and the personnel to conduct an educational program through the Sea Grant effort. Additional research into more specific areas of the shrimping industry may be necessary, however, the information collected in this study provided an insight to the learner and his job-environment. From this information, a profile of the commercial shrimper in Louisiana was defined.
SELECTED BIBLIOGRAPHY

A. Books


B. Publications


C. Unpublished Materials

APPENDIX
SEA GRANT INTERVIEW SCHEDULE

Have you heard of the L.S.U. Sea Grant Program?  
   Yes____
   No____
   Not sure____

If yes, what is your opinion of the Sea Grant Program? (Probe)

General__________________________________________________________

______________________________________________________________

Research________________________________________________________

______________________________________________________________

Teaching________________________________________________________

______________________________________________________________

Extension_______________________________________________________

______________________________________________________________

If no, briefly explain the Sea Grant Program.

Please emphasize that the interview will be confidential and that the results will be used to help L.S.U. develop a more effective program. It will not be used for income tax purposes or any other use by anyone.
SEA GRANT INTERVIEW SCHEDULE

<table>
<thead>
<tr>
<th>Schedule No.</th>
<th>Parish</th>
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<tr>
<th>Date</th>
<th>Interviewer</th>
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**PART I. For all respondents**

1. **What part of the fishing business are you engaged in?**
   (Check all that apply.)

   - fishing
   - wholesale dealer
   - wholesale dealer agent
   - retail dealer
   - other (list)

2. **What part do you play in the business?** (Check all that apply.)

   - owner
   - part owner
   - manager-captain
   - crewman
   - other (list)

3. **Would you describe your part as full or part-time?**

   - full-time
   - part-time

4. **If part-time is checked, what percent of time is involved in the fishing business?**

   ____________________________

5. **What is your main source of income?** (Check the one which applies most.)

   - shrimping
   - oyster fishing
   - fish-bait
   - crabs
   - commercial fishing
   - other (list)
6. What are your secondary sources of income? (Check all that apply.)

_____ shrimping
_____ oyster fishing
_____ fish-bait
_____ crabs
_____ commercial fishing
_____ other (list)

7. How many years have you been involved in the fishing business? _____ Years

8. What is your opinion about the present system of weather forecasting?

_____ good
_____ fair
_____ poor
_____ no opinion

Note: If the answer is fair or poor, ask question 9; if the answer is good or he gives no opinion, go to question 10.

9. How could the system be improved? (Probe)


10. Do underwater obstructions cause problems for you in your operations?

_____ yes
_____ no

Note: If the answer is no, skip to question 13.

11. What types of underwater obstructions cause problems for you?


12. How do these obstructions cause problems?


13. What types of navigational devices do you use in your fishing operations?

   ______ none
   ______ charts
   ______ compass
   ______ radar
   ______ loran
   ______ other (list)

14. What is your opinion about the present license system?

   ______ generally good
   ______ have some questions about it
   ______ unfair
   ______ no opinion

   Note: If the answer is generally good or he gives no opinion, skip to question 16, otherwise ask question 15.

15. In what way do you feel that the license system causes problems?

16. Have you ever been checked by officials to determine if you had a license?

   Yes______
   No______

17. If the answer is yes, when was the last time you were checked?

18. What is your opinion about sport fishermen? (Judgment by interviewer.)

   ______ good
   ______ fair
   ______ poor
   ______ no opinion

   Note: If the answer is in the fair or poor category, ask question 19; if not, skip to Part II.

19. Why do you feel that sport fishermen cause problems? (Probe)
PART II - Refer to Questions No. 5-6 and ask the appropriate questions.

Shrimpers -- 20-45

Oyster Fishermen -- 46-61

Commercial Fishermen -- 62-81

Crab Fishermen -- 82-97

Commercial Fish-bait -- 98-101

**SHRIMPERS**

(For those engaged in shrimping only.)

