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A STUDY OF MARKETING  
POSSIBILITIES AT LANKESTER

An Interactive Qualifying Project Report

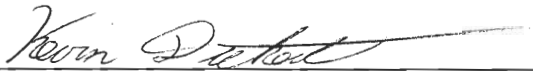
Submitted to the Faculty of

WORCESTER POLYTECHNIC INSTITUTE

In partial fulfillment of the requirements for the

Degree of Bachelor of Science

By



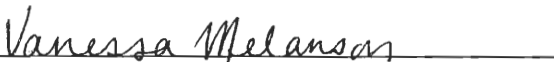
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Date: July 5, 1999

Approved

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Professor Arthur Gerstenfeld

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Professor Susan Vernon-Gerstenfeld

This report was prepared by members of Worcester Polytechnic Institute Costa Rica Project Center. The relationship of the Center to the Lankester Botanical Garden, and the relevance of the topic to the Lankester Botanical Garden are presented in Appendix A.

July 5, 1999

Jorge Warner  
Biologist  
University of Costa Rica  
Lankester Botanical Garden

Dear Señor Warner:

Enclosed is our report entitled A Study of the Marketing and Fundraising Possibilities at Lankester. It was written at the Lankester Botanical Garden during the period of May 17 through July 2, 1999. Preliminary work was completed in Worcester, Massachusetts prior to arriving in Costa Rica. Copies of this report are being submitted simultaneously to Professor Arthur Gerstenfeld and Professor Susan Vernon-Gerstenfeld for evaluation. Upon faculty review, the original copy of this report will be catalogued at Gordon Library at Worcester Polytechnic Institute. We greatly appreciate the time that you and all the employees at Lankester have dedicated to us.

Sincerely,



Kevin Dickert



Loren Gordon



Jennifer Hardy



Vanessa Melanson

## **Abstract**

Lankester Botanical Garden provides visitors with extensive knowledge on the ecology of Costa Rica. However, the Garden has experienced difficulty attracting tourists. This project team gathered information on eighteen tour companies in the San José area that offer trips to Lankester. To determine trends among tourists to Costa Rica, we conducted a marketing research survey of 301 tourists in San José. We also identified universities in the United States that we believe would be interested in working with the Garden. Using the data obtained in this project, we created a series of nineteen recommendations that will allow Lankester to effectively market itself to the tourist population of Costa Rica.

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**IQP/MQP SCANNING PROJECT**



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## **Acknowledgements**

We would like to express our deep gratitude to the employees at Lankester Botanical Garden for being a source of knowledge and friendship. A special thanks to our liaison, Jorge Warner, for his support throughout the project and to Doña Dora Emilce Mora for her patience and understanding in our struggles with the Spanish language. We also thank Any Gonzalez for taking the time to explain her work at the Garden to us.

Additionally, we thank Professor Susan Vernon-Gerstenfeld and Professor Arthur Gerstenfeld for being our advisors and friends.

We are very thankful for the staff at the Interdisciplinary and Global Studies Division Office. They were a constant resource in our research and struggles during PQP.

We would like to thank Mrs. Joan Dickert in the Gordon Library for coming to our rescue with research material when we needed it most.

We could not have completed our research without the cooperation of the staffs at Garden in the Woods, Tower Hill Botanical Garden, Wilson Botanical Garden, and Cornell Plantations.

Finally, we would like to give thanks to tourists to San José for taking the time to complete our survey while on vacation.

## **Executive Summary**

Lankester Botanical Garden, part of the University of Costa Rica's School of Horticulture, is currently experiencing difficulty attracting visitors. This lack of visitors, combined with recent budget cuts by the University, has left the Garden with a small financial base. Our liaison, Jorge Warner, asked us to determine the best method of attracting visitors to the Garden. He also requested that we identify universities in the United States that may be interested in establishing a long-term relationship that will benefit both Lankester and the associated university.

At the time of this project, Lankester was in the process of developing a Master Plan for the Garden. This plan focused on preparing the Garden for improvements. The master plan incorporated the ideas of marketing and fundraising, but did not include specific suggestions. We believe that our nineteen recommendations can be implemented once the Garden is ready to begin these improvements.

To determine the types of activities that could attract tourists to Garden, we conducted a marketing survey. Through this research, we obtained demographic information on the sampled visitors to San José, their knowledge of Lankester, and their level of interest in activities which the Garden has the ability to offer. We also contacted tour companies in San José to determine the types and frequencies of tours to the Garden. Using this information, we were able to develop several recommendations that we feel could help Lankester attract more visitors.

First, the results of our survey show that very few of the surveyed tourists were aware of Lankester. For this reason, we recommended that the Garden increase its level of advertising. We felt that the most successful methods of doing so will be improving guidebook write-ups and local advertising.

The Garden should establish contact with the publishers of guidebooks and ask that a representative from the guidebook visit Lankester to experience recent developments. If this is not feasible, the Garden should send a letter to the publisher updating them on the recent changes at Lankester such as the butterfly farm and birdwatching tours.

In order to advertise locally, we feel that the Garden should place its brochures at locations that are popular among tourists to San José. These locations include restaurants, souvenir shops, and hotels. In order to make this process as effective as possible, we designed a new brochure for the Garden that includes background, contact, and travel information about Lankester. These brochures can be printed by the University of Costa Rica.

Our data indicates that tourists to Costa Rica are interested in visiting a butterfly farm. Lankester is currently building a butterfly farm on their property, and we believe that the Garden could attract more visitors by advertising the farm. When advertising, Lankester should stress the variety of butterflies in the farm and the fact that admission to the butterfly farm is included with admission to the Garden. We further believe that Lankester should provide visitors with as much information as possible about the butterflies through signs placed throughout the farm.

Our data further suggests that visitors to Costa Rica have an interest in birdwatching. For this reason, we felt that the Garden should develop an organized birdwatching program. This program should take place during the early morning so that participants will see as many species of birds as possible. Lankester should provide a guide for the participants, and we recommend that this guide be a member of the staff at the Garden. If possible, Lankester should also provide transportation for the birdwatchers. This transportation could be provided by a University of Costa Rica bus.

From our research, we determined that thirteen of the eighteen tour companies we contacted offer tours that include a visit to Lankester. However, these companies do not keep records of the frequency or popularity of these trips. For this reason, we recommended that the Garden begin to record information about the tour companies that visit Lankester. We developed an information sheet that can be used for this purpose. This form should be completed by the tour company guides when they are paying for the group. The Garden should then use the information gathered from these sheets to identify which tour companies bring the most people it. Lankester should maintain contact with these agencies to keep them informed of recent developments at the Garden. These companies can also provide feedback to the staff at Lankester.

In addition to feedback from tour companies, Lankester can obtain the comments of visitors through a guest book in the reception area. This book should be identified with signs in English and Spanish and should contain spaces for the date, the visitors' names and countries of origin, and comments. The

guest book should be reviewed on a weekly basis by a staff member who should record comments made by multiple visitors.

Our survey results also show that the labeling of plants would be important to almost all tourists surveyed. We therefore recommend that the Garden take steps to label its plant species. These labels should be made of durable material and should be placed such that the plant being labeled is easily identified. Included on the sign should be the Latin, Spanish, and English name of the plant and the country of origin of the plant.

Through this project, we gathered contact information for many organizations that may assist the Garden in its development. These organizations include universities, other botanical gardens, research institutions, language institutes and tour companies. To effectively organize these contacts for the staff at Lankester, we input the information into a database we created for this purpose. The staff at the Garden will be able to use this information when looking for resources to make improvements.

Many of the recommendations discussed in this project will require capital investments. However, Lankester does not currently have the necessary funds to make these improvements. For this reason, we have provided the Garden with possible ideas for fundraising.

The gift shop at Lankester sells *in vitro* orchids, but does not advertise them. The Garden is one of the few places in Costa Rica where orchids can be purchased to bring across international borders legally. We recommended that Lankester attempt to increase orchid sales by placing the orchids in gift shops in

the San José area. The Garden should also contact orchid growers, orchid societies, and other botanical gardens to determine if they are interested in purchasing orchids. These new methods of advertising could bring in more revenue for the Garden.

Another way for Lankester to increase its annual income would be to implement the idea of a donation program. This program could be implemented through the use of a donation card. We designed a card that can be used by the Garden. Information on the card includes possible donation categories and incentives. Lankester should place this card in the reception area and insert it into its newsletter.

In order to assist in the future development of the Garden, we identified several areas in which future Interactive Qualifying Projects (IQP) could focus. One project could concentrate on the creation a computerized inventory control system for the gift shop at Lankester. Another project could concentrate on making suggestions for the management structure of the Garden staff. A study of the market for orchids in the United States could provide the basis for a third IQP. A final project could conduct a more in-depth marketing survey to determine specific components that tourists would like to see in programs offered by the Garden.

We believe that the implementation of our recommendations will assist the staff at Lankester Botanical Garden in achieving the goals outlined in their master plan.

## Contents

<b>ABSTRACT.....</b>	<b>I</b>
<b>AUTHORSHIP PAGE .....</b>	<b>II</b>
<b>ACKNOWLEDGEMENTS.....</b>	<b>III</b>
<b>EXECUTIVE SUMMARY.....</b>	<b>IV</b>
<b>1 INTRODUCTION .....</b>	<b>1</b>
<b>2 LITERATURE REVIEW.....</b>	<b>5</b>
2.1 BOTANICAL GARDENS.....	5
2.1.1 <i>Characteristics</i> .....	6
2.1.2 <i>American Association of Botanical Gardens and Arboreta</i> .....	7
2.2 ORCHIDS.....	9
2.2.1 <i>In Vitro Growing of Orchids</i> .....	10
2.2.2 <i>Importing and Exporting Regulations on Orchids</i> .....	10
2.2.3 <i>Orchids as a Commodity</i> .....	11
2.2.4 <i>Principles and Strategies for Developing Markets for Flower Products</i> .....	13
2.3 TOURISM.....	14
2.3.1 <i>Defining Tourism</i> .....	15
2.3.2 <i>Defining the Tourist</i> .....	16
2.3.3 <i>Tourism in Costa Rica</i> .....	17
2.4 MARKETING.....	18
2.4.1 <i>Company's Mission Statement</i> .....	20
2.4.2 <i>Customer Wants</i> .....	21
2.4.3 <i>Is a Marketing Department Necessary?</i> .....	22
2.4.4 <i>Marketing Plan</i> .....	24
2.4.5 <i>Marketing Strategy</i> .....	25
2.4.6 <i>Marketing Competition</i> .....	28
2.4.7 <i>Marketing Budget</i> .....	29
2.5 MARKETING RESEARCH SURVEYING.....	32
2.5.1 <i>Sampling</i> .....	33
2.5.2 <i>Response Rates</i> .....	34
2.5.3 <i>Self-Administered Surveys</i> .....	35
2.5.4 <i>Survey Design</i> .....	35
2.5.5 <i>Question Wording</i> .....	36
2.5.6 <i>Questionnaire Organization</i> .....	37
2.5.7 <i>Layout</i> .....	37
2.5.8 <i>Pretesting the Questionnaire</i> .....	38
2.6 FUNDRAISING.....	38
2.6.1 <i>Reasons for Fundraising</i> .....	39
2.6.2 <i>Methods of Fundraising</i> .....	39
2.6.3 <i>Annual Campaign</i> .....	39
2.6.4 <i>Corporate Partnerships</i> .....	41
2.6.5 <i>Grants</i> .....	43
2.6.6 <i>Special Events</i> .....	45
<b>3 CASE STUDIES OF BOTANICAL GARDENS.....</b>	<b>48</b>
3.1 CORNELL PLANTATIONS CASE STUDY.....	48
3.1.1 <i>Mission Statement of Cornell Plantations</i> .....	48
3.1.2 <i>General Information about Cornell Plantations</i> .....	49

## Lankester Botanical Garden – Contents

3.1.3	<i>Academic Activities at Cornell Plantations</i> .....	50
3.1.4	<i>Finances of Cornell Plantations</i> .....	50
3.1.5	<i>Membership at Cornell Plantations</i> .....	51
3.1.6	<i>Fundraising at Cornell Plantations</i> .....	52
3.1.7	<i>1996 Visitor Survey at Cornell Plantations</i> .....	52
3.2	<b>WILSON BOTANICAL GARDEN CASE STUDY</b> .....	53
3.2.1	<i>Organization for Tropical Studies</i> .....	53
3.2.2	<i>Mission Statement of Wilson Botanical Garden</i> .....	56
3.2.3	<i>General Garden Information about Wilson Botanical Garden</i> .....	56
3.2.4	<i>Academics Activities at Wilson Botanical Garden</i> .....	57
3.2.5	<i>Finances at Wilson Botanical Garden</i> .....	57
3.2.6	<i>Advertising at Wilson Botanical Garden</i> .....	57
3.2.7	<i>Role of Associate Director at Wilson Botanical Garden</i> .....	58
3.3	<b>TOWER HILL BOTANICAL GARDEN CASE STUDY</b> .....	58
3.3.1	<i>Mission Statement of Tower Hill Botanical Garden</i> .....	59
3.3.2	<i>General Information on Tower Hill Botanical Garden</i> .....	60
3.3.3	<i>Finances of Tower Hill Botanical Garden</i> .....	60
3.3.4	<i>Fundraising at Tower Hill Botanical Garden</i> .....	60
3.3.5	<i>Membership at Tower Hill Botanical Garden</i> .....	62
3.3.6	<i>Library at Tower Hill Botanical Garden</i> .....	63
3.3.7	<i>Master Plan of Tower Hill Botanical Garden</i> .....	63
3.4	<b>GARDEN IN THE WOODS CASE STUDY</b> .....	63
3.4.1	<i>New England Wild Flower Society</i> .....	64
3.4.2	<i>Mission Statement of Garden in the Woods</i> .....	66
3.4.3	<i>General Garden Information for Garden in the Woods</i> .....	67
3.4.4	<i>Academic Activities at Garden in the Woods</i> .....	67
3.4.5	<i>Finances of Garden in the Woods</i> .....	68
3.4.6	<i>Marketing at Garden in the Woods</i> .....	68
3.4.7	<i>Visitor Surveys</i> .....	69
3.4.8	<i>Special Events at Garden in the Woods</i> .....	70
4	<b>MARKETING METHODOLOGY</b> .....	72
4.1	<b>MISSION STATEMENT</b> .....	72
4.2	<b>MARKETING RESEARCH SURVEY</b> .....	73
4.2.1	<i>Development of the Survey</i> .....	73
4.2.2	<i>Survey Hypotheses</i> .....	74
4.2.3	<i>Pretesting</i> .....	77
4.2.4	<i>Sampling</i> .....	79
4.2.5	<i>Location</i> .....	81
4.2.6	<i>Time</i> .....	82
4.2.7	<i>Method of Approaching</i> .....	84
4.2.8	<i>Other Limitations</i> .....	85
4.3	<b>ANALYSIS OF DATA</b> .....	86
4.4	<b>CONTACT WITH AMERICAN UNIVERSITIES</b> .....	89
4.5	<b>COMPILATION OF A LIST OF TOUR COMPANIES</b> .....	89
4.5.1	<i>Contact with Hotels</i> .....	90
4.5.2	<i>Contact with Language Institutes</i> .....	91
4.5.3	<i>Contact with Tour Companies</i> .....	91
4.6	<b>MASTER DATABASE DESIGN</b> .....	92
4.7	<b>GUEST BOOK</b> .....	94
4.8	<b>REVISION OF BROCHURES</b> .....	94
5	<b>FUNDRAISING METHODOLOGY</b> .....	96
5.1	<b>DONATION CARD</b> .....	96
5.2	<b>NEWSLETTER</b> .....	99



# Lankester Botanical Garden – Contents

<b>6</b>	<b>DATA PRESENTATION AND ANALYSIS.....</b>	<b>101</b>
6.1	SURVEY RESULTS.....	101
6.1.1	<i>Demographic Information.....</i>	<i>102</i>
6.1.2	<i>Residency Information.....</i>	<i>105</i>
6.1.3	<i>Knowledge of Garden.....</i>	<i>108</i>
6.1.4	<i>Sources of Information.....</i>	<i>110</i>
6.1.5	<i>Interest Levels.....</i>	<i>116</i>
6.2	TOUR COMPANY DATA.....	125
<b>7</b>	<b>RECOMMENDATIONS.....</b>	<b>127</b>
7.1	SHORT TERM RECOMMENDATIONS.....	128
7.1.1	<i>Distribution of Brochures.....</i>	<i>128</i>
7.1.2	<i>Butterfly Farm.....</i>	<i>129</i>
7.1.3	<i>Guided Tours.....</i>	<i>131</i>
7.1.4	<i>Improvement of Guidebook Write-ups.....</i>	<i>133</i>
7.1.5	<i>Tour Company Information Sheets.....</i>	<i>134</i>
7.1.6	<i>Letters to Tour Companies and Language Institutes.....</i>	<i>135</i>
7.1.7	<i>Guest Book.....</i>	<i>136</i>
7.1.8	<i>Uses for Database.....</i>	<i>137</i>
7.1.9	<i>Donation Cards.....</i>	<i>138</i>
7.1.10	<i>La Orquidea Newsletter.....</i>	<i>139</i>
7.2	LONG TERM RECOMMENDATIONS.....	140
7.2.1	<i>Additional Staff Members.....</i>	<i>140</i>
7.2.2	<i>Transportation.....</i>	<i>141</i>
7.2.3	<i>Birdwatching.....</i>	<i>142</i>
7.2.4	<i>Contact with Universities.....</i>	<i>143</i>
7.2.5	<i>Labels that Identify Plants.....</i>	<i>144</i>
7.2.6	<i>In vitro Orchids.....</i>	<i>144</i>
7.2.7	<i>AABGA Membership.....</i>	<i>147</i>
7.2.8	<i>MQP at Lankester Botanical Garden.....</i>	<i>149</i>
7.2.9	<i>Future IQPs.....</i>	<i>150</i>
<b>8</b>	<b>APPENDIX A - HISTORY OF THE ORGANIZATION.....</b>	<b>154</b>
8.1	MISSION STATEMENT.....	154
8.2	BACKGROUND.....	154
8.3	NOTABLE COLLECTIONS OF THE GARDEN.....	155
8.3.1	<i>Orchids.....</i>	<i>155</i>
8.3.2	<i>Cacti and Succulents.....</i>	<i>156</i>
8.3.3	<i>Tropical Forest.....</i>	<i>156</i>
8.3.4	<i>Bromeliads.....</i>	<i>156</i>
8.4	BUSINESS INFORMATION FOR LANKESTER BOTANICAL GARDEN.....	157
8.4.1	<i>Objectives of the Organization.....</i>	<i>157</i>
8.4.2	<i>Department of Conservation Description.....</i>	<i>159</i>
8.4.3	<i>Department of Horticulture Description.....</i>	<i>159</i>
8.4.4	<i>Financial Summary of Lankester Botanical Garden.....</i>	<i>159</i>
<b>9</b>	<b>APPENDIX B – STRATEGIC DEVELOPMENT PLAN.....</b>	<b>161</b>
<b>10</b>	<b>APPENDIX C – MARKETING SURVEY.....</b>	<b>168</b>
<b>11</b>	<b>APPENDIX D – LETTER TO UNIVERSITIES.....</b>	<b>170</b>
<b>12</b>	<b>APPENDIX E – LIST OF UNIVERSITIES.....</b>	<b>173</b>
<b>13</b>	<b>APPENDIX F – NEWSLETTER ARTICLES.....</b>	<b>176</b>

## Lankester Botanical Garden – Contents

13.1	ARTICLE 1 - WHO WE ARE.....	176
13.2	ARTICLE 2 - COURSES IN ORCHIDOLOGY .....	178
13.3	ARTICLE 3 - BUTTERFLY FARM .....	180
13.4	ARTICLE 4 – FIELD CLASSES OFFERED AT LANKESTER.....	181
13.5	ARTICLE 5 – DONOR CARD .....	183
13.6	ARTICLE 6 - DONOR LISTING.....	185
13.7	ARTICLE 7 – RESEARCH AT THE GARDEN.....	186
13.8	ARTICLE 8 – CURRENT PROJECTS .....	188
14	<b>APPENDIX G – BROCHURE .....</b>	<b>189</b>
15	<b>APPENDIX H – LIST OF GUIDEBOOKS.....</b>	<b>191</b>
16	<b>APPENDIX I – INTERVIEW WITH PROFESSOR JAMES K. DOYLE.....</b>	<b>192</b>
17	<b>APPENDIX J – INTERVIEW AT TOWER HILL BOTANICAL GARDEN.....</b>	<b>196</b>
18	<b>APPENDIX K – INTERVIEW WITH PROFESSOR PHIL ROBAKIEWICZ.....</b>	<b>201</b>
19	<b>APPENDIX L – INTERVIEW WITH PROFESSOR CHICKERY KOSAUF .....</b>	<b>207</b>
20	<b>APPENDIX M – INTERVIEW WITH MS. BARBARA PRYOR.....</b>	<b>211</b>
21	<b>APPENDIX N – INTERVIEW WITH GAIL HEWSON.....</b>	<b>223</b>
22	<b>APPENDIX O – MEMBERS OF THE OTS .....</b>	<b>228</b>
23	<b>APPENDIX P – ORCHID GROWER QUESTIONNAIRE.....</b>	<b>229</b>
24	<b>APPENDIX Q – SHIPPING COSTS.....</b>	<b>231</b>
25	<b>APPENDIX R – ORCHID PROJECT CONTACTS .....</b>	<b>232</b>
26	<b>APPENDIX S – DATABASE USER MANUAL .....</b>	<b>233</b>
26.1	OPENING THE DATABASE .....	233
26.2	ADDING A NEW RECORD .....	234
26.3	OPENING A RECORD .....	235
26.4	EDITING THE DATABASE ITSELF .....	236
26.5	PROTECTING THE DATABASE’S INTEGRITY.....	240
27	<b>APPENDIX T – HOW TO CREATE A FORM LETTER .....</b>	<b>241</b>
28	<b>APPENDIX U – HOW TO CREATE MAILING LABELS .....</b>	<b>248</b>
29	<b>GLOSSARY.....</b>	<b>253</b>
30	<b>REFERENCES .....</b>	<b>255</b>

**Tables and Figures**

<b>TABLE 2-1: CHARACTERISTICS OF BOTANICAL GARDENS.....</b>	<b>7</b>
<b>FIGURE 2-1: ORIGINS OF TOURISTS IN COSTA RICA.....</b>	<b>17</b>
<b>TABLE 2-2: MARKETING BUDGET CONSIDERATIONS.....</b>	<b>30</b>
<b>TABLE 3-1: MISSION STATEMENT OF CORNELL PLANTATIONS.....</b>	<b>49</b>
<b>FIGURE 3-1: 1997-98 INCOME BREAKDOWN FOR CORNELL PLANTATIONS .....</b>	<b>51</b>
<b>TABLE 3-2: MEMBERSHIP BENEFITS OF CORNELL PLANTATIONS.....</b>	<b>51</b>
<b>TABLE 3-3: KEY FINDINGS OF 1996 SURVEY AT CORNELL PLANTATIONS .....</b>	<b>52</b>
<b>FIGURE 3-2: 1998 INCOME BREAKDOWN OF THE OTS .....</b>	<b>55</b>
<b>TABLE 3-4: OBJECTIVES OF THE WORCESTER COUNTY HORTICULTURE SOCIETY.....</b>	<b>59</b>
<b>TABLE 3-5: MEMBERSHIP BENEFITS OF THE WORCESTER COUNTY HORTICULTURE SOCIETY .....</b>	<b>62</b>
<b>TABLE 3-6: MEMBERSHIP BENEFITS OF THE NEW ENGLAND WILD FLOWER SOCIETY.....</b>	<b>65</b>
<b>FIGURE 3-3: 1998 INCOME BREAKDOWN FOR NEWFS.....</b>	<b>66</b>
<b>TABLE 4-1: SURVEY HYPOTHESES.....</b>	<b>75</b>
<b>TABLE 4-2: PRETEST QUESTIONS.....</b>	<b>77</b>
<b>TABLE 4-3: SURVEYING SCHEDULE.....</b>	<b>83</b>
<b>TABLE 4-4: CATEGORIES FOR SURVEY QUESTION 2.....</b>	<b>86</b>
<b>TABLE 4-5: CATEGORIES FOR SURVEY QUESTION 13.....</b>	<b>87</b>
<b>TABLE 4-6: CATEGORIES FOR SURVEY QUESTION 14.....</b>	<b>88</b>
<b>FIGURE 5-1: FRONT SIDE OF DONATION CARD .....</b>	<b>97</b>
<b>FIGURE 5-2: BACK SIDE OF DONATION CARD.....</b>	<b>98</b>
<b>TABLE 5-1: INFORMATION IN LANKESTER’S NEWSLETTER.....</b>	<b>99</b>
<b>FIGURE 6-1: BREAKDOWN OF RESPONDENTS BY GENDER.....</b>	<b>102</b>
<b>FIGURE 6-2: BREAKDOWN OF RESPONDENTS BY AGE.....</b>	<b>103</b>
<b>FIGURE 6-3: BREAKDOWN OF RESPONDENTS BY OCCUPATION .....</b>	<b>104</b>
<b>FIGURE 6-4: BREAKDOWN OF RESPONDENTS’ LENGTH OF STAY IN COSTA RICA BY PROFESSION (IN PERCENTAGES) .....</b>	<b>105</b>

*Lankester Botanical Garden – Tables and Figures*

<b>FIGURE 6-5: BREAKDOWN OF RESPONDENTS' TIME SPENT IN SAN JOSÉ BY PROFESSION (IN PERCENTAGES) .....</b>	<b>106</b>
<b>FIGURE 6-6: BREAKDOWN OF RESPONDENTS BY LODGING TYPE.....</b>	<b>107</b>
<b>FIGURE 6-7: BREAKDOWN OF RESPONDENTS BY PREVIOUS KNOWLEDGE OF THE GARDEN .....</b>	<b>108</b>
<b>FIGURE 6-8: BREAKDOWN OF RESPONDENTS WITH PREVIOUS KNOWLEDGE OF THE GARDEN BY PREVIOUS VISITS TO COSTA RICA (IN PERCENTAGES).....</b>	<b>109</b>
<b>FIGURE 6-9: BREAKDOWN OF SOURCES USED TO OBTAIN INFORMATION ABOUT THE GARDEN .....</b>	<b>110</b>
<b>FIGURE 6-10: BREAKDOWN OF RESPONDENTS WITH PREVIOUS KNOWLEDGE OF GARDEN BY WHETHER THEY HAVE VISITED IT .....</b>	<b>111</b>
<b>FIGURE 6-11: BREAKDOWN OF RESPONDENTS WITH PREVIOUS KNOWLEDGE OF GARDEN BY WHETHER THEY HAVE VISITED IT .....</b>	<b>112</b>
<b>FIGURE 6-12: BREAKDOWN OF THE REASONS GIVEN FOR NOT VISITING THE GARDEN .....</b>	<b>113</b>
<b>FIGURE 6-13: BREAKDOWN OF RESPONDENTS BY WITH WHOM RESPONDENTS VISITED/PLAN TO VISIT THE GARDEN.....</b>	<b>114</b>
<b>FIGURE 6-14: BREAKDOWN OF RESPONDENTS BY TIME WILLING TO SPEND TRAVELING TO VISIT A BOTANICAL GARDEN BY PROFESSION (IN PERCENTAGES).....</b>	<b>115</b>
<b>FIGURE 6-15: BREAKDOWN OF RESPONDENTS' LEVEL OF INTEREST IN BIRDWATCHING BY PROFESSION (IN PERCENTAGES).....</b>	<b>116</b>
<b>FIGURE 6-16: BREAKDOWN OF RESPONDENTS' LEVEL OF INTEREST IN VISITING A BUTTERFLY FARM BY PROFESSION (IN PERCENTAGES).....</b>	<b>117</b>
<b>FIGURE 6-17: BREAKDOWN OF RESPONDENTS' LEVEL OF INTEREST IN TAKING NATURE WALKS BY PROFESSION (IN PERCENTAGES).....</b>	<b>118</b>
<b>FIGURE 6-18: BREAKDOWN OF RESPONDENTS' LEVEL OF INTEREST IN EDUCATIONAL PROGRAMS ABOUT COSTA RICA'S ENVIRONMENT BY PROFESSION (IN PERCENTAGES).....</b>	<b>119</b>
<b>FIGURE 6-19: BREAKDOWN OF RESPONDENTS' LEVEL OF INTEREST IN ACADEMIC RESEARCH BY PROFESSION (IN PERCENTAGES) .....</b>	<b>120</b>
<b>FIGURE 6-20: BREAKDOWN OF RESPONDENTS BY LEVEL OF IMPORTANCE PLACED ON LABELING OF PLANTS AT A BOTANICAL GARDEN .....</b>	<b>121</b>
<b>FIGURE 6-21: BREAKDOWN OF RESPONDENTS BY LEVEL OF IMPORTANCE PLACE ON PROVIDED TRAVEL ARRANGEMENTS TO A BOTANICAL GARDEN.....</b>	<b>122</b>
<b>FIGURE 6-22: BREAKDOWN OF RESPONDENTS BY LEVEL OF IMPORTANCE PLACED ON GUIDED TOURS AT A BOTANICAL GARDEN .....</b>	<b>123</b>

*Lankester Botanical Garden – Tables and Figures*

<b>FIGURE 6-23: BREAKDOWN OF RESPONDENTS BY LEVEL OF IMPORTANCE PLACED ON FOOD FACILITIES AT A BOTANICAL GARDEN.....</b>	<b>124</b>
<b>TABLE 6-1: SUMMARY OF CONTACT WITH TOUR COMPANIES .....</b>	<b>125</b>
<b>TABLE 7-1: SHORT TERM RECOMMENDATIONS FOR LANKESTER BOTANICAL GARDEN .....</b>	<b>127</b>
<b>TABLE 7-2: LONG TERM RECOMMENDATIONS FOR LANKESTER BOTANICAL GARDEN .....</b>	<b>128</b>
<b>TABLE 7-3: MARKETING INFO FOR THE BUTTERFLY FARM .....</b>	<b>130</b>
<b>FIGURE 7-1: SAMPLE INFORMATION SHEET.....</b>	<b>134</b>
<b>TABLE 7-4: PROPOSED DUTIES AND RESPONSIBILITIES OF LANKESTER'S MARKETING DIRECTOR .....</b>	<b>140</b>
<b>TABLE 7-5: MEMBERSHIP BENEFITS OF AABGA .....</b>	<b>147</b>
<b>TABLE 8-1: OBJECTIVES OF LANKESTER GARDEN .....</b>	<b>157</b>
<b>FIGURE 8-1: LANKESTER ORGANIZATIONAL CHART.....</b>	<b>157</b>
<b>TABLE 8-2: LIST OF POSITIONS AT LANKESTER BOTANICAL GARDEN (JUNE, 1999) .....</b>	<b>158</b>
<b>FIGURE 9-1: SUGGESTED ORGANIZATIONAL INFRASTRUCTURE FOR THE GARDEN... </b>	<b>163</b>
<b>FIGURE 9-2: LANKESTER'S CURRENT BUDGET.....</b>	<b>165</b>
<b>TABLE 13-1: COURSES OFFERED BY THE GARDEN.....</b>	<b>182</b>
<b>FIGURE 26-1: THE MAIN DATABASE PAGE.....</b>	<b>233</b>
<b>FIGURE 26-2: EXAMPLE OF AN EMPTY DATABASE RECORD .....</b>	<b>234</b>
<b>FIGURE 26-3: EXAMPLE OF A PULL-DOWN MENU.....</b>	<b>235</b>
<b>FIGURE 26-4: CHANGING THE TOOLBAR .....</b>	<b>236</b>
<b>FIGURE 26-5: UN-HIDING THE DEFAULT MENU.....</b>	<b>236</b>
<b>FIGURE 26-6: HOW TO UNHIDE THE DATABASE WINDOW .....</b>	<b>237</b>
<b>FIGURE 26-7: THE UNHIDE WINDOW .....</b>	<b>237</b>
<b>FIGURE 26-8: THE DATABASE WINDOW .....</b>	<b>238</b>
<b>FIGURE 26-9: HOW TO CHANGE THE STARTUP OPTIONS .....</b>	<b>238</b>
<b>FIGURE 26-10: THE STARTUP OPTIONS WINDOW .....</b>	<b>239</b>
<b>FIGURE 26-11: ESTABLISHING THE DATABASE INTEGRITY.....</b>	<b>240</b>
<b>FIGURE 27-1: HOW TO SELECT A MAIL MERGE .....</b>	<b>241</b>

## **1 Introduction**

This report was prepared by the members of the Worcester Polytechnic Institute Costa Rica Project Center. The relationship of the Center to the Lankester Botanical Garden and relevance of the topic to the Lankester Botanical Garden are presented in Appendix A.

Lankester Botanical Garden, part of the University of Costa Rica's School of Horticulture, is currently experiencing difficulty attracting visitors. This lack of visitors, combined with recent budget cuts by the University, has left the Garden with a small financial base. Our liaison, Jorge Warner, asked us to determine the best method of attracting visitors to the Garden. He also requested that we identify universities in the United States that may be interested in establishing a long-term relationship that will benefit both Lankester Garden and the associated university.

The staff at Lankester is currently working with Any Gonzalez, a professor of management at the University of Costa Rica, to develop a master plan for the development of the Garden. This plan will provide direction for the expansion of the Garden and motivation for the employees. Ms. Gonzalez is concentrating on six areas of strategic development: infrastructure; organization; development of human resources; marketing; generation of resources; and production.

Although marketing is one of Ms. Gonzalez's focuses, she will not be providing the Garden with specific marketing suggestions. Instead, she is concentrating on making the employees aware for the need for marketing. Our project presents the Garden with detailed recommendations. These suggestions

will complement Mrs. Gonzalez's master plan and allow Lankester to begin an effective marketing program.

Lankester Botanical Garden has the potential to become an important place of interest for visitors in San José. The Garden has many positive attributes that we capitalized on in our project. Lankester's affiliation with the University of Costa Rica, relative proximity to San José, and openness to new ideas were three features that were beneficial to the project group as we completed our work on this project.

This report was prepared for the employees of the Lankester Botanical Garden. The recommendations contained in this report were developed using the data collected from our marketing research survey and from our contact with other botanical gardens, both in the United States and Costa Rica, and with tour companies, hotels, and language institutes in San José. When forming these recommendations, we carefully considered the budgetary and staffing constraints experienced by the Garden and worked to ensure that the suggestions made were feasible for the employees of Lankester to implement.

We believe that this project has the potential to be of significant assistance to Lankester. The marketing recommendations made will allow the Garden to attract more visitors, which should result in an increase in revenue from admission fees. The Garden will be able to use this additional income to invest in future projects, which, if properly advertised, will serve to bring even more visitors to Lankester. Continued association with American universities will permit the Garden to apply for research grants from United States government

they so choose, these organizations will be able to use the final results of this project as a reference in their own efforts to increase their number of annual visitors.