20. What method or methods did you use for taking shrimp? (Indicate approximate percentage for each method.)

______% flat trawl
______% balloon trawl
______% butterfly nets
______% shrimp seine
______% other (list)

21. What type vessel (boat) was used for taking shrimp? (Get the following information.)

___________________________ Design (e.g. Lafitte skiff)
___________________________ Material
___________________________ Horsepower
___________________________ Diesel or gas
___________________________ Size (footage)

22. How were shrimp stored on board the vessel?

________________________________________

23. What was the average number of days spent fishing before catch was brought into port for sale?

________________________________________

24. What was done with trash (marketable fish and crabs) remaining after each trawl effort was graded?

________________________________________

25. How many crewmen were employed aboard vessel?

________________________________________
26. What technique was used for sorting catch after each fishing effort?


27. How do you go about deciding on the area you are going to fish? (Check all that apply.)

____ past experience
____ reports from other fishermen
____ reports from Louisiana Wildlife and Fisheries Commission
____ strictly random

28. In which area do you usually catch the majority of your shrimp by season? (Indicate proper response by seasons.)

<table>
<thead>
<tr>
<th>Place (Location)</th>
<th>Season</th>
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<tbody>
<tr>
<td></td>
<td>Year-round</td>
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<td>Spring</td>
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<td>Fall</td>
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<td>Winter</td>
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29. What percent of your fishing do you do off-shore and in-shore?

____ % off-shore
____ % in-shore

30. Who repairs your nets as they become damaged?


31. How long does it take?


32. Would you say that you have problems obtaining skilled or reliable labor?

____ usually
____ sometimes
____ seldom
____ never
33. How do you market your catch? (Indicate percent by category.)

- dealer (broker)
- roadside stand
- peddle house to house
- cooperative
- other (list)

34. Do you feel you generally receive a fair price for your catch?

- most of the time
- some of the time
- seldom
- never

35. What type agreement is used to pay crew members?

- hourly wage
- day wage
- share of catch (indicate percentage given ____________%)
- other (explain)

36. To what extent do you feel that other types of fishermen cause problems for you? (Check appropriate column by types of fishermen.)

<table>
<thead>
<tr>
<th>Type</th>
<th>Usually</th>
<th>Sometimes</th>
<th>Seldom</th>
<th>Never</th>
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<tbody>
<tr>
<td>Large shrimpers*</td>
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<td>Trawlers*</td>
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<td>Butterflyers*</td>
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<td>Oyster fishermen</td>
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<td>Crabbers</td>
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<td>Commercial fishermen</td>
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Note: If usually or sometimes is checked, ask the following question for each type checked, otherwise, skip to question No. 38.

*To illustrate, if a person is a large shrimper and uses trawlers, then ask him about small shrimpers and those who use butterfly nets.
37. What type of problem do they cause for you?

<table>
<thead>
<tr>
<th>Type</th>
<th>Problem</th>
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<tbody>
<tr>
<td>Large shrimpers</td>
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<td>Crabbers</td>
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<td>Commercial fishermen</td>
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38. What is your opinion of the present management practices that have been followed for brown shrimp in the past five years?

39. How do you think the shrimp season could be improved?

40. In your opinion, has the shrimp crop increased, decreased, or remained the same in recent years?

   - increased
   - decreased
   - remained about the same
   - no opinion

41. How would you compare the amount of effort it takes now to catch shrimp with ten years ago?

   - more
   - less
   - about the same
   - no opinion

42. What were the two most common problems you faced while attempting to fish for shrimp, excluding weather?

   (1)
   (2)
43. What do you think could be done to help you increase your income from shrimping?

________________________________________________________________________

________________________________________________________________________

44. There has been some talk about limiting the total number of licenses for shrimping to a set figure (e.g., ). Those holding licenses would have first choice to reorder each year. New licenses would be issued only for the number left unused in the quota. How would you react to this proposal? (Probe)

____ favorable
____ unfavorable
____ undecided

45. How many pounds of shrimp (heads off) did you harvest in 1971?

________________________________________________________________________

OYSTERS FISHERMEN

46. What methods did you use for taking oysters? (Indicate approximate percentage for each.)

_____% scrapers
_____% tongs
_____% dredges
_____% other (list)

Note: If a response is given for dredges, ask for the number of dredges fished per boat.