The Interactive Qualifying Project (IQP) at Worcester Polytechnic Institute (WPI) requires that students use their knowledge of science and technology to benefit society. In this project, we worked with the Lankester Botanical Garden to increase awareness of the Garden among persons visiting Costa Rica and to assist the Garden in exploring alternate sources of funding. Through our survey, we used social science and research skills learned at WPI to compile and analyze the data obtained. Based on our data analysis, we made recommendations regarding the marketing strategy of the Lankester Botanical Garden, thereby helping to preserve one of Costa Rica's ecological treasures.



## **2 Literature Review**

The following Literature Review provides the background information necessary to better understand the project goals outlined in the Introduction. We will first give details regarding the concept of botanical gardens. Next, we will define and discuss orchids, tourism, marketing, and fundraising as they relate to botanical gardens. Finally, in this section we will give a brief overview of the usefulness of surveys and how best to conduct them in relation to our goals.

### **2.1 Botanical Gardens**

A botanical garden is a garden in which the plants are labeled with their scientific names and are arranged in a scientific manner. Botanical gardens are maintained both for display and for scientific research.

The first botanical gardens of record were located at Padua and Pisa in Italy in 1543. The garden at Padua is currently still in operation and is run by the University of Padua (Edwards, 1971). The Italian gardens were followed by similar gardens in Zurich in 1560, Paris in 1570, and Leipzig in 1580 (Everalt, 1981).

In 1596, John Gerard of London, England published the first catalog that listed the total species of plants in one garden. The first botanical garden associated with a university was also located in England. The Public Physick Garden at Oxford University opened in 1621 and still exists today as the Oxford Botanic Garden (Everalt, 1981).

John Bartrum founded the first American botanical garden in 1731 in Philadelphia, Pennsylvania. An illiterate farmer, Bartrum became so enthralled with plants that he quit farming and hired a teacher to tutor him in Latin so that he could better understand the field of horticulture. Then, Bartrum traveled throughout the continent in an effort to find and cultivate new plants (Edwards, 1971).

The first tropical botanical garden was located in Mauritius, an island in the central Indian Ocean, in 1735 (Everalt, 1981). Another tropical garden was created in the town of St. Vincent in the West Indies in 1764 (Everalt, 1981). The purpose of early botanical gardens was to introduce new species of plants, such as cinnamon, nutmeg, and pepper, into the tropics (Edwards, 1971).

#### **2.1.1 Characteristics**

Although all gardens that label their plants with their proper Latin names are considered botanical gardens, each of these has certain traits that differentiate it from the others. We have chosen five gardens that reflect the different types of botanical gardens and have compared these characteristics. Below in Table 2-1 is list of five botanical gardens and their characteristics.

Table 2-1: Characteristics of Botanical Gardens

Trait	Garden				
	Tower Hill Botanic Garden	Cornell Plantations	North Carolina Botanical Garden	Missouri Botanical Garden	Wilson Botanical Garden
Location	Bolyston, Massachusetts	Ithaca, New York	Chapel Hill, North Carolina	St. Louis, Missouri	San Vito, Costa Rica
Acreage	132	3,000	600	1,500	25
Annual Visitors	150,000	250,000	175,000	350,000	4,000
Cost per visit (adult admission)	\$7.00	Free	Free	\$5.00	\$6.00
Tours					
Guided	No	Yes	Yes	Yes	Yes
Self-guided	Yes	Yes	No	Yes	Yes
Food Facilities	Yes	No	No	No	Yes
Gift Shop	Yes	Yes	Yes	No	Yes
Visitor Center	No	Yes	Yes	Yes	Yes
Children's programs	No	Yes	No	Yes	No
Memberships	Yes	Yes	Yes	Yes	Yes
Newsletter	Yes	Yes	Yes	Yes	Yes
University Affiliation	None	Cornell University	University of North Carolina	None	Numerous
AABGA Membership	No	Yes	Yes	Yes	Yes
Public Transportation to Garden	No	No	No	Yes	Yes

### 2.1.2 American Association of Botanical Gardens and Arboreta

The American Association of Botanical Gardens and Arboreta (AABGA) is an organization dedicated to the promotion and development of horticulture and botanical gardens throughout the United States and Central and South America. Members of the Association are able to look to the AABGA for support and guidance.

The following information was taken from the AABGA's World Wide Web site, <http://www.mobot.org/AABGA/mission.html>, on Sunday April 11, 1999.

Founded in 1940 by a small group of botanical garden directors, the American Association of Botanical Gardens and Arboreta (AABGA) is the professional association for public gardens in North America. The AABGA supports the public horticulture community in its mission to study, display, and conserve plants. Membership has grown dramatically in the past ten years and the AABGA currently has more than four hundred institutional members and almost three thousand individual members, up from one hundred and eight hundred, respectively. A volunteer staff ran the AABGA from 1940 through 1972 when a part-time professional staff was hired. This part-time staff became full-time in 1982.

The AABGA publishes a monthly newsletter and the quarterly journal, *Public Garden*, along with a variety of other publications. The AABGA also sponsors eight regional conferences and one national conference each year. The organization works to ensure that each publication can be used as a long-term resource by member gardens. Often, a newsletter or journal will focus on a single topic, such as collection policies, membership and marketing, or fundraising. The AABGA's technical publications include several directories that can be used as resources for gardens: conservatory plant sources, plant collections, software programs used by botanical gardens, and volunteer program profiles. To encourage gardens to develop internship programs for

young people, the AABGA publishes and distributes an annual listing of more than five hundred internships.

The AABGA offers resources to its members, including the Resource Center and projects dedicated to conserving plant germplasm using the collections found in botanical gardens and arboreta. The AABGA Resource Center is a technical information service for botanical gardens. It contains a lending library that contains reference books in addition to collections of garden plans, policies, and program information.

## **2.2 Orchids**

Since Lankester specializes in orchids and sells *in vitro* orchids, in this section of our Literature Review, we discuss background information about orchids, *in vitro* fertilization, and regulations regarding the importation and exportation of orchids. Then, we discuss techniques for marketing orchids. The majority of the information contained in this section has been adapted from the 1996 IQP “Exploring the Marketing Possibilities of the Rainforest Aerial Tram” completed in 1996 by WPI students.

Orchids are the largest family of flowering plants in the world. There have been between 17,000 and 30,000 species described and classified, and numerous species remain unidentified (Baker, 1995). Orchids are by far the most diverse flowering plant on the earth and can be found in almost any climate or condition. The greatest diversity of orchids occurs in humid, mid-elevation environments (Baker, 1995). About 80 percent of the species of orchids are native to the tropics or subtropics, and most of these species are epiphytic.

More than 1,500 different species of orchids exist in Costa Rica (Baker, 1995). This large number of species gives Costa Rica the most diverse variety of orchids in Central America. Orchids grow in all of the various climatic conditions that exist in Costa Rica, from sea level elevation to the highest mountain peaks (Baker, 1995). Lankester Botanical Garden has more than 800 species of orchids, which is more than half of the total number of species that can be found in the country.

### **2.2.1 *In Vitro* Growing of Orchids**

Currently, Lankester grows many different species of orchids *in vitro*. These *in vitro* orchids are sold in the Garden's gift shop and used by some of the Garden's staff for research. Since *in vitro* orchids are important to Lankester's budget, we provide a brief background on *in vitro* orchid growing.

As of 1987, many commercial orchid growers and scientists have turned to the *in vitro* cultivation of orchids. *In vitro* cultivation consists of growing the orchids out of their normal habitat in a laboratory using media cultures to control the environment. This procedure is extremely favorable when compared to *in vivo* growing, which is the growing of orchids in the wild. *In vitro* cultivation of orchids also allows botanists to easily clone a species of orchids (Pierek, 1987).

### **2.2.2 Importing and Exporting Regulations on Orchids**

In this section, we discuss the various importing and exporting regulations for orchids. These regulations must be explained because Lankester currently sells its *in vitro* orchids in the Garden's gift shop to tourists from foreign countries.

The main regulations on the importing and exporting of wild orchids were set up by the Convention on International Trade in Endangered Species of Wild

Fauna and Flora (CITES). CITES is based on an international agreement which sets up rules to regulate various species of plants and animals. The organization was established to fight the over-exploitation that occurs through international trade. Every species regulated by CITES is listed in one of three appendices to the Convention. Each appendix has different regulations or permit requirements for the species in that appendix.

When Lankester sells its *in vitro* orchids to visitors, the purchaser receives an export slip from the Ministry of Agriculture. This slip says that the purchased orchid is approved for export from Costa Rica and that it has passed all of the sanitary requirements for exportation. This document allows tourists to return home with their orchids without experiencing problems at customs.

### **2.2.3 Orchids as a Commodity**

Since Lankester sells orchids as a source of revenue, the Garden needs to have an understanding of several aspects of orchid marketing. In this section, we discuss the information obtained from a questionnaire administered by the 1996 IQP team (see Appendix P). The team sent out the questionnaire via email to orchid growers and orchid sellers whose addresses they found on the World Wide Web. From the data they obtained, the 1996 IQP team formulated a series of hypotheses concerning the popularity of orchids, how they are marketed, how they are sold, what their price should be, and the shipping regulations of orchids.

The first series of results the 1996 IQP team formulated were based on the popularity of orchids. They discovered that orchids were becoming more and more popular as people learn how easy they are to grow at home. The team

also learned that the most popular variety of orchids sold were the *Phalaenopsis* hybrids because they are easy to grow and have long-lasting blooms.

The next set of results the 1996 IQP group obtained focused on the qualities that are appealing to orchid buyers. They found that when people bought orchids, they looked for exotic, long lasting blooms and rarity. In particular, people tended to buy orchids when they were in bloom because they were irresistible at that point. Also, they learned that orchidists did not have to see the flowers in bloom to buy them because they can tell what they are getting simply by seeing the plant.

The 1996 IQP team also was able to create a list of results concerning how orchids were sold. The team discovered that orchids were sold in a number of ways, including freshly cut flower and dried floral arrangements. However, they learned that hobbyists rarely were interested in cut flowers, and most orchidists preferred free-standing plant displays. Finally, according to their data, orchids were sold in lavish displays, as small plants, in pots, out of pots as a bare root, as seedlings, and as mature plants.

Additionally, the 1996 IQP team created a series of results regarding the pricing of orchids. They learned that the prices of orchids were determined by size of the plant, maturity, kind or species, parentage, and also any awards that it may have won. Also, how easy a plant was to acquire and how easy it was to reproduce are factors that affect the prices of orchids. The team also discovered that pricing for a new species varied greatly, ranging from a few dollars to



thousands of dollars depending on how easy it was to acquire the species and the rarity of the species.

Finally, the 1996 IQP group compiled a list of results concerning the different aspects of orchid marketing, such as shipping regulations and the methods of shipping. They learned that both importation and exportation of orchids requires a USDA permit and appropriate CITES documentation from the exporting and importing country. They also discovered that orchids could be shipped rather easily within the continental United States, however importation and exportation of orchids was highly regulated. Lastly, the 1996 IQP team learned that the majority of orchid growers and wholesalers sent orchids simply by putting the seedling, plant, or arrangement in a box and shipping it via US Mail or UPS.

#### **2.2.4 Principles and Strategies for Developing Markets for Flower Products**

Since Lankester currently sells *in vitro* orchids, in this section of the literature review we discuss strategies aimed at increasing the market for the Garden's orchids. Specifically, we talk about the principles and strategies that Jason Clay (1992) of Cultural Survival Enterprises developed for flower products. The majority of this information was obtained from the 1996 IQP project, "Exploring the Marketing Possibilities of the Rainforest Aerial Tram."

By conducting an experiment combining flower products from the rain forest with international trade, Jason Clay (1992) was able to formulate results that, he suggested, should be studied in order to start a market strategy. He also emphasizes that the following points can act as a guideline for those companies that wish to enter the flower trade at the local, regional, or international level:

1. Start With Products Already on the Market

Since new products take one and a half to three years to develop to the point of sale, it is much more beneficial to start with a product that already has an established market.

2. Diversify the Market for Forest Products

The diversification of products being sold is essential to the viability of a business because the products ideally should be used in a variety of ways. Therefore, the product should be sold in different markets to reduce the dependability of revenues from that one product line, increasing the possibilities to promote the product in new ways.

3. Add Value Locally

Examine the marketing mechanisms of each product to determine the best ways to capture the value that is always added to a product as it leaves the source. This process suggests that one could add value to a product on the site by selling it in a more advanced stage and eliminating some of the middle-men.

4. Capture the Value that is Added Further From the Source

With each process that transforms or alters the form of the product, most markets in the world add value to products with each transaction that takes the product further from the source.

5. Make a Decent Profit

Doing away with intermediaries and middle-men increases value and overall income. Likewise, with each step in the process that is eliminated, the service must still be provided. Eliminating steps in the process increases income, but the final process must be effective and efficient (Clay, 1992).

### **2.3 Tourism**

This project explores several ways to increase the number of visitors that Lankester Botanical Garden attracts each year. The main source of visitors to the Garden is foreign tourists (Chamberlain, et. al., 1998). Thus, in order to increase the number of tourists that visit the Garden, we must understand who

the potential tourists are and their level of interest in programs the Garden has the ability to offer.

### **2.3.1 Defining Tourism**

One formal definition of tourism, as stated by Goelder and McIntosh (1984) is the following:

Tourism: The sum of the phenomena and relationships arising from the interaction of tourists, businesses, host governments, and host communities in the process of attracting and hosting these tourists and other visitors.

In this definition, tourism is an industry with several distinct components: the tourist, the government, the community, and businesses (Coccosis, 1995). Since these components are co-dependant, if one of them is missing, the industry will fail.

Tourism is important to this project because an understanding of it helps form an idea of why tourists visit the places they do (Smith, 1991). The demands of the tourist create jobs in the community because services are needed to accommodate the additional people. The revenue generated by this process provides businesses, governments, and communities with a reason to cater to tourists. Smith (1991) states that without businesses to advertise the attractions of the area and provide lodging, the tourist would have few reasons to visit.

According to Smith (1991), tourism benefits the host community by reducing the rate of unemployment and bringing revenue into the community. The revenue generated then improves the quality of life in the area. In turn, the low unemployment rate and high quality of life makes the area a more attractive place to live. Working together, the pieces of the tourism industry produce a

situation in which everyone benefits. Therefore, businesses, governments, and communities try to improve their financial condition by attracting tourists (Smith, 1991).

### **2.3.2 Defining the Tourist**

Tourism could not exist without a tourist, so it is imperative that we discuss the term “tourist” in further detail. In 1963, a United Nations (UN) conference on travel and tourism formed a definition accepted by many researchers. According to Pearce (1988), the definition of a tourist is as followed:

Tourist: A temporary visitor staying at least twenty-four hours in the country or region visited and the purpose of whose journey can be classified under one of the following headings: leisure (recreation, holiday, health, study, religion, and sport), business, family, mission, or meeting.

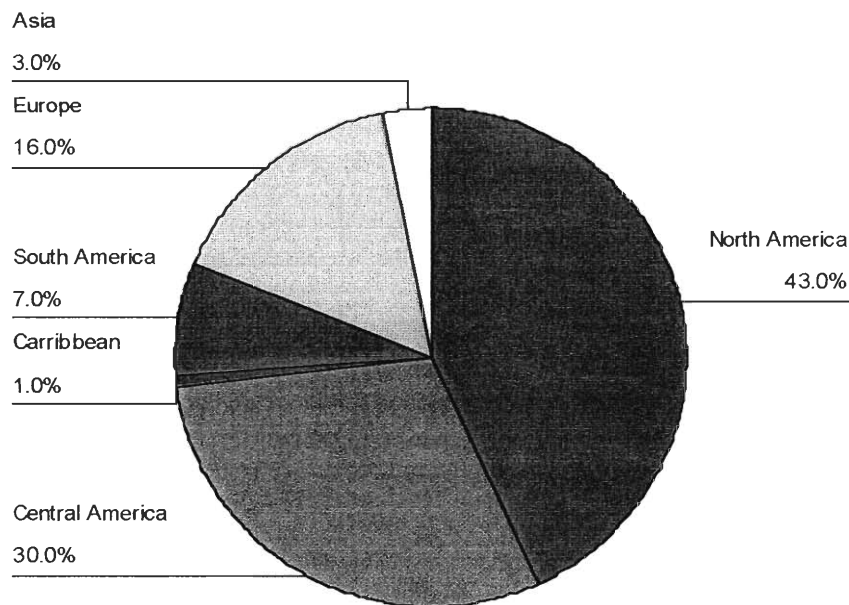
Some researchers consider this definition to be too broad (Pearce, 1988). The reason for this way of thinking is because the definition defines almost every traveler as a tourist. The United Nations conference created this definition mainly to facilitate the generation of statistics regarding the flow of tourist traffic as well as to distinguish between tourists and seasonal workers (Pearce, 1988). Pearce (1988) argues that this definition encompasses many types of travelers who are not tourists. In this category are businessmen, sportsmen, and conference travelers (Pearce, 1988).

For the purpose of this project, we define the tourist as a person who travels for pleasure. This definition is narrower than the UN version and, accordingly, fits within the constraints of Pearce’s arguments.

### 2.3.3 Tourism in Costa Rica

Tourism is very important to the economy of Costa Rica. The most recent statistical data available from the Instituto Costarricense de Turismo, indicates that approximately 811,490 tourists visited Costa Rica in 1997, and these tourists generated \$719.3 million in revenue. This revenue exceeded that of banana sales, equaling \$566.4 million, which is the next greatest source of revenue for Costa Rica (ICT, 1997).

**Figure 2-1: Origins of Tourists in Costa Rica**



Source: ICT Annual Data Report - 1998

As seen in Figure 2-1, North American tourist arrivals, including those from Canada, United States, and Mexico, constituted the main group of tourists to Costa Rica, representing 43 percent of tourists. Visitors from Central America

and Europe are the second and third largest groups, comprising 30 percent and 16 percent, respectively.

## **2.4 Marketing**

Having established the economic benefits of tourism, we must examine how to attract tourists. Common sense tells us that an effective marketing strategy is paramount to the success of Lankester Botanical Garden. The location of and budgetary restraints experienced by the Garden require careful planning and execution of a marketing plan.

Marketing is the matching of the customers' demand and the capabilities of the company in order to best achieve the objectives of both parties (McDonald, 1995). According to Hamper (1992), the goal of marketing is to understand what the target consumer wants and needs and to respond more efficiently and effectively than the competition. Similarly, McDonald (1995) states that marketing is the provision of the goods and services that are in demand. By focusing on customers and their wants, he says, the company is more likely to make a profit. When a company acts in this way, it is considered to be market-led. This market orientation can lead to increased sales and increased profits.

In the past, companies have used promotion and advertising to push services or products onto the market, creating a consumer demand for them (Hamper, 1992). Hamper (1992) remarks that, recently, more industries have become controlled by fewer large companies, and, as a result, the competition for the consumer dollar is fierce. In addition, he explains that because of these phenomena, small companies must determine exactly what their target customer

wants and then meet these demands. Hamper (1992) also states that the competition for the consumer dollar among smaller companies has resulted in an overall change of the corporate marketing strategy. Rather than “push” products and services onto the market, small companies often “pull” them through the market. In the “pull” strategy, the company precisely identifies what the consumer demands, creates this product or service, and then lets the consumers pull the goods through the market (Hamper, 1992). Hamper’s (1992) pull strategy coincides directly with McDonald’s idea that companies are market-led. Both authors believe that in order for a company to be successful, it must focus on the customer’s wants before creating the product or service to be sold.

Hamper (1992) states that the advertising and promotion of the product or service need to be aimed at consumers who have been previously identified by marketing research. Therefore, the main goal of the pull strategy is to increase consumer awareness of a company's product or service. After creating this awareness, consumers must be persuaded that this product or service is the one that best fulfills their needs and desires (Hamper, 1992).

Marketing requires the company take an integrated approach to the planning and execution of various aspects of marketing such as developing marketing goals, strategies, and plans (Hamper, 1992). Hamper (1992) and McDonald (1995) agree that the entire management structure of the company, from the top executive to the area salesperson, must be involved in this process. Hamper (1992) also points out that all of the company's personnel should work toward the goal of satisfying the customers' demands while achieving the

company's profit goal. Once a company compiles marketing ideas, it can establish a central company mission, which focuses on management, product production, and profit and sale goals (Hamper, 1992).

#### **2.4.1 Company's Mission Statement**

In our project, we were asked by our liaison to examine mission statements of various botanical gardens in the United States. The mission statement is an integral part of many companies, from which they shape their marketing plan. The company's mission statement should allow it to meet its desired goals.

Hamper (1992) says that a company's mission statement should contain three main ideas: the type of company the managers want it to be, what business the company is in, and what the company's broad-range goals are. McDonald (1995) adds that, in addition to the previous three main ideas, the mission statement should be made up of two levels: a corporate mission statement and a purpose statement. Both of these statements help the company define the goals it wants to reach through its marketing plan. Hamper (1992) and McDonald (1995) both agree that the company's mission statement must be in place before any marketing plans for the company are developed. The reason for this requirement, they say, is that the company must be aware of what objectives it currently meets and what goals it needs to meet in the future to improve its profits.

Hamper (1992) states that the creation of a mission statement should take place in the top level of management and that a considerable amount of time should be spent on its development. He also stresses that the mission statement



should be neither too broad nor too narrow. If the statement is overly comprehensive, the company will not feasibly reach its goals, whereas a restricted mission statement will hinder the company's ability to grow (Hamper, 1992). Hiebing (1993) agrees with Hamper (1992) and adds that a mission statement should be such that a marketing manager can judge whether the statement meets the company's original business goals. According to the authors, the marketing manager must also determine if these goals are realistic and consistent with customers' wants and needs.

For a mission statement to remain practical and focused on customer needs, Hamper (1992) recommends periodically updating it to ensure that it still defines the best course for the company to take to reach its profit goals. The more often the industry or market changes, the more often the mission statement must be reevaluated and modified to fit the present conditions of the company (Hamper, 1992).

#### **2.4.2 Customer Wants**

For this project, we had to discover the interests of tourists in Costa Rica. This information helped us to make marketing suggestions for Lankester Garden more effectively. McDonald (1995) says that finding out what the customer wants is not a precise science. Churchill (1992) disagrees with McDonald (1995) by saying that there are many marketing research strategies, such as consumer surveys and focus groups, personal and mechanical observations, and systematic testing of new products, that can be used to determine what a customer wants.

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range of activities, these marketing departments should only handle some or most of the work in this area.

In contrast to McDonald's (1995) idea that the jobs of marketing departments vary from one company to another, Hiebing (1993) states that the sole purpose of all marketing departments is to work together with the rest of its company. In order to do so, the department must achieve marketing objectives and company-wide sales that were established in the marketing plan. Hiebing's (1993) idea of how a marketing department should function may be more relevant to our project because Lankester is small and has a limited staff. Since about fifteen people work at the Garden, they should all work together to set and achieve marketing objectives.

#### **2.4.4 Marketing Plan**

McDonald (1995) defines the marketing plan of a company as, "The planned application of marketing resources to achieve marketing objectives" (McDonald, 1995, p.20). Hamper (1992) agrees and states that this plan can be thought of as the company's "blueprint" for success and future growth. He adds that when developing a marketing plan, a survey of the competitive and economic environment must be taken to pinpoint marketing opportunities, and then a course of action must be developed so as to take advantage of these opportunities (Hamper, 1992).

Phillips (1997) builds on Hamper's (1992) idea by saying that the marketing plan for a company should include three essential elements. The first element is a descriptive statement about the company's business. The next two parts of Phillips' (1997) marketing plan are concerned with the "who" and "what"

of the marketing effort. The "who" of the action plan is a list of customers or friends who are willing to recommend the company to their acquaintances. The "what" of the action plan is a list of the marketing events and actions that will motivate the people on the list to make recommendations (Phillips, 1997).

#### **2.4.5 Marketing Strategy**

As part of our project, we will make marketing recommendations for Lankester. These suggestions can then be used to attract more people to the Garden and aid in Lankester's creation of a marketing strategy.

A marketing strategy is defined by Hamper (1992), ". . . as a consistent, appropriate, and feasible set of principles through which a particular company hopes to achieve its long-run customer and profit objectives in a particular competitive environment " (Hamper, 1992, p.138). McDonald (1995) similarly defines marketing strategy by saying that it ". . . reflects the company's best opinion as to how it can most profitably apply its skills and resources to the market place" (McDonald, 1995, p.219).

There are many factors that a company must consider when creating a marketing strategy (Hamper, 1992). The most significant of Hamper's factors are: the company's mission, objectives, and resources; the competitors' marketing strategies; the buying behaviors of customers; and the general economic condition in which business occurs. He also states that the requirements of marketing strategies include the ability to meet specific deadlines, to control performance, to assign resources directly and indirectly, and to be carefully timed (Hamper, 1992).

Although there are many types of marketing strategies, the most relevant strategy to our project is marketing segmentation. McDonald (1995) states that market segmentation deals with determining the specific customer groups that contain customers with the same general characteristics. Churchill (1992) believes that this method is common among companies looking to improve their marketing efforts because they can target particular demographic segments of the population. Hamper (1992) adds that marketing segmentation is a very powerful concept because a company can prosper by developing products and services that appeal only to specific market segments. This strategy is especially important for gaining the customers' interest in any highly competitive marketing environment.

Churchill (1992) thinks that for effective segmentation to occur, the company must place their customers into homogeneous groups. Hamper (1992) builds on Churchill's idea by saying that the characteristics of these groups must be identified and used as a basis for special marketing attempts to achieve the best results. He also states that the most frequently asked questions that help to categorize and identify preferences among customers involve the words "who", "what", "how", "where", and "when" (Hamper, 1992). Once these questions have been answered, the company can tailor its marketing program to a specific consumer group, ultimately making the program much more effective (Churchill, 1992).

According to Hamper (1992), there are five variables that are used for the basis of segmenting customers into various groups. These variables are

classified as behavioristic, demographic, benefit, geographic, and psychographic segmentations. Below is a description of the five variables.

Behavioristic segmentation focuses on how a customer behaves in the market (Hamper, 1992). The behavior can be categorized in many different ways, some of which are purchasing occasion, loyalty status, and benefits sought. By knowing how Lankester's target market behaves, the Garden would be better able to advertise to these customers.

Both Hamper (1992) and Hiebing (1993) agree that demographic segmentation allows marketing strategists to classify customers into distinct groups by examining the customers age, family size, sex, race, occupation, education, and income. This biographical information would help Lankester decide where their marketing effort would be most efficient.

Hamper (1992) states that benefit segmentation focuses on the benefits connected with a certain product or service. Benefits can be related to performance, convenience, and savings factors. The concept of benefit segmentation may assist our project group to evaluate Lankester Garden's performance, convenience, and price cost in comparison to other tourist attractions in Costa Rica.

Both authors also agree that geographic segmentation classifies customers according to their geographic location and to certain geographical features such as city, country, climate, and region (Hamper, 1992; Hiebing, 1993). This information is important because Lankester needs to know from where people are coming in order to develop a marketing strategy.

Hamper (1992) mentions that psychographic segmentation is used to understand customers' behaviors by focusing on the variables of customer lifestyle, buyer motives, and personality traits. Churchill (1992:245-46) adds that psychographic analysis can be used to develop statements that can indicate a person's activities, interests, and opinions. These three categories can be used to classify customers into different psychographic segments. This psychographic information might help us better determine how tourists' backgrounds and buying motives affect their decision of whether or not to visit Lankester Garden and purchase items while there.

#### **2.4.6 Marketing Competition**

Lankester Botanical Garden is faced with potential competition for its visitors by another garden in Costa Rica, Wilson Botanical Garden. Lankester may not consider Wilson to be a competitor, but it is, according to Savidge's (1992) definition of a competitor: "A person or organization competing . . . for the same goal. That goal is the customer's business" (Savidge, 1992, p.64).

Savidge (1992) comments that in the mind of the customer, a competitor tries to exceed the value of an other company's product or service with its own. Hamper (1992) suggests that in order to deter competitors from taking customers, a company must assess who its competitors are by evaluating six major areas of the company with the same six areas of other companies. These six areas are company strengths and weaknesses, market shares, market segments, product and service offerings, strategies, and distribution channels (Hamper, 1992). Savidge (1992) adds that competitors can also be thought of in less traditional senses, such as time, technology, money, distance, and

innovation. He is convinced that a company must compete with and overcome these factors in order to be successful (Savidge, 1992).

#### **2.4.7 Marketing Budget**

Lankester Garden will need some type of marketing budget in order to implement any marketing recommendations that we suggest. According to Hamper (1992), a reasonable amount of funds and resources, such as time and personnel, must be allocated for the establishment of a marketing budget. Hiebing (1993) and Hamper (1992) agree that the first step the company should take when developing a budget for a marketing plan is to review the amount spent in the past on promotion and advertising. Hiebing (1993) also suggests that it would be helpful to look at the total marketing budget of other companies in the same business to gain insight about what processes have worked for other businesses.

Hamper (1992) states that historical marketing information gives a good indication of how much the company should spend on marketing in the future. However, Hiebing (1993) disagrees with this idea because he feels it poses an enormous constraint on a company. He says that by using the previous year's marketing budget, previous sales determine future marketing expenditures, which is contrary to the common belief that marketing affects sales.

Hamper (1992) mentions that while planning how much to budget for marketing, the company will want to discard some old marketing activities and add some new activities. He suggests that a company should answer the questions shown in Table 2-7.



**Table 2-1: Marketing Budget Considerations**

1. Is the amount of money requested sufficient to achieve a stated objective through the strategies that have been developed?
2. If more money is required to meet objectives, from which activities can it be appropriated?
3. Is the profit contribution potential of a given product in line with the budget requests?
4. Does the potential for profit justify requesting additional funds from top management?
5. Are there any alternative strategies that can achieve an equally favorable end result at a lower cost?
6. Are the costs allocated realistically, given the product's life cycle analysis?
7. Does the budget adequately cover all the necessary elements of the marketing mix?

Source: Hamper, Robert J., & Baugh, L. Sue. (1992). Strategic Market Planning. Lincolnwood: NTC Business Books, p.167.

After the above questions have been answered, Hamper (1992) suggests one of three methods to establish an actual budget: the group method, the methodical method, and the task method. Hamper (1992) states that in the group method, the budget creation starts with the top management person, who has established a budget that meets all of the company's objectives. This budget is then passed to the marketing manager, who develops the marketing strategy within the limits of the proposed budget and determines if the proposed budget meets the marketing needs of the company. The marketing manager can also recommend exceptions that exceed the budget limits when these exceptions are justified (Hamper, 1992). Hamper (1992) stresses that the top management person must ultimately review the marketing budget and make the final decision.

The methodical and task methods require less work and time than the group method (Hamper, 1992). In the methodical method, the marketing budget is simply the amount of funds left over after all the taxes, manufacturing costs,

administrative items, and profits are accounted for (Hamper, 1992). In the task method, Hamper (1992) states that the budget is made from the bottom up, meaning that lower level managers pass a budget, including whatever items they need up to their superiors, who review it and add anything they feel is necessary. This process continues until the budget reaches the highest level of management, who must then approve it.

Hiebing (1993) employs a different approach to creating a marketing budget than Hamper (1992). Instead of using one of three methods that Hamper (1992) discussed, Hiebing (1993) suggests that a budget should be developed in three steps. He stresses that each step has a unique methodology that should be used with it. In the first step, the percent of sales method is used. This method entails using the budget from the previous year to determine a starting point for the new marketing budget (Hiebing, 1993). The second step in Hiebing's (1993) approach is the task method. Hiebing's (1993) task method is comparable to Hamper's (1992) in the sense that it stresses that the marketing budget should originate at the lowest marketing manager position and continue its construction up the management hierarchy until it reaches the highest marketing manager position. Hiebing's (1993) third step is the competitive method. In this method, Hiebing (1993) says that a company should estimate the marketing and sales budgets of competitors and compare these estimates to the preliminary budget of the company. Finally, Hiebing (1993) recommends that all three steps should be used in finalizing a marketing budget.

## **2.5 Marketing Research Surveying**

As part of our project, we completed a marketing research survey to help Lankester determine how to attract more visitors. Our marketing survey for Lankester was focused on gathering information about the tourists in the San José area. In order to complete an accurate study, we needed to understand the reasons for and methods of conducting a survey.

According to Fowler (1988), a survey is a social science technique aimed primarily at tapping the subjective feelings of the public to assess their preferences and interests. In agreement with Fowler, Doyle (1998) asserts that a survey can be a powerful tool for gathering data on human characteristics, attitudes, thoughts, and behavior. A marketing survey is a specific type of tool that businesses utilize to evaluate the nature and level of demand for specific product or service (Salant & Dillman, 1994).

After gathering the data, an analysis is completed to summarize the public opinion. The conclusions drawn from surveying are useful to businesses because they can implement changes based upon these results (Fowler, 1988). Salant and Dillman (1994) believe that these alterations may increase the revenue, profit, and success of the business.

The process of completing a survey can be complicated and, frequently, improperly conducted surveys lead to incorrect conclusions about the surveyed population (Moser, 1972). In order to achieve a high level of accuracy in any survey, Salant and Dillman (1994) stress the importance of the two major components of surveying: sampling and survey design.

### 2.5.1 Sampling

The goal of a survey is to develop accurate statistics about a population. If the desired population is small, it is feasible to survey every member of the population. Salant and Dillman (1994) believe that an obstacle is introduced when the population becomes very large. Fowler (1988) agrees and states that in such a large population it is impractical to collect data from every person. Both time and monetary constraints can force evaluators to utilize a technique called sampling. Doyle (1991) states that if chosen wisely, a relatively small sample of the population can yield highly accurate results about the entire desired population.

There are many techniques for sampling a population. Berg (1998) cites four commonly used methods for gathering information from a population. The first approach is simple random sampling; under this method, each member of the identified population has a known chance of being selected. In systematic sampling, a list of the entire population is created, and then every  $n$ th entry is selected to complete a survey (Berg, 1998). Another method he discusses is stratified sampling, where the population is broken up into subgroups - or strata - and independently sampled within the smaller group. The final technique that Berg (1998) talks about is purposive sampling, where researchers use previous knowledge about a certain group to select subjects that represent the entire population.

In addition to Berg, Smith (1999) describes purposive - or convenience - sampling in greater detail. In this form of sampling, he states that the researcher simply selects a requisite number of subjects from a conveniently available

population. As an example of convenience sampling, Smith (1999) cites a study of university alcohol consumption. He believes that there are three ways to use convenience sampling in this study. First, the researcher could ask a professor to administer the survey to all the students in his or her classes. Also, the researcher could stand in a dormitory hall and interview whoever comes down the hall. Finally, the researcher could find a convenient and popular location on the campus to ask students to complete the survey. Smith (1999) believes that this method is easy, quick, and inexpensive. He further asserts that, if research is at an early stage, convenience sampling is the best option.