________________________________________________________________________

47. What type boat was used for taking oysters? (Get the following information.)

________________________________________________________________________

design
size (footage)
material
horsepower
diesel or gas

48. How many crewmen were employed on board your boat?

________________________
49. Have you had problems in keeping crew members and/or labor?

______ usually
______ sometimes
______ seldom
______ never

50. What type agreement is used to pay crew members?

______ hourly wage
______ day wage
______ other (explain)

51. How many months did you fish in the past year?

52. How many acres do you lease and/or manage for oyster production? (Indicate numbers in appropriate places.)

______ lease
______ manage
______ total

53. How many acres did you plant in 1971?

54. How many acres were cultivated in 1971?

55. How many days were spent in seeding and managing your beds during 1971?

56. To what extent do you feel that other types of fishermen cause problems for you? (Check appropriate column by types of fishermen.)

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<thead>
<tr>
<th>Types</th>
<th>Usually</th>
<th>Sometimes</th>
<th>Seldom</th>
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<td>Shrimpers</td>
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<td>Crabbers</td>
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<td>Commercial fishermen</td>
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Note: If usually or sometimes is checked, ask the following question for each type checked, otherwise, skip to question No. 58.
57. What type problem do they cause for you?

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<thead>
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<th>Type</th>
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</tbody>
</table>

58. How do you normally market your oysters? (Indicate percent by category.)

- ______% dealer (broker)
- ______% cooperative
- ______% processor
- ______% retail yourself
- ______% other (list)

59. What are the two most common problems you have encountered in oyster fishing?

(1) ___________________________________________________________

(2) ___________________________________________________________

60. What do you think could be done to improve your income from oyster fishing?

_____________________________________________________________

_____________________________________________________________

61. What was your total harvest of oysters during 1971?

_____ sacks

_____ cans

COMMERCIAL FISHERMEN

62. What major types of fish did you catch by season? (Indicate approximate percent of total catch.)
63. What methods were used for taking fish? (Indicate sizes of fish caught by each method and approximate percentage of time each method was used.)

<table>
<thead>
<tr>
<th>Method</th>
<th>% of time usage</th>
<th>Sizes of fish generally caught</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Twine gill net</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monofilament gill net</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trammel net</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hook and line*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (list)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*If hook and line is used, ask the number used on boat.
64. What type of boat was used for taking fish? (Get the following information.)

___________________________ design
___________________________ size (footage)
___________________________ material
___________________________ horsepower
diesel or gas

65. How were fish processed and stored on board vessel?

__________________________________________________________________________

66. What was the average number of days spent fishing before catch was brought into port for sale?

__________________________________________________________________________

67. How many crewmen were employed aboard vessel?

___________________________

68. Would you say that you have problems obtaining labor?

______ usually
______ sometimes
______ seldom
______ never

69. What type agreement is used to pay crew members?

______ hourly wage
______ day wage
______ share of catch*
______ other (list)

__________________________________________________________________________

*If share of catch, please indicate percent__________________________

70. What percent of your fishing do you do in-shore and off-shore?

______% in-shore
______% off-shore

71. Who repairs your nets as they become damaged?

__________________________________________________________________________

72. How long does this take?

__________________________________________________________________________
73. How do you market your catch?

- dealer (broker)
- cannery
- cooperative
- market yourself
- other (list)

74. Do you use any type of devices as fish finding aids?

- yes
- no

75. If yes, what are they? __________________________________________

76. Do you feel that the prices paid for fish are fair?

- most of the time
- some of the time
- seldom
- never

77. To what extent do you feel that other types of fishermen cause problems for you? (Check appropriate column by types of fishermen.)

<table>
<thead>
<tr>
<th>Type</th>
<th>Usually</th>
<th>Sometimes</th>
<th>Seldom</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shrimpers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oyster fishermen</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crabbers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: If usually or sometimes is checked, ask the following question for each type checked, otherwise skip to question 79.

78. What type of problem do they cause for you?

<table>
<thead>
<tr>
<th>Type</th>
<th>Problem</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shrimpers</td>
<td></td>
</tr>
<tr>
<td>Oyster fishermen</td>
<td></td>
</tr>
<tr>
<td>Crabbers</td>
<td></td>
</tr>
</tbody>
</table>
79. What were the two most common problems you are faced while fishing?
   (1) ____________________________________________________________
   (2) ____________________________________________________________

80. What do you think could be done to help you increase your income from fishing?
   ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________

81. How many pounds of fish did you harvest in 1971? _________________

82. What methods were used in taking crabs, how many of each, and what was the frequency of replacement for each kind?

<table>
<thead>
<tr>
<th>Method</th>
<th>Check</th>
<th>Number used</th>
<th>Frequency of replacement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traps</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bait line</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trawl</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (list)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

83. What type bait did you use in catching crabs and what is its source? (Check all that apply.)

Note: Circle preferred type.