There are, however, disadvantages to convenience sampling. Smith (1999) states that there is no way of determining to whom, other than the sample itself, the results apply. Unlike simple random sampling, the results can not be generalized for the entire population (Smith, 1999). Smith also states that the results from convenience sampling can not be statistically analyzed. The responses from this method of sampling can be used to identify general trends of the surveyed population only (Smith, 1999).

### **2.5.2 Response Rates**

To guarantee accurate results, we must ensure that the people who do respond to the survey are representative of the entire population of tourists (Salant & Dillman, 1994). This representation is reflected in the response rate for the survey. The response rate is defined as the number of completed, usable surveys obtained divided by the number of people who were asked to complete a survey (Doyle, 1998). According to Salant and Dillman (1994), a response rate less than 60 percent serves as a warning that the opinions of those members of

the population who responded may or may not reflect the thoughts of the entire population. Doyle (personal interview March 27, 1999) agrees with Salant and Dillman and claims that the response rate needs to be above 50 percent for the survey to have any value. He further states that it is better to have a smaller number of people questioned and a higher response rate.

### **2.5.3 Self-Administered Surveys**

Since a high response rate is needed for an accurate study, the type of survey selected must aim for a high response rate. There are numerous ways of conducting a survey, but according to Salant and Dillman (1994) the self-administered survey tends to be the most effective for achieving a high response rate. With the self-administered survey, the respondent is asked to fill out a questionnaire on his or her own and return it to the evaluator in a relatively short amount of time. Unlike phone and mail surveys, participants are more willing to answer a short survey when asked in person by the researchers (Salant & Dillman, 1994). Fowler (1988) states that self-administered surveys also have advantages over personal interviews because they are less time consuming and do not require the researchers to have many interviewing skills.

### **2.5.4 Survey Design**

With the self-administered survey, the most effective way of increasing the response rate is a good survey design (Fowler, 1988). Salant and Dillman (1994) agree with Fowler and state that the ultimate goal of designing a well-thought-out questionnaire is to minimize error and increase the response rate. All three authors further assert that a survey is a way for the researcher to speak directly to the respondent to obtain the desired information. Before writing the

questionnaire, Salant and Dillman (1994) state that the evaluators must know the specific information that they are looking for in the results of the survey. This knowledge will ensure that the questionnaire fulfills its purpose.

#### **2.5.5 Question Wording**

According to Fowler (1988) and Moser (1972), the wording of the questions in a survey is of the utmost importance. Improperly phrased questions can cause incorrect and unreflective results in the survey. Questions should be asked in the form of a complete sentence to ensure that the respondent does not add his or her own words (Salant & Dillman, 1994; Fowler, 1988). Also, overly technical, colloquial, and emotional words must be avoided, as not to confuse or influence the respondent.

There are two types of questions that can be used in a survey: open-ended and closed-ended questions. With open-ended questions, the respondent is required to provide a written response to a question in his or her own words. Although open-ended questions provide valuable insight into the minds of the respondents, they are time consuming to complete and sometimes not possible to analyze (Salant & Dillman, 1994). A closed-ended question is the opposite of an open-ended question; the respondent is supplied with a list of possible answers and asked to select one. These questions are very easy to quantify and statistically analyze. Moser (1972) believes that people that are not overly interested in the survey material are more likely to answer closed-ended questions because they require less time and thought.

### **2.5.6 Questionnaire Organization**

A good questionnaire should begin, according to Fowler (1988), with an explanation for the survey, which briefly introduces the study and explains why it is helpful to the organization. Fowler (1988) believes that people are more likely to respond if they know the reasoning behind the survey. In this introduction, an estimate of the time that the survey takes to fill out should be given; generally a survey should only take between ten and fifteen minutes (Moser, 1972).

If the respondents decide to complete the survey after reading the introduction, the first few questions must keep them engaged in the survey (Dillman & Salant, 1994). According to Fowler (1988), starting with easy and straightforward questions keeps people from feeling overwhelmed at first. Close-ended questions with two or three choices are optimal. Salant and Dillman (1994) suggest saving personal questions, such as age, religious preference, or income, until the end of the survey. They state that by the end of the survey the respondent is more likely to feel comfortable answering such questions.

### **2.5.7 Layout**

A strong layout of a questionnaire will increase the number of people who finish the survey and will also help to minimize the errors made on the respondent's behalf (Doyle, 1997). Salant and Dillman (1994) assert that the goal of a questionnaire is to make it as easy as possible for people to move from one question to the next without inadvertently skipping one or becoming confused as to what to do next. In order for the survey to be easy to read for all respondents, the font should be dark and sufficiently large. The directions need to be as clear as possible and repeated frequently because, as Fowler (1988)



states, if there is the chance for people to be confused as to what they are supposed to do, they will be. Pictorial directions can also help to clarify any confusion that may exist. Also, grouping questions on the same topic together can be helpful for the respondents so that they are not constantly switching from one topic to another (Salant & Dillman, 1994). This method reduces confusion and allows people to give reasoned answers.

### **2.5.8 Pretesting the Questionnaire**

Once a researcher has developed an aesthetically pleasing questionnaire with well-thought-out questions, he or she should conduct a pretest (Salant & Dillman, 1994; Fowler, 1988). This method is used to determine the effectiveness of the survey before actually surveying the entire sample. Moser (1972) defines the process of pretesting as selecting a small but representative sample of the population and asking them to complete the survey. Fowler (1988) says that the evaluator needs to ask the participants in the pretest several questions: *Did the respondent understand the questions and the words that were used? Were the directions clear and easy to follow? Did he or she encounter any confusion?* The answers can be used to verify that all respondents are interpreting the questions in the same manner (Doyle, 1997). Based on the outcome of the pretest, the researcher can alter the survey as needed before administering it.

## **2.6 Fundraising**

While strong advertising and marketing campaigns have the potential to bring in more visitors to an attraction, the resulting increase in funds will not be

immediate. Through active fundraising, an organization can bring in large amounts of money in a short period of time. At the time of the project, Lankester Botanical Garden was in a position to procure large amounts of capital through such a fundraising effort.

### **2.6.1 Reasons for Fundraising**

According to Flanagan (1993), the purpose of fundraising is to allow nonprofit organizations to gain the necessary capital required in order to achieve their goals. Successful fundraising campaigns allow an organization to compensate for reduced government funding. This decrease in funding has resulted from a combination of budget cuts at all levels of government and an increase in the number of organizations seeking government aid.

### **2.6.2 Methods of Fundraising**

There are many possible ways for organization to raise money. Some of these methods include annual campaigns, corporate partnerships, grants, and special events.

### **2.6.3 Annual Campaign**

An annual funds campaign has the potential to bring in numerous small contributions. These campaigns bring in a partially predictable amount of income. They also serve to establish a donor base which will lead to habitual giving (Edwards, et. al., 1996).

Expert on fundraising, Edward Kerness (1985), suggests the appointment of a campaign chairperson to oversee the campaign, bring in volunteers, and act as a liaison between volunteers and professional staff. Kerness (1985) also

recommends breaking up potential donors into categories by age, sex, and possible donation amount and creating a committee to focus on each category.

Appeals through mail are the most common method for organizations to solicit donations for an annual campaign. A mail campaign should have the goals of both attracting new donors and retaining current donors. These mailings are generally more successful when targeted at individuals who have previous knowledge of the organization and its goals (Edwards and Benefield, 1996). However, it is possible to use mailings to attract new donors. This process is most successful when a list of target donors contains individuals who have an interest in the organization that is seeking donations. Organizations should not become discouraged if mailings do not initially bring in the desired results; the success rate for a mailing targeted at new donors may be as low as one percent (Edwards and Benefield, 1996). Once individuals have donated to an organization, that organization must keep them interested and informed so that the donors are likely to make other gifts.

Flanagan (1993) recommends sending out several mailings throughout the course of a year. As a guideline, she suggests that nonprofit organizations send out a year-end/holiday mailing in late November. This mailing should be followed by their annual report in January or February, and the organization should begin asking for membership renewals two months before a membership expires. The author asserts that multiple mailings are beneficial because people often misplace or accidentally discard brochures and requests for funds.

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Andreasen (1996) states that in a joint issue partnership, the for-profit and nonprofit organizations agree to work together in order to advertise and educate the public about a certain social problem, such as the AIDS virus, the dangers of smoking, or the importance of education. Under joint issue promotions partnerships, the nonprofit organization receives publicity from the education campaign and may receive capital donations from the for-profit corporation.

The third type of partnership, licensing, allows a nonprofit organization to receive money for the use of its name and logo by for-profit organizations. The nonprofit groups will usually receive a portion of sales revenue from products bearing their name or logo. This type of partnership has been used by colleges and universities for a number of years and has recently been adopted by numerous other organizations (Andreasen, 1996). For example, the American Heart Association receives money from numerous cereal companies for the use of their name and logo on cereal boxes.

There are, however, many risks associated with corporate partnerships. According to Andreasen (1996) if such a partnership does not work out, the for-profit organization is able to write off losses, thus saving money on taxes. In contrast, nonprofit organizations generally have limited staff and resources and such losses would force them to cut back in their activities. The author also warns that another cause for concern is the reduction in donations from historic donors. These donors may feel that their donations are no longer necessary due to the alliance between the organizations. Nonprofit organizations must, at times, sacrifice flexibility when agreeing to a partnership. Corporations may

make stipulations requiring that the nonprofit organization they are helping not act in such a way as to harm the reputation of the corporation. They may further require that the nonprofit organization not solicit a partnership with another corporation in the same field. Andreasen (1996) says that when investigating corporate partnerships as a possible source of funding, nonprofit organizations must consider both the positive and negative aspects of such an alliance and determine whether the benefits will outweigh the risks.

When looking for corporate sponsors, a nonprofit organization must seek a company that will be most beneficial to it. Andreasen (1996) cautions nonprofit organizations that for-profit companies are more likely to allow their name to be associated with causes that could impress and attract potential customers. Following his appointment as head of the Denver Children's Museum, Dr. Richard Steckel turned the museum into a self-supporting institute by such programs as selling a children's book about money to a bank and leasing exhibits to shopping malls and other museums (Flanagan, 1993). Steckel realized that developing relationships with outside corporations would allow his museum to achieve a better financial situation. Nonprofit organizations should note that companies will often hesitate to associate with nonprofit organizations of any kind that are considered controversial, such as foundations supporting the promotion of safe sexual intercourse for teenagers (Andreasen, 1996).

#### **2.6.5 Grants**

We felt that exploring grants available from international and Costa Rican foundations may provide Lankester Garden with a variety of sources to approach for funding. Through these grants, Lankester would have the ability to afford

large capital improvements that would make their facilities more desirable to visitors.

Grants are gifts made on behalf of institutions rather than individuals. They are usually relatively large contributions and, unlike loans, do not have to be paid back. Though grants are available from a variety of sources, the most common source is private foundations. These foundations are also the easiest source of grants to explore since they are required to submit detailed accounts of their donations to the Internal Revenue Service. Organizations may then use these reports to determine which foundations have awarded grants to similar causes (Edwards & Benefield, 1996). Other sources of grants include public agencies overseen by the government and corporations.

Public sources of funding are those run by federal, state, and local government. Grant applications to government institutions are usually reviewed by peer review panels, groups consisting of scholars, business leaders, and experts in a given field. These panels then make recommendations to the government agency as to which groups should receive funding. Kerness (1985) reminds organizations seeking grants from public sources that government agencies are notoriously slow and that grant applications may pass through many hands before a final decision is reached.

Private sources of funds include foundations and corporations. Each of these organizations has specific guidelines that regulate to whom they are allowed to give money and for what purpose. While the boards of directors for private corporations decide which specific organizations should receive money,

the government regulates which organizations are eligible to receive funding from these sources. Due to the large number of organizations seeking funds, competition for funding in the private sector is very aggressive (Kerness, 1985).

In order to apply for a foundation grant, a nonprofit organization must first determine which foundations are likely to be receptive to their request. This can be done through the *Foundation Directory* which gives brief descriptions of the 8,700 largest foundations in the United States. Although these foundations are located in the United States, many of them provide funds to organizations throughout the world.

Once applicants have identified possible foundations, they must develop grant proposals. Often, state Edwards and Benefield (1996), many grants are reserved for organizations that need funds to institute special programs. They further assert that most foundations require specified information regarding these programs such as the goals, methods, and expected budget.

The authors suggest that organizations maintain contact with foundations after a decision on the grant has been reached. Even if its grant is rejected, an organization can benefit by communications with the foundation. Understanding why a grant proposal is rejected allows an organization to ensure that the mistakes made will not be repeated. Flanagan (1993) feels that long-term relationships with foundations, as with any donor, can prove to be extremely lucrative for organizations.

#### **2.6.6 Special Events**

Special events are an extremely popular method of both raising funds and increasing public awareness of an organization. When holding a special event,



an organization must work to sell the event rather than the organization itself. Kerness (1985) suggests that special events are best used when implemented once or twice a year to highlight a capital campaign. Flanagan (1993) believes that these events can also bring in new donors who attend the event as the guests of people previously associated with the organization.

Special events have many advantages over other forms of fundraising. First, Flanagan (1993) states that special events do not require special talents since most citizens have previous experience in organizing events. She also claims that these events are a good way to introduce people to an organization. Special events allow an organization to publicize itself and its mission. Finally, special events are fun for both organizers and attendees (Edwards and Benefield, 1996).

Special events are not without disadvantages. They are labor intensive and take staff away from other programs. Regardless of which event is chosen, some group of people will be excluded. For example, dances exclude those individuals who do not enjoy dancing. Special events may also cause major donors to feel that their contributions are no longer necessary. Most importantly, special events have the capacity to lose money if poorly planned (Flanagan, 1993).

According to Flanagan (1993), the most important aspect of holding a special event is careful planning. First, an organization must choose the type of event it wishes to hold. This event should have the capacity to be profitable and must be something that appeals to employees and volunteers. Good planning

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### **3 Case Studies of Botanical Gardens**

As part of our research, we contacted several botanical gardens throughout the United States and Costa Rica in order to discover how each garden operates. Of the gardens contacted, we selected four successful organizations to investigate thoroughly. We concentrated on the marketing and fundraising programs of these four gardens because our project focused on these two topics. We also learned which activities and events organized by the gardens were successful and which ones were not helpful. From the list of activities developed, we determined which of these programs could be feasible to implement at Lankester. Lastly, we explored any affiliations that the gardens have with outside organizations that contribute to their success.

#### **3.1 Cornell Plantations Case Study**

The following information was obtained from a facsimile from Dorothy Reddington, the director of Cornell Plantations, on March 28, 1999. This information is also supplemented with facts from the Plantations' visitor brochures.

##### **3.1.1 Mission Statement of Cornell Plantations**

The following mission statement was taken from the Cornell Plantations webpage, <http://www.plantations.cornell.edu>, on April 15, 1999.

**Table 3-1: Mission Statement of Cornell Plantations**

- To hold, manage, protect, and enhance the living botanical collections and the natural areas and gorges of Cornell for the benefit and use of the university community and the public
- To be a vital center for the plant and natural sciences on campus, presenting and interpreting these sciences through its botanical collections, natural areas, display gardens, and educational programs, and providing resources and opportunities for research, education, and cultural growth for the Cornell community
- To represent Cornell among major botanical gardens and arboreta, and to serve as a resource for the people of New York State in fulfillment of Cornell's land grant college mandate

### **3.1.2 General Information about Cornell Plantations**

The following information was taken from “Cornell Plantations Visitor Guide – 1998”.

Cornell Plantations, located in Ithaca, New York, is a botanical garden affiliated with Cornell University. The Plantations is located on the outskirts of the university campus. Each year the Plantations 250,000 visitors. Admission is free to all visitors and the Garden is open year round from sunrise to sunset. The Garden offers guided tours for large groups at a nominal cost. There are also tours for school children, after-school groups, and summer camp programs. The gift shop offers garden information, books, clothing, and other gifts for nature lovers.

Volunteers play a large role at the Plantations. The tour program is entirely volunteer based, and volunteers also serve as horticulture workers, gift shop attendants, web site monitors, and “letter ladies.” These women write personal “thank you” letters to donors to the Plantations.

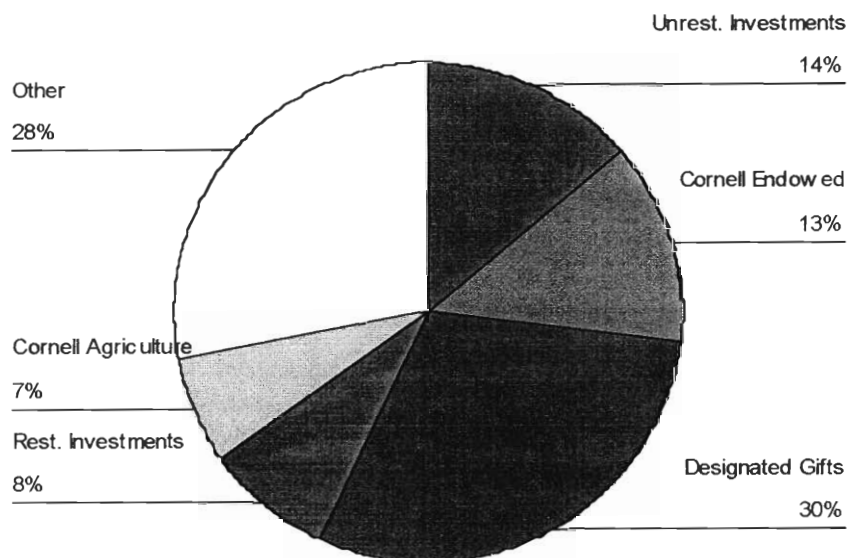
### 3.1.3 Academic Activities at Cornell Plantations

Cornell University offers more than 150 highly diversified classes at the Plantations. Over five hundred students enrolled in an introductory biology class journey to the Mundy Wildflower Garden for observation of plants each fall. Animal science classes use the Muenscher Poisonous Plants Garden to study nutritional toxicology. Art students can frequently be seen in the Garden sketching various forms of nature. Civil engineering students practice surveying techniques at the arboretum.