<table>
<thead>
<tr>
<th>Type</th>
<th>Check</th>
<th>Source of bait</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fish</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beef lips</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (list)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
84. How do you market your hard crabs? (Check all that apply.)

Note: Circle the main source.

____ dealer (broker)
____ cooperative
____ sell yourself
____ other (list)

85. Do you culture soft shell crabs?

____ yes
____ no

If no, skip to question 90.

86. If yes, how did you obtain them?

____ catch them
____ buy them
____ other (list)

87. How many soft shell crabs did you sell in 1971?

88. How much time did you spend culturing soft shell crabs?

89. How do you market your soft shell crabs? (Check all that apply.)

Note: Please circle the main source.

____ dealer (broker)
____ cooperative
____ restaurant
____ sell yourself
____ other (list)

90. Do you feel that prices paid for crabs are fair?

____ most of the time
____ some of the time
____ seldom
____ never

91. How many people do you employ in your operation?
92. Is getting good labor a problem for you?

____ most of the time
____ some of the time
____ seldom
____ never

93. To what extent do you feel that other fishermen cause problems for you? (Check appropriate column by type of fishermen.)

<table>
<thead>
<tr>
<th>Type</th>
<th>Usually</th>
<th>Sometimes</th>
<th>Seldom</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shrimpers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oyster fishermen</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commercial fishermen</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If usually or sometimes is checked, ask the following question for each type checked, otherwise, skip to question No. 95.

94. What type of problem do they cause for you?

Shrimpers _______________________________________

Oyster fishermen ___________________________________

Commercial fishermen ___________________________________

95. What are two of the most common problems you face in crabbing?

(1) ____________________________________________

(2) ____________________________________________

96. How would you compare the crabbing industry now with ten years ago?

____ better
____ poorer
____ about the same

97. Why do you feel this way? ____________________________________________

98. How could crab fishing be improved? _____________________________________

99. How many hampers of crabs were not sold? ________________________________

100. What percentage of your crabs were not sold? ____________________________

101. If yes, how were they used? ___________________________________________
102. What type of ball do you sell? (Check all that apply.)

______ shrimp (live)
______ shrimp (dead)
______ fish (live)
______ fish (dead)
______ other (list)

103. Where do you obtain your bait?

<table>
<thead>
<tr>
<th>Type</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shrimp</td>
<td></td>
</tr>
<tr>
<td>Fish</td>
<td></td>
</tr>
</tbody>
</table>

104. In your business, do you also sell the following items? (Check those that apply.)

______ fuel
______ food
______ ice
______ soft drinks
______ beer
______ tackle

105. Would you give an estimate of the dollar value of bait sold in 1971?


PART III. For all respondents

In this section, we would like to ask you some questions that will be useful to the University in making decisions about the best ways to help fishermen through an extension program. Your cooperation would be appreciated.

106. Do you happen to know who is the county agent in ____________ Parish? (Judgment by interviewer.)

______ knows him
______ uncertain
______ does not know him

107. Who does he represent?
108. What does he do?

109. Have you been or have any of your children now or in the past been 4-H Club members?

____ yes
____ no
____ don't know

110. Does your wife belong to the Home Demonstration Club?

____ yes
____ no
____ don't know

111. The Sea Grant Program from L.S.U. is expected to have some specialists in the science of fishing who would be available to help fishermen such as yourself. How much help do you feel that such a person could be to someone like yourself.

____ very much
____ much
____ some
____ little or none

112. Why do you feel this way? (Probe)

113. In what ways do you feel that the Sea Grant extension workers could be helpful to you?

114. In your fishing operation, are you doing anything that is relatively new? (Probe)

____ yes
____ no
____ uncertain

115. If yes, what is the new idea you are using? (Probe)
116. How do you like it?

117. If the answer to question No. 114 is no or uncertain, have you heard of any new ideas recently being used by fishermen?