In recent years, the Plantations has expanded its educational options. Students are now able to earn credit for attending the *Plantations Seminar Series*, an annual lecture series hosted by the Garden. In response to student demands, Cornell Plantations offers a hands-on experience entitled *Horticulture Practicum*. The Plantations' offers *Public Garden Management*, a course taught by the Plantations staff that teaches students about the operation of a public garden.

### 3.1.4 Finances of Cornell Plantations

As shown in Figure 3-1, Cornell University provides approximately one-fifth of the Plantations' income. Investments, both restricted and unrestricted, comprise one-third of the Plantations' annual income. The largest contribution to the budget is the gifts category. Restricted, unrestricted, and designated gifts contribute 41 percent to the annual revenue. The Visitor Information Center adds 4 percent, grants add 1 percent, and the education program contributes less than a percent to the total income.

**Figure 3-1: 1997-98 Income Breakdown for Cornell Plantations**

Source: Cornell Plantations 1997-1998 Annual Report

### 3.1.5 Membership at Cornell Plantations

Membership at the Plantations is part of the Unrestricted Gift category. Prices for membership are \$35 for a Member, \$100 for a Partner, \$500 for a Charter Society Member, \$1000 for a Quadrangle club member, and \$5000 for a Tower Club Member. Table 3-2 lists the membership benefits at Cornell Plantations.

**Table 3-1: Membership Benefits of Cornell Plantations**

- Monthly newsletters
- A subscription to the Garden's magazine
- Reduced fees for classes and special events
- A 10 percent discount in the gift shop

Currently, the Garden has approximately three hundred members.

### 3.1.6 Fundraising at Cornell Plantations

Cornell Plantations rents its grounds and facilities for weddings, anniversaries, and other special events. The Garden has three locations that can be rented: the Arboretum, Beebe Beach, and Guy Nearing Summerhouse. The major stipulation for the use of the property is that all food preparation must be done off-site and delivered ready to serve. The caterer is responsible for cleanup and disposal of all waste. The cost of renting the grounds varies depending on the number of guests. The cost is \$50 for under twenty-five guests, \$125 for twenty-six to one hundred guests, and \$250 for more than one hundred guests.

### 3.1.7 1996 Visitor Survey at Cornell Plantations

In 1996, using an eighteen-question survey, the Plantations conducted a study to determine characteristics of the people who were visiting the Garden. Key findings of the survey are mentioned in Table 3-3.

**Table 3-1: Key Findings of 1996 Survey at Cornell Plantations**

- Almost one-fourth of the visitors were first time visitors.
- Seven out of eight visitors traveled to the Plantations by car.
- Over 60 percent of the visitors were affiliated in some way with Cornell University.
- More than 90 percent of the people were not members of the Plantations.
- About half of the population responded that as members they would like to receive Plantations newsletters and other publications.
- Roughly 44 percent would like to receive discounts in the gift shop and on program fees.
- There were two main ways that the visitors heard about the Plantations: family and friends and Cornell University promotional materials.

These findings were provided by Dorothy Reddington in a facsimile on March 30, 1999.

### **3.2 Wilson Botanical Garden Case Study**

The following information was taken from an interview conducted with Gail Hewson, Associate Director of Wilson Botanical Gardens on May 27, 1999 (see Appendix N for full text). The case study is also supplemented with information from Garden brochures.

The Wilson Botanical Garden part of the Las Cruces Biological Station. Robert and Catherine Wilson founded the Garden in 1961. Located six kilometers south of San Vito, Costa Rica, Las Cruces is one of three field stations owned and operated by the Organization of Tropical Studies (OTS).

#### **3.2.1 Organization for Tropical Studies**

The following information was taken from the Organization for Tropical Studies World Wide Web page, <http://www.ots.duke.edu>, on June 7, 1999.

The OTS contributes a great deal in terms of finances and support to Wilson Gardens. In our interview with the Associate Director of Wilson Gardens, she stressed the importance of the relationship between the Garden and the OTS.

Based at Duke University, the OTS is a non-profit consortium that includes more than fifty-five universities and research institutions from the United States, Latin America, and Australia. The OTS is dedicated to providing leadership in education, research, and the wise use of natural resources in the tropics. To meet this goal, the OTS maintains three field sites in Costa Rica: La Selva Biological Station, located in the Atlantic lowlands and recognized internationally as one of the premier facilities for rain forest research; Palo Verde Field Station,



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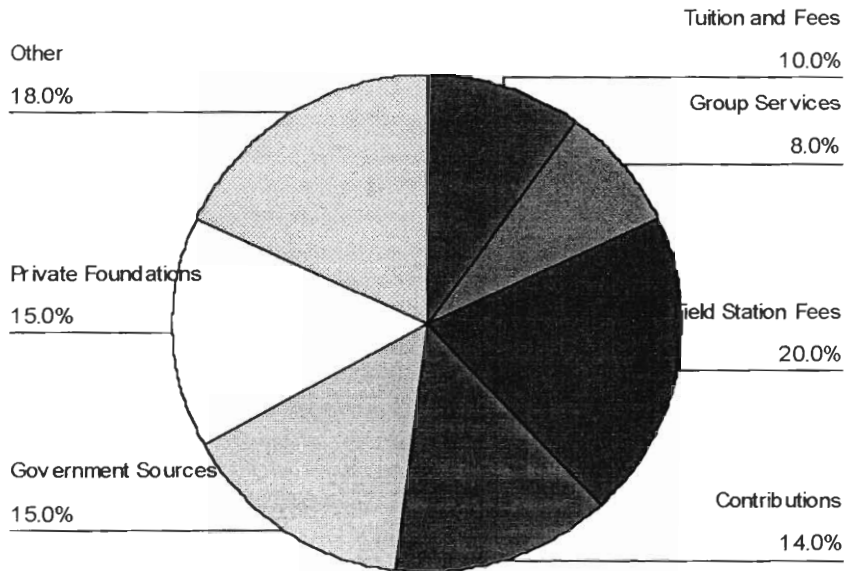
**IQP/MQP SCANNING PROJECT**



George C. Gordon Library  
WORCESTER POLYTECHNIC INSTITUTE

includes a \$7,000 membership fee that is paid to the OTS by each member institution.

**Figure 3-1: 1998 Income Breakdown of the OTS**



Source: OTS Annual Report for 1998

Although the OTS does not have a large marketing department, the organization is very well known throughout the world. The organization receives a great deal of publicity from its member institutions. The credibility and prestige of the member institutions, which include Ivy League universities and United States government agencies, give the OTS a reputable name. (See Appendix 0 for the OTS' member list.) By belonging to the OTS, these institutions are indirectly marketing the OTS.

### 3.2.2 Mission Statement of Wilson Botanical Garden

Las Cruces, including the Wilson Botanical Garden, functions under the mission statement of the OTS. The following mission statement was taken from the brochure entitled *Las Cruces Biological Station, Wilson Botanical Garden*, May 28, 1999.

The Organization of Tropical Studies was founded to provide leadership in education, research, and the responsible use of natural resources in the tropics.

### 3.2.3 General Garden Information about Wilson Botanical Garden

Wilson Botanical Garden occupies twenty-five acres of land near the Panamanian border of Costa Rica. The Garden attracted 4,259 visitors during 1998. Of these guests, 2,701 were tourists. A majority of these tourists came to see the 322 species of birds that inhabit the Garden. Other visitors had an academic interest in the Garden, and the rest visited the Garden for pleasure.

Entrance to Wilson Botanical Garden costs \$7 (2,000 colones) per day for non-Costa Ricans. The Garden also offers overnight accommodations in either shared bedrooms or small cabins. The cost to stay overnight is \$72 (20,000 colones) a night for general admission, \$45 (13,000 colones) for professional researchers, and \$32 (9,000 colones) for students. These costs include three meals a day that are prepared in an on-site kitchen.

The Garden has the second largest collection of palms in the world, numbering seven hundred species. In conjunction with the adjacent 632-acre forest reserve, Wilson Garden has over seven thousand species of plants and trees. The Garden is home to numerous animals including armadillos and white-faced capuchin monkeys.

### 3.2.4 Academics Activities at Wilson Botanical Garden

In conjunction with the OTS, Wilson Botanical Garden has a primary focus on education, and, therefore, opens its land and laboratories to students and researchers. The OTS runs courses at Wilson Garden at both the graduate and undergraduate level. Some of the courses taught at the Garden are *Fundamentals of Tropical Biology*, *Field Research in Tropical Biology*, *Environmental Science and Policy of the Tropics*, and *The Spanish Language and Latin American Culture*. Wilson is also world renowned for the research that occurs at the Garden. In 1998, fifty-nine researchers worked at the Garden on thirty different projects dealing with numerous topics in modern tropical biology.

### 3.2.5 Finances at Wilson Botanical Garden

The OTS handles most of Wilson's annual financial matters. Each of the field stations associated with the OTS requests a budget from the organization. Wilson's 1999 budget is \$360,000, but it does not include the salaries of several administrative employees of the Garden. Their salaries are paid directly by Duke University.

### 3.2.6 Advertising at Wilson Botanical Garden

Wilson Botanical Garden has a minimal advertising budget. They have brochures available at the Garden that are printed by companies in San José. The Garden relies heavily on word-of-mouth recommendations and guidebooks. Almost every guidebook lists Wilson as a "must see" for ecotourists in Costa Rica. All of the tour companies that offer nature excursions include Wilson in their package deals.

### **3.2.7 Role of Associate Director at Wilson Botanical Garden**

Wilson Botanical Garden has a director who oversees all aspects of the business. In addition, Wilson has an associate director who plays a very important role in the management of the Garden. The associate director is in charge of two main areas: Development and Visitor Services. The major job of the associate director as the Director of Development is raising money for the Garden. In 1999, the associate director has a goal of raising \$88,000. The associate director also edits the Garden newsletter entitled, *Amigos Newsletter*, and composes and sends letters asking for donations from past visitors. As the Director of Visitor Services, the associate director is responsible for personal relations with the visitors. The associate director organizes and gives the orientation lecture at the Garden and serves as the hostess of the Garden. As hostess, the associate director greets the guests, asks them if they are content with the accommodations, and handles all complaints. She also maintains quality control of housekeeping and food service. People tend to remember her name and face, as she is one of the few staff members that speaks English. Finally, the associate director performs miscellaneous job at the Garden, which include taking pictures of the Garden and finding art to put into the newsletter.

### **3.3 Tower Hill Botanical Garden Case Study**

The following information is taken from an interview conducted at Tower Hill Botanical Garden on March 31, 1999 with Phyllis Stoddard and Michael Arnum, the Director of Fundraising and the Director of the Garden, respectively. (For full text of interview, see Appendix J.)

Tower Hill Botanical Garden is owned and operated by the Worcester County Horticultural Society (WCHS). The Garden occupies 132 acres of land in Boylston, Massachusetts and was created in 1986. Tower Hill has experienced a great deal of success in the areas of marketing and fundraising.

### 3.3.1 Mission Statement of Tower Hill Botanical Garden

The mission statement of the WCHS encompasses the purposes and goals of Tower Hill. This mission statement, which was originally drafted on March 3, 1842 and was readopted on January 15, 1987, is as follows:

The Society shall be operated as an educational organization for the purpose of advancing the science and encouraging and improving the practice of horticulture.

The Society shall fulfill this purpose by pursuing the following objectives:

#### Table 3-1: Objectives of the Worcester County Horticulture Society

- To establish a botanical garden of the highest educational and aesthetic quality at Tower Hill displaying superior woody and herbaceous plants suited to on site conditions, and to develop, test, introduce and disseminate selected varieties
- To develop and maintain the proper facilities necessary to keep the garden open to the public
- To provide educational services to the public, students, and professionals in the fields of horticulture and related subjects
- To maintain a library open to the public consistent with the objectives of the Society
- To provide scholarships and recognition for students of horticulture and to give awards for horticultural excellence to gardeners and exhibitors
- To promote appreciation for horticulture in its relationship to wildlife, ecology, and other aspects of the natural environment
- To provide services requiring horticultural or botanical expertise to public and private institutions
- To cooperate with horticultural and botanical institutions, plant societies, and related organizations

### **3.3.2 General Information on Tower Hill Botanical Garden**

Tower Hill Botanical Garden is the first and only comprehensive botanical garden in New England. The Garden is open year round, Tuesday through Sunday, and is designed to accommodate as many as 150,000 visitors annually.

The grounds of Tower Hill contain twenty separate gardens, each dedicated to a certain theme such as wildflowers, winter gardening, or roses. The Lawn Garden can hold up to one thousand people for outdoor events held at Tower Hill. The Stoddard Education and Visitor Center, which was built with funds provided by the Stoddard Foundation, houses a theater, an exhibition area, three classrooms, offices, a gift shop, a café, and a library.

### **3.3.3 Finances of Tower Hill Botanical Garden**

Tower Hill receives 21 percent of its income from admission fees and gift shop revenue. The cost to enter the Garden is \$7 for adults, \$5 for senior citizens, and \$3 for children. Members of the WCHS are admitted to Tower Hill at no charge. The gift shop at Tower Hill sells garden memorabilia, books on gardening, and gourmet food supplies. Membership fees provide 28 percent of the Garden's income, and the remaining 51 percent is comprised of grants and private donations. Private foundations located in Central Massachusetts provide the majority of these grants.

### **3.3.4 Fundraising at Tower Hill Botanical Garden**

The majority of Tower Hill's fundraising is conducted through special events organized by the WCHS. The Society organizes a large number of these events every year. While some of the events bring in large quantities of capital for the Garden, others bring in less money, but serve to publicize Tower Hill.

Tower Hill hosts concerts at various times throughout the year. The concerts feature musicians and vocalists from throughout Massachusetts. In 1999, the Garden offered shows featuring a violin and classical guitar, a string trio, and a brass guild. Admission to concerts is \$12.50 for adults and \$10 for students under the age of nineteen.

The Garden also organizes day trips to other botanical gardens. In 1999, Tower Hill offered two trips to botanical gardens in New York. In May, they sponsored a trip to Kykuit Garden at the Rockefeller Estate and, in October of 1999, the Garden will arrange a trip to the Brooklyn Botanical Garden. These trips cost \$125 per person and include bus transportation, entrance to the garden, and lunch.

Tours of private gardens in Massachusetts have also proven to be successful for Tower Hill. The itinerary of these tours changes on a yearly basis, and, each year, the Tower Hill staff chooses a different theme for the tour. These garden tours cost \$20 in advance and \$25 on the day of the tour.

Tower Hill has also experienced a great deal of success in conducting plant sales. These sales are held once a year and are open to the public free of charge. The plants are donated from local nurseries, allowing the garden to keep all of the proceeds from the sale. A preview party and auction is held the night before the sale at a cost of \$75 per person.

In addition to special events, Tower Hill also encourages commemorative donations. This program allows individuals to donate money to the Garden in memory of loved ones. Tower Hill then names a certain item within the grounds



of the Garden after the deceased. The memorial items correspond to the size of the donation and may be a bench, tree or a theme garden.

### 3.3.5 Membership at Tower Hill Botanical Garden

The WCHS's annual membership drive is extremely important to the Tower Hill Botanical Garden because more than a fourth of the Garden's income is derived from WCHS's membership dues. Membership information is sent to current and past members as well as individuals who have signed a guest book at the Garden within the previous year.

Recipients of this mailing have many membership choices. These categories consist of Individual, Family, Friend, Contributing, Supporting, Patron, and Benefactor. Prices for memberships range from \$40 for individuals to \$3,000 for benefactors. Each category includes basic membership benefits and, as the price of membership increases, the number of additional benefits increase as well. Basic membership benefits are shown in Table 3-5.

**Table 3-1: Membership Benefits of the Worcester County Horticulture Society**

- Unlimited free admission to Tower Hill Botanical Garden for one year
- Subscription to Tower Hill's quarterly newsletter *Grow With Us!*
- Advance notice and reduced rate for classes, trips, special events and workshops
- Discounts and "members-only" sales at *The Shop at Tower Hill*
- Early admission to the Annual Plant Sale
- Reciprocal admission privileges at over one hundred gardens throughout the United States, Canada, and Israel
- Borrowing privileges at the WCHS library

Although the prices listed are for one year of membership, two-year memberships may be purchased in selected categories at special prices.

### **3.3.6 Library at Tower Hill Botanical Garden**

The library at Tower Hill contains over eight thousand volumes relating to the field of horticulture. The library also houses, in a temperature- and humidity-controlled vault, a collection of rare books on horticulture dating back to the late eighteenth century. In addition to these research materials, the Tower Hill Library possesses historical records from the town of Boylston dating from the early 1900's. Although the library is open to the public, it is used mainly by students and researchers. A professional librarian oversees the operation of the library. The library is open Tuesdays, Thursdays, and Saturdays from 10 a.m. to 4 p.m.