____ yes
____ no
____ don't know

118. If yes, what is the idea?

119. What do you think of it?

If the answer to question No. 114 or question No. 117 is yes, ask the following sequence of questions. If both are no, skip to question No. 123.

120. How did you first hear about the new idea? (Classify answer.)

____ friend or neighbor
____ relative
____ employer
____ salesman
____ marketing establishment
____ mass media (list)
____ other (list)

121. When did you hear about the idea? _____________________________ year

122. If yes, have you had the occasion to discuss the idea with anyone? With whom did you discuss the idea? (Check all that apply.)

____ friend or neighbor
____ relative
____ employer
____ salesman
____ marketing establishment
____ mass media (list)
____ other (list)
____ don't know
123. When problems occur in your fishing operations, with whom do you usually discuss them? (Check all that apply.)

- friend or neighbor
- relative
- employer
- buyer
- other (list)
- no one

124. With respect to the fishing industry in this area, please list three persons whom you consider leaders. (Please list—i.e. persons who have tried to improve the fishing industry.)

<table>
<thead>
<tr>
<th>Name</th>
<th>Occupation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

125. Do you feel cooperative type management and marketing would improve your business?

- yes
- no
- undecided

126. Why do you feel this way?

127. Do you listen to radio programs while fishing?

- regularly
- sometimes
- seldom
- never

128. What station do you listen to most?

Station (call letters) ____________________________

Town ____________________________
129. Do you presently have insurance on your operations? (boats, etc.)

____ yes
____ no

If the answer is no, skip to question No. 131. If yes, ask question No. 130 and skip to 132.

130. With whom do you have insurance?

____ local agent
____ other (list by type)

131. Do you know where you can obtain insurance?

____ yes
____ no

If yes, indicate source.

132. Do you presently have a loan on your equipment? (boats, etc.)

____ yes
____ no

If the answer is no, skip to question No. 134. If yes, ask question No. 133 and skip to 135.

133. With whom do you have a loan?

____ local bank
____ other (list by type)

134. Do you know where you could obtain a loan if you needed one?

____ yes
____ no

If yes, indicate source.

135. There are some people who feel that there should be more regulation of the use of land and water in the coastal zone so that use and development is more orderly. What is your opinion about this matter?
136. Why do you feel this way?

137. At what level do you feel that enforcement of coastal zone development should take place should it become a fact?

138. Would you be willing to provide information and assistance in gathering of information about the coastal zone?

139. What civic or religious organizations do you belong to? Have you held in the past or do you presently hold an office in these organizations?

<table>
<thead>
<tr>
<th>Group</th>
<th>Office Held</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

140. What is the highest grade in school that you have completed?

141. What is your age?

142. What was your approximate net income level in 1971?
VITA

Stanley Jerome Lamendola was born on May 6, 1933, in Lutcher, Louisiana. He is the son of Joseph A. Lamendola and Malvina B. Lamendola and has one brother and two sisters.

As a youth he was active in 4-H club work and other youth organizations.

He was graduated from Lutcher High School in 1951 and attended Louisiana State University, receiving a B.S. degree in general agriculture in August of 1956.

In September of 1956, he was employed as algebra and science teacher at the Lutcher High School, Lutcher, Louisiana. He served in this position until June, 1957, when he reported for active duty as an officer with the United States Air Force. He spent 36 months on active duty, 24 months which were in the Philippines.

In July of 1960, he married the former Jo Ann Gordon of Amarillo, Texas. They are the parents of two children, one boy and one girl.

In July of 1960, he was employed by the Louisiana Cooperative Extension Service and served as assistant and associate county agent in Avoyelles Parish through 1967. He received his M.S. degree from L.S.U. in Extension Education with a minor in Agronomy in 1966.

In 1968, he served as visiting professor on the L.S.U.-Malaysia Ford Foundation Contract as Professor of Extension Education and Animal Science. In 1970, he returned to Louisiana State University as Coordinator of International Programs on a part-time basis and is presently serving in that capacity.
Candidate: Stanley J. Lamendola

Major Field: Extension Education

Title of Thesis: The Feasibility of an Extension Education Program for Commercial Shrimpers in Louisiana

Approved:

Edward W. Sassie
Major Professor and Chairman

Dean of the Graduate School

EXAMINING COMMITTEE:

Date of Examination: April 25, 1973