### **3.3.7 Master Plan of Tower Hill Botanical Garden**

Tower Hill Botanical Garden is currently working to meet the goals outlined by its Master Plan. This plan was created by Environmental Planning and Design of Pittsburgh, Pennsylvania in 1987. The Master Plan calls for the development of a collection of theme gardens. Currently, Tower Hill has developed twenty of these gardens. Future gardens will highlight the physical features of Tower Hill which include rock formations, hills, woodlands, and ponds. These additional gardens will include a Systematic Garden, a Fruit Garden, and a Dry Garden.

## **3.4 *Garden in the Woods Case Study***

Garden in the Woods, located in Framingham, Massachusetts, is a botanical garden that is owned and operated by the New England Wild Flower Society (NEWFS). In 1931, William Curtis, a graduate of landscaping artistry and

design from Cornell University, purchased a plot of land with glacially sculpted terrain. He bought this land with the intention of displaying different native plants through his landscaping ability to potential customers. Curtis lived and worked on his property until his death in 1965, at which time his garden was given to the NEWFS. Curtis' garden became a public garden and the headquarters for the NEWFS.

#### **3.4.1 New England Wild Flower Society**

Since Garden in the Woods is owned and operated by the NEWFS, the Society contributes a great deal to the Garden's success. Therefore, the reader must understand how the NEWFS functions and some background information on the organization.

The New England Wild Flower Society is the oldest plant conservation organization in the United States. The Society promotes the conservation of North American temperate plants through research, education, horticulture, and habitat preservation. As part of the research program, the NEWFS oversees the New England Plant Conservation Program, which is an alliance of more than sixty-five public agencies and private institutions. These organizations and institutions work together to promote the recovery and prevent the extinction of endangered flora in the New England region. The NEWFS has the most comprehensive educational conservation program in the United States. As part of the Society's horticulture program, it owns Garden in the Woods. The native plant nursery at the Garden in the Woods offers the largest selection of wildflowers in New England. As part of the habitat preservation program, the Society owns and manages seven sanctuaries in New England. Through the

management of these sanctuaries, the Society can protect rare flower species and represent examples of New England habitats as well.

The NEWFS gives the public the opportunity to become part of its conservation efforts by offering them membership to the Society. There are two main types of Society membership, personal and group. The personal members consist of the following categories: Individual (\$38), Family/Friend (\$50), Contributing (\$100), Supporting (\$250), Benefactor (\$500), and Patron (\$1,000). All memberships are good for one year. If a member desires, he can become a life member for \$3,000. The group memberships consist of the following categories: Garden Club/Group (\$40) and Library/Community Non-profit Organization (\$100). Corporate and Business memberships are also available. All of the memberships come with a basic set of benefits that are given in Table 3-6.

**Table 3-1: Membership Benefits of the New England Wild Flower Society**

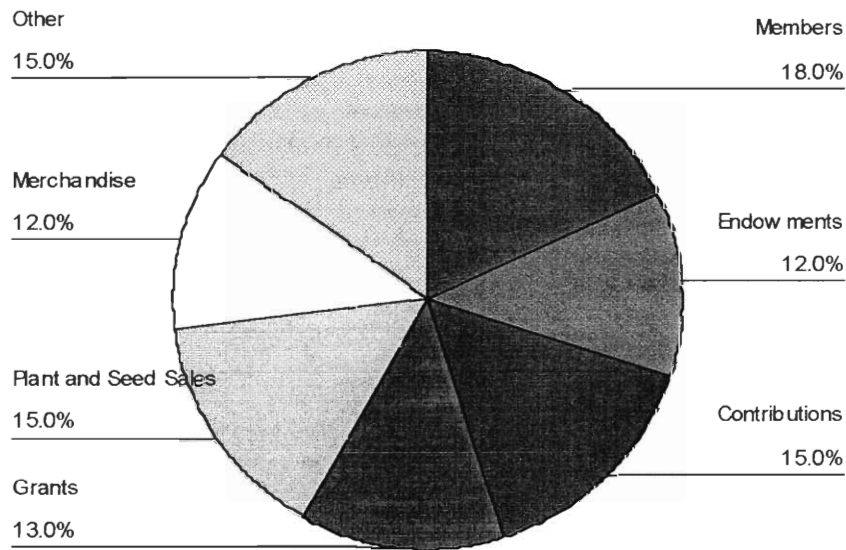
- Free admission to the Garden in the Woods
- Up to 20 percent discount on courses, workshops, and field trip fees
- Discount on purchases at select nurseries
- Discount on purchases of the Society's native plants, gifts, and books
- More than 40 percent discount on seed orders
- Borrowing privileges at the Society's botanical and horticulture library

Depending upon the amount of donation, a member can receive extra benefits in addition to the basic benefits. Since the NEWFS is a non-profit organization, it stresses that membership in the Society is tax-deductible in accordance with federal regulations.

The NEWFS obtains capital from various sources. As can be seen in Figure 3-3, the largest source of revenue for the NEWFS comes from its

membership program. Two other important parts of the NEWFS finances are private contributions and research grants, which, together, account for almost 30 percent of the total budget. The rest of the NEWFS' income comes from revenue earned by Garden in the Woods, such as the plant and seed sale and merchandise, which are 15 percent and 12 percent, respectively.

**Figure 3-1: 1998 Income Breakdown for NEWFS**



Source: 1998 NEWFS Annual Report

**3.4.2 Mission Statement of Garden in the Woods**

Garden in the Woods functions under the mission statement of the NEWFS. The following mission statement was taken from the brochure entitled *New England Wild Flower Society, Conserving Native Plants Since 1900*.

The Wild Flower Society is a recognized leader in native plant conservation. Founded in 1900, the Society is the oldest plant conservation organization in the United States. Its purpose is to promote the conservation of temperate North American plants through key programs: Conservation and Research, Education, Horticulture, and Habitat Preservation.

#### **3.4.3 General Garden Information for Garden in the Woods**

Garden in the Woods encompasses more than forty-five acres of land and can be referred to as a living museum where visitors can experience the wildlife found at the Garden. The Garden displays over 1,600 plants, including approximately two hundred species of rare and endangered plants. From the beginning of spring through the fall, the Garden displays an ever-changing array of flowers and foliage. This plant life attracts between 45,000 and 47,000 visitors to the Garden each year. The admission for visitors varies: adults \$6, seniors \$5, and children \$3. Members of the NEWFS are admitted for free.

The Garden offers informal guided walks at 10 a.m. every day except Sundays and Mondays. Group tours can be made by reservation, and self-guiding tour booklets are available in the Garden's Visitor Center.

#### **3.4.4 Academic Activities at Garden in the Woods**

Each year the NEWFS teaches thousands of people about native plants through their conservation educational programs. This program includes the nationally recognized Certificate Program in Native Plant Studies which is offered at Garden in the Woods. In order to qualify for the Certificate in Native Plant Studies, a participant must complete ten courses, visit twelve different plant habitats, and complete six special projects that are related to their specific focus of study.

Garden in the Woods offers the ten courses that must be completed by a participant in the Certificate in Native Plant Studies. The names of the courses are as follows: *Basic Botany*, *Wildflowers of New England*, *Framework Trees of New England*, *Native New England Shrubs*, *Field Identification Techniques*, *Principles of Plant Ecology*, *Plant Communities of New England*, *Flora of New England*, *Plant Systematics*, and *Conservation Biology*. The Garden also offers a variety of special course topics each season. These topics include courses on specific plant families and groups, anatomy and physiology of various plants, and plant care and propagation.

#### **3.4.5 Finances of Garden in the Woods**

NEWFS handle most of Garden in the Woods annual financial matters. A portion of the Society's annual membership dues are given to the Garden. In addition, the Garden internally increases its income through garden admissions, plant sales, and gift shop sales. The Garden in the Woods also applies for and obtains grants from federal agencies and private foundation.

#### **3.4.6 Marketing at Garden in the Woods**

Since Garden in the Woods is run by the NEWFS, a non-profit organization, it has very limited funds to use for marketing. In order to achieve the greatest exposure of the Garden, it is marketed as both part of the NEWFS and as a separate entity.

When the Garden is advertised by the Society, it is marketed as part of the conservation effort for the Society to attract its members. The membership brochure for the Society explains the purpose of NEWFS on one side and the purpose of the Garden in the Woods on the other side.

When the Garden is advertised separately from the Society, it is marketed as a tourist and local attraction. The Garden places rack cards, which are one-sided brochures, at other botanical gardens, tourist attractions, hotels, and local libraries. The Garden also sends out between 100 and 120 press releases each year to newspapers. These newspapers then print some of the releases at no charge to the Garden.

#### **3.4.7 Visitor Surveys**

In 1993, the Garden in the Woods distributed a survey to its NEWFS members in order to determine what their interests were, why they joined the Society, and why they continued membership with the Society. The Garden discovered that the NEWFS members had a large interest in the conservation of wildlife and in having special programs run at the Garden to educate visitors about conservation.

At present, the Garden in the Woods is organizing another survey that the staff will distribute to visitors of the Garden. Currently, the Garden is interested in obtaining demographic information about its visitors, specifically what age group is most attracted to the Garden. In addition, the survey will be made up of six questions concerning how the visitors heard about the Garden and what their specific interests and expectations of the Garden are. This survey will be administered as visitors enter the Garden. As the visitors leave the Garden, they will be asked to complete another survey to discover whether the Garden fulfilled their expectations. From this survey, Garden in the Woods hopes to gather any suggestions or thoughts the visitors had about their experience at the Garden.



#### **3.4.8 Special Events at Garden in the Woods**

Garden in the Woods has hosted many special events that have been successful at raising money. These events bring people to the Garden and thereby increase the admission revenue and publicize the Garden. Many of these events are designed to help the community become involved with the Garden and more environmentally conscious.

A successful event that the Garden sponsors is the Earth Day Celebration. During this special event, the Garden offers tours, family activities, live animal shows, and free admission all day. This event increases the awareness of the importance of Earth Day to the environment.

The Garden also offers a variety of events for children and families throughout the course of the year. Blossoms and Bugs: The Pollination Game, a family event held at the end of every May, is designed to educate families on how flowers and insects depend on each other for survival. Creepy Crawlies, a children's event held annually at the beginning of June, is a nature out-reach program that features a safari to search for caterpillars, ladybugs, and other insects and a craft workshop.

The Garden hosts at least one special event a month. At the end of June, Garden in the Woods holds an annual plant sale which is very successful. Prior to this sale, the Garden distributes coupons for a 20 percent discount on any item at the plant sale. This marketing technique makes customers more inclined to purchase items at the sale. In July, the Garden has the Annual Volunteer Potluck Picnic, which is an appreciation dinner for their numerous volunteers. In August, the Garden offers its Sunday Gardening Series. This event is a series of

one-hour programs held every Sunday in August, teaching the layman how to become an adept gardener. Finally, every September the Garden sponsors the NEWFS Annual Photo Contest. The entries for the contest are displayed at the Garden from mid-September to the beginning of October, and visitors may vote on their favorite photo.

## **4 Marketing Methodology**

The primary focus of this project was to attract more visitors to Lankester Botanical Garden. Since the Garden had never had any marketing strategies, we chose to select activities that would be most immediately beneficial to the success of Lankester. In addition, these activities will help the Garden in the future by setting a foundation from which Lankester can base a marketing strategy. This section details the steps we completed to achieve our goal.

### **4.1 Mission Statement**

Through our research, we discovered that the mission statement of an organization is extremely important in the development and marketing of that organization (See Section 2.4.1). Using this information, we determined that a strong mission statement would aid in the growth of the Garden. We then reviewed the current mission statement of the Garden, which is as follows: “The Jardín Botánico Lankester’s mission is to promote conservation of the tropical epiphytic flora of Costa Rica, [e]specially the orchids, through research, educational and horticultural programs.”

After reviewing the statement, we proposed that Lankester adapt the objectives developed by the 1998 Lankester IQP group to the Garden’s mission statement. These objectives were never officially adopted by the Garden. Both our liaison and the Director of the Garden approved of this mission statement revision and gave us permission to place the objectives along with the mission statement on the Garden’s new brochure.

## **4.2 Marketing Research Survey**

In order to provide the staff at Lankester Garden with information about the general composition of the tourists who visit the San José area, we developed a marketing research survey. As discussed in our Literature Review, a company must know specific details about its customers in order to market effectively to these people (see Section 2.4.2). Once the company is aware of the characteristics of its potential clients, it can design a marketing strategy to attract these customers.

Prior to our survey, Lankester did not have any information about the visitors to San José and, thus, could not market the Garden properly to these tourists. Therefore, our survey was designed to discover common characteristics of tourists and to collect demographic data and information about level of interest in programs that the Garden has the ability to offer. Lankester will be able to use this information to develop marketing ideas and special programs that would attract more people.

### **4.2.1 Development of the Survey**

After researching the various methods of surveying (see Section 2.5.3), we chose to use a self-administered survey because it is the least time consuming method of surveying. Because we were asking tourists to complete a survey during their vacations and while they were focusing on other activities, we could not expect to receive more than five to ten minutes of their time to complete our survey.

Based on our literature review, we discovered several techniques for the design of a self-administered survey (see Section 2.5.3). These methods provided suggestions about the creation of a survey in which the respondent could reply completely and accurately. Our research (see Section 2.5.4) showed that people are more likely to respond if they understand how useful their answers will be to the purpose of the survey. To accomplish this objective, we included an introductory paragraph briefly describing Lankester Botanical Garden and explaining how the survey results would be used. In addition, Doyle states (see Section 2.5.6) that the physical layout of the survey must allow the respondent to move quickly and easily from one question to another. For this reason, we numbered each question in dark letters and clearly indicated when questions could be skipped. For this reason, we also reminded the respondent to answer the questions on the back of the page. Another important aspect of survey design (see Section 2.5.4) is that social scientists must keep all personal biases out of their survey. This fact was especially relevant to our survey because, although we had a personal interest in the Garden, it was important not to pass our opinion on to the respondents.

#### **4.2.2 Survey Hypotheses**

Before we designed our survey, we created a list of information that we felt was important to obtain from the tourists. We needed to gather information in several areas:

- 1) Demographic information about the visitors to the Costa Rica,
- 2) Awareness of Lankester Botanical Garden among tourists,
- 3) The level of interest in programs that the Garden can feasibly offer.

We decided to ask for the demographic information to determine the general composition of our sample. With this information, we were able to classify the respondents by different categories and analyze the data. The goal of our second area was to determine how well-known Lankester is among tourists to San José. We also gathered information about where people had heard of the Garden to determine where Lankester is advertising and where the Garden should be advertising. The goal of our third area was to determine which programs tourists are interested in and would attract more tourists.

We developed several hypotheses that we expected the data from our survey to verify. We then created a question or series of questions that were specifically designed to support or refute each of our hypotheses. These hypotheses are shown in Table 4-1.

**Table 4-1: Survey Hypotheses**

1. Most tourists are unaware of the Garden.
2. Guidebooks are the largest source of information about the Garden.
3. The majority of people know about Lankester have not visited.
4. Tourists staying in Costa Rica for less than one week would not have visited the Garden.
5. Tourists staying in San José less than half of the time would not have visited the Garden.
6. Tourist who have been to the Garden have been with a language institute.
7. Birdwatching appeals to many tourists, particularly to older tourists.
8. Visiting a butterfly farm, taking nature walks, and participating in educational programs about Costa Rica's environment appeal to people of all ages.
9. The labeling of plants and provided travel arrangements are important to people in a trip to a botanical garden.

Hypotheses 1, 2, and 3 were based on information that we received from our liaison. Since Lankester has such a limited advertising program, we did not feel that people would have heard of the Garden. Of the people who had heard

of Lankester, we thought that they would have received information about it from a guidebook because tourists rely heavily on these books to plan their trips. Additionally, the Garden does not advertise locally and its World Wide Web page cannot be seen. We tried repeatedly to view the page, but each time we were told that the page could not be found.

Next, we hypothesized that the length of a tourist's stay in Costa Rica and in San José would affect the tourist's decision to visit Lankester, as stated in Hypotheses 4 and 5. On vacations, people tend to visit the most advertised attractions first and, if they have additional time, they will visit the smaller attractions, such as Lankester.

We also wanted to know how people who intended to visit the Garden planned on getting there. We based Hypothesis 6 on the fact that students generally stay in Costa Rica for longer periods of time than other tourists and have more time to take part in many activities. Also, students at language schools typically have higher levels of interest in the culture and environment of Costa Rica, making them more likely to want to go to the Garden.

In order to attract more visitors to Lankester, we needed to know what programs or attractions the Garden can offer that would appeal most to tourists. Hypotheses 7 and 8 reflected our beliefs about which programs would be of the most interest to tourists. These hypotheses were based on general life observations discussed with long-time tourists to Costa Rica, with our liaison, and with others. Finally, we believed that tourists would not have a great deal of

interest in academic research because common sense and experience told us that the average tourist prefers less academic activities.

Lastly, we wanted to discover the level of importance tourists placed on a number of items during a trip to a botanical garden, namely, labeling of plants, travel arrangements to the garden, guided tours, and food facilities. The two improvements that we expected to be most popular were the labeling of plants at the Garden and the provision of travel arrangements to the Garden as stated in Hypothesis 9. We felt that the labels would be important to average tourists who do not possess a high level of knowledge about plants. Additionally, we believed that travel arrangements would be important because, in general, large numbers of individuals do not rent cars and also may be reluctant to use public transportation in a foreign city.

#### **4.2.3 Pretesting**

After designing our survey, we completed a pretest. Based on our research, we knew that a pretest is necessary to determine the effectiveness of a survey before administering it to the entire sample (see Section 2.5.8). We pretested our survey at Instituto Universal de Idiomas. By visiting various classrooms, we distributed the survey to thirty students, 10 percent of our desired sample, and achieved a 100 percent response rate. After each class finished the survey, we asked each respondent four questions:

**Table 4-1: Pretest Questions**

1. Did the close-ended questions offer answers that reflected your experiences?
2. Were the directions explained in a manner that were easy to follow?
3. Was any confusion encountered in the layout of the survey?
4. Were any questions difficult to understand?



Based on the comments of the respondents, we revised the survey to make it easier to complete. We made numerous changes to our survey, including the correction of several typographical errors and the adjustment of the line dividing the columns on the front page. We also altered the wording of some of the directions: the word “Go” became “Skip” to eliminate any confusion on the respondent’s behalf and “Not that important” became “Not very important” to make the option sound more formal.

In several cases, we discovered that the close-ended questions did not provide the reader with options that reflected their experiences. In order to correct these problems, we changed some close-ended questions to open-ended questions, which allowed the respondents to provide their own answer. In addition, we added “Not sure” as a possible response to several of the questions.

After making the necessary corrections, we created additional questions that would provide us with more information about the tourists. We asked them to fill in their occupation, their primary mode of transportation, the name of their hotel, and where their lodging was located. These questions were designed to create an in-depth profile of each respondent.

Since the changes made to the survey greatly altered the layout of it, we had to pretest again to ensure that the new survey would provide accurate results. On May 31, 1999, we pretested at la Plaza de la Cultura in downtown San José. By talking to the respondents, we discovered that our survey was too time-consuming.

In order to shorten the survey, we kept the questions that we felt would be of the most use to Lankester's goal of attracting more tourists. We removed questions concerning the knowledge of other botanical gardens in Costa Rica because we felt that Lankester's marketing strategy would be very different from other gardens in Costa Rica. In addition, we removed the question asking tourists about other attractions they were planning to visit during their stay in Costa Rica. Although this question would provide information about the interests of tourists, Lankester could not use the information for marketing purposes. We also took out the question that asked where the respondent's lodging was located. This question caused some confusion, as some people wrote down the street address of their hotel. Finally, we removed the question asking about the respondent's primary mode of transportation while in Costa Rica because people had a difficult time deciding on only one option.

A final copy of the survey can be found in Appendix C.

#### **4.2.4 Sampling**

The population of tourists who go to Costa Rica is extremely large and would be impossible to survey in its entirety. From the Literature Review, we determined that a sample can represent the entire population when the desired population is large (see Section 2.5.1). For this reason, we chose to sample the population. There are two types of sampling, random sampling and non-random sampling (see Section 2.5.1). Random sampling requires that the researcher have a sampling frame, which is a list of all individuals in the sampled population. This fact implies that we would need a list of all the tourists in Costa Rica to use

random sampling. For this reason, we utilized a non-random sampling technique.

The most practical non-random sampling method for our survey was convenience sampling. In this technique, respondents were selected in the most convenient method taking into consideration our desire to have as representative sample as possible. As part of our research, we examined a study completed with a convenience sampling (see Section 2.5.1). In this study, the researcher distributed the survey in a place that was frequented by members of the desired population. For our survey, we decided to locate a popular site for tourists to Costa Rica to administer the survey.

Since a convenience survey is not random, the size of the sample cannot be mathematically determined. The sample size needs to be both large enough to allow the researchers to determine trends about the population and small enough to fit within time and budgetary constraints (see Section 2.5.1). We decided on a sample of three hundred respondents because that number would provide trends about the population and would take about two weeks to complete, which was reasonable given our constraints.

Since our sample was not randomly selected, the results from our survey cannot be used to generalize about the opinions of all tourists in Costa Rica. We selected only respondents from a certain group of tourists, those who visited our selected location. Our data allowed us to comment only on general trends among the respondents.

#### **4.2.5 Location**

After pretesting at Instituto Universal de Idiomas, we determined that surveying at language schools would not provide a diverse enough sample of tourists. Of the thirty people surveyed, twenty of them were in the age category of nineteen to thirty. Also, twenty-four out of thirty tourists stated that they were going to Lankester with their school group.

Based on this information, we decided to survey at hotels in the San José area to gather responses from a wider range of tourists. We, therefore, surveyed at the Aurora Holiday Inn and the Ambassador Hotel in one period from 7:45 a.m. to 9:00 a.m. During this time, no surveys were distributed because no tourists came out of the hotels. We then attempted to survey in the lobby of Gran Hotel Costa Rica. The management at the hotel was not cooperative and did not allow us to survey their customers. We felt this trend would be present among many hotels because the management would not want us to bother their customers.

After our experiences with hotels, we decided that la Plaza de la Cultura would be the best place to survey. We based this decision on several criteria. First, the Plaza de la Cultura is located in the center of downtown San José, and there are several hotels located nearby. Also, many tour buses stop at the Plaza to pick up and drop off tourists. In addition, the Teatro Nacional and the Museo de Oro are located in the Plaza. Finally, numerous places for shopping and eating are located near the Plaza de la Cultura. For these reasons, tourists of all types walk through the Plaza.

An additional limitation to our survey was the fact that we surveyed only in the Plaza de la Cultura in downtown San José. Although the Plaza provided us with a more diverse sample than either hotels or language institutes, there were several biases associated with this location. First, we received responses from many tourists staying in the downtown area because they were more likely to be in the Plaza than those staying outside the city.

Also, we did not receive many responses from tourists over thirty. We feel that this fact was also due to our location. Tourists over thirty are more likely to make travel arrangements that provide transportation directly to and from their hotels than would younger travelers. Common sense tells us that people over thirty are also more likely to have money to spend on vacation than people who are in school or recently graduated. Therefore, the older visitors would not have as much reason to spend time meandering in the Plaza. Younger travelers are more likely to explore on their own and be in the Plaza.

In addition, there were numerous street vendors walking through the Plaza. Many of them were very persistent and forceful in their attempts to sell items to tourists. As a result, we believe that tourists were less receptive to us because they did not want to be bothered by additional strangers.

#### **4.2.6 Time**

In our research, we learned that an accurate survey must be completed at various times during the day and week (see Section 2.5.1). This variation ensures that people with different travel schedules are included in the survey. During the course of our survey, at different times during the day, including morning and afternoon, we asked people to fill out our survey. We also altered

the day of the week by surveying on both weekdays and weekends. Table 4-3 shows the date, day of the week, time, and location of the survey, as well as the response rate obtained from our survey.

**Table 4-1: Surveying Schedule**

Date	Day of the Week	Time	Location	Response Rate
24-May	Monday	13:15-15:00	Instituto Universal de Idiomas	100.0%
31-May	Monday	8:00-12:00	Plaza de la Cultura	62.5%
1-Jun	Tuesday	7:45-9:00	Aurora Holoday Inn	0.0%
1-Jun	Tuesday	7:45-9:00	Hotel Ambassador	0.0%
1-Jun	Tuesday	9:15-11:00	La Plaza de la Cultura	71.3%
1-Jun	Tuesday	15:30-16:30	La Plaza de la Cultura	0.0%
3-Jun	Thursday	9:30-15:30	La Plaza de la Cultura	81.3%
6-Jun	Sunday	12:30-15:30	La Plaza de la Cultura	100.0%
7-Jun	Monday	9:30-12:30	La Plaza de la Cultura	82.2%
7-Jun	Monday	13:30-14:00	La Plaza de la Cultura	100.0%
9-Jun	Wednesday	9:00-12:30	La Plaza de la Cultura	79.7%
9-Jun	Wednesday		Instituto Universal de Idiomas	100.0%
9-Jun	Wednesday		Centro Cultural	100.0%
12-Jun	Saturday	9:30-11:30	La Plaza de la Cultura	71.4%
			Total:	79.0%

Our survey took place during the end of May and the beginning of June, 1999. As a result, we received a large number of responses from college students and educators who were visiting Costa Rica during their summer vacation; they comprised 52.2 percent of the respondents to our survey. We feel that if we had distributed the questionnaire during the months of November through March we would have received a more even distribution of professions.

Since we received so many responses from students and educators, many of their behavioral patterns dominated our data. For example, students and educators were more likely than other tourists to stay in Costa Rica longer than seventeen days. Students and educators were also more likely to be

interested in nature related activities. These trends greatly influenced our data, though they may not be true for all tourists in Costa Rica.

Although we surveyed at various times of the day, we had the most success during the mornings. The months of May and June are part of the rainy season in Costa Rica, and it frequently rains heavily in the afternoons. For this reason, people were unwilling to stop and fill out a survey while it was raining. In addition, even on days it did not rain, we noticed that there were fewer tourists in the Plaza in the afternoon. This fact could have been related to tourists' anticipation of rain or their being out of the city on excursions. Due to this weather limitation, our data is biased towards tourists who were in the Plaza during the morning.

#### **4.2.7 Method of Approaching**

On the days we surveyed, we stationed ourselves in various areas of Plaza de la Cultura, making sure to cover all its entrances. We identified tourists by looking for people displaying characteristics common among tourists, such as backpacks, cameras, guidebooks, hats, shorts, clothing with American writing on it, and sunglasses. Then we asked these individuals if they spoke English. This question served to break the ice and make the respondents more comfortable with us. If they did speak English, we inquired if they were tourists. We began asking this question because we encountered many people who we thought were tourists but were actually residents of Costa Rica. The next step was to introduce ourselves. We explained the purpose of the survey and how much time the survey required to complete. We also stressed the affiliation between Lankester and the University of Costa Rica; this relationship helped to establish



our credibility. If people seemed reluctant to respond to our survey, we stressed that the survey would only take five minutes of their time and was part of a school project.

Our method of selecting tourists was an additional limitation because we used stereotypical physical appearance as an indicator. In general, this method proved to be fairly effective, since we only asked a few people who were not actually tourists. However, we realize that we missed tourists who did not fit our stereotypical description of a tourist.

#### **4.2.8 Other Limitations**

Another limitation in our survey was related to the people who were more likely complete our survey. We discovered that younger people were much more receptive to our questioning because they could identify with us since they are our peers. In general, they were also less likely to be afraid of being stopped by strangers.

On certain days, there were large groups of tourists who were traveling together in la Plaza de la Cultura. Many of these large groups would split into smaller ones to walk around. Frequently, we asked many members of the same group to complete a survey without realizing that they were all together. This fact skewed our data because many group members had similar traveling plans and interests.

Although we tried to design our survey so that it would be easy to understand and follow, respondents still encountered problems in two areas. First, whenever “Other” was offered as a choice on the survey, we asked the respondent to write in an appropriate response. However, the majority of the



respondents failed to provide this information. Another source of confusion was encountered when the respondents had to skip questions that did not apply to their experiences. Although the directions were clearly labeled, respondents occasionally skipped questions. This affected our results because we did not receive data from these questions and had to classify them as “No response”.

### 4.3 Analysis of Data

Once we gathered sufficient information from our survey, we used the computer program SPSS to analyze the data. In order to do this, we customized SPSS to our survey. We created variables for each question included in the survey. Once the variables were assigned, we quantified the responses and labeled the numbers with the appropriate titles.

In order to effectively analyze the open-ended questions, we separated the responses into categories. For Question 2, which asked respondents how long they were staying in Costa Rica, we created 5 categories. The first four categories were four day periods beginning with a one day stay. The last category included all stays of seventeen days or longer. These categories are shown in Table 4-4.

**Table 4-1: Categories for Survey Question 2**

Category	Length of Stay (days)
1	1-4
2	5-8
3	9-12
4	13-16
5	17 or more

For Question 13, which asked respondents for their age, we created fourteen categories. These categories consisted of five year ranges for ages sixteen through, and including, eighty. The final category included those respondents age eighty-one or older. These categories are shown in Table 4-5.

**Table 4-2: Categories for Survey Question 13**

Category	Age
1	16-20
2	21-25
3	26-30
4	31-35
5	36-40
6	41-45
7	46-50
8	51-55
9	56-60
10	61-65
11	66-70
12	71-75
13	76-80
14	81 and older

Question 14 was the final open-ended question on our survey. This question asked respondents to name their primary profession. After compiling all of the responses to this question, we chose to separate the responses into ten categories. We created eight categories for professions, one for no answer, and one “Other” category for responses that did not fit into the eight professions. The categories are listed in Table 4-6.

**Table 4-3: Categories for Survey Question 14**

Category	Profession
1	Student
2	Educator
3	Retiree
4	Business
5	Service provider
6	Scientist/engineer
7	No answer
8	Other
9	Medicine
10	Government and Law

After creating these categories, a member of the group went through and pre-coded the open-ended question. They examined the responses to Questions 2, 13, and 14 and wrote the corresponding category number on the surveys beside that question. This process allowed us to transfer data from the surveys to SPSS quickly and accurately.

After pre-coding the surveys, two members of our group input the data into SPSS. In order to ensure the accuracy of the data input, one member would read the appropriate number aloud. The second member of the group entered the numbers while the first checked the responses when they appeared on the screen.

Once all of the data had been entered into the computer, we worked to identify trends among the respondents. We were only able to perform limited mathematical analysis of the results because we were unable to select a random sample.

#### **4.4 Contact with American Universities**

Through our studies of other botanical gardens (see Section 3), we determined one of the prominent trends that aided these gardens in their success was their association with either a university or a horticulture organization. These institutions provided many benefits to their associated gardens, including support for research, free advertising, and monetary donations.

In order for Lankester to establish a relationship with American universities, the Garden needed a list of universities that have a history of supporting botanical gardens. We generated this list from a list established by the 1998 Lankester IQP group and a list of personal contacts assembled by the Director of the Garden.

After establishing this list of American universities, we composed a letter to these universities. Included in this letter was background information about Lankester, a description of the type of research conducted at the Garden, and a list of benefits that the universities will receive if they work with Lankester. Once the letter was completed, we presented it to our liaison in the form of a computer file.

#### **4.5 Compilation of a List of Tour Companies**

Through contact with our liaison, we learned that a large percentage of visitors to travel with tour companies in San José. Since Lankester does not have records of which tour companies bring visitors to it, our liaison felt the Garden would benefit from this information. Knowing which tour companies travel to Lankester can allow the Garden to establish a relationship with them.

This relationship could encourage the tour companies to promote tours to the Garden.

We employed several methods to create a list of tour companies. First, we contacted hotels in San José to find out which tour companies they used. Then we contacted language institutes in San José to inquire which tour companies they used to plan trips for their students. Finally, we supplemented our tour company list with names that were taken from various guidebooks.

#### **4.5.1 Contact with Hotels**

We used the following three different guidebooks to compile a list of hotels in San José: Lonely Planet's Costa Rica, the Traveler's Costa Rica Companion, and the New Key to Costa Rica. Our project team used these guidebooks because we believe that they are popular, but we did not do any tests to confirm each book's popularity. In addition, we used these three guidebooks because each book employs a different method of listing information about Costa Rica and its tourist attractions.

After compiling the list, we then called these twelve hotels and inquired as to which tour agencies they used. The first questions we asked were: *Do you have a tour agency in your hotel?* If the hotel did not have a tour agency we asked: *How would I go about booking a tour if I stayed at your hotel?* If the hotel could make the arrangements we asked: *Do you use a specific tour company?* From our telephone interviews, we discovered that most hotels use a variety of tour companies to book tours.

#### 4.5.2 Contact with Language Institutes

We used the same three guidebooks mentioned in the previous section to identify language institutes located in San José and created a list of them. We then called these twenty-one language institutes to find out which tour agencies they used. Some of the questions we asked were: *Do you offer trips in addition to your classroom experience? If so, is the trip included in the tuition?* If the answer was yes, then we asked: *Where do you go on your trips?* If the answer was no, we then asked: *How are they run? Can you make the travel arrangements at the institute, or do you deal with specific tour companies?* From our telephone interviews, we determined that, like hotels, language institutes use different tour companies depending on the type of tour.

#### 4.5.3 Contact with Tour Companies

After assembling a partial list of tour companies from the hotels and language institutes located in San José, we used the three previously mentioned guidebooks to supplement this list. Our final list included the name and phone number of eighteen tour companies. After this list was completed, we called these companies and asked the following questions: *What types of tour packages do you offer for Lankester Botanical Garden? What is the length of the tour? What is the cost of the tour? What other attractions are included in the tour? Is lunch included? Where is the pickup location? How often does the tour run?*

From our telephone interviews, we determined which tour companies offered trips to Lankester. We then called these specific companies again to find out more information about their tours to the Garden. We asked the following

questions: *How many times a week do the tours to Lankester actually run? In high tourist season? In low tourist season? How many people usually take this tour? In high tourist season? In low tourist season?*

#### **4.6 Master Database Design**

Lankester is interested in establishing contacts with several groups of organizations. In order to form these relationships, the Garden needs a way to store information about each contact. We decided that the best way to store all of this information was in a Microsoft Access<sup>®</sup> database. Since this contact information will be stored on the computer, this information will not be misplaced. Lankester will also be able to generate mailing lists from the database. We designed the database with seven parts: research institutes, hotels, language schools, tour companies, universities with a history of supporting botanical gardens, donors to the Garden, and general contacts.

Microsoft Access<sup>®</sup> is a program that allows the creation of databases and interfaces that make the information easily accessible. There are three important objects in Microsoft Access<sup>®</sup>: tables, queries, and forms. Tables store data and queries find specific data within the table. A form is created from and based on either a table or query and is used to develop an interface that allows users to view and enter data into the table. A table, query, and form was created for each of the seven categories.

A table is similar to a spreadsheet, with columns and rows. The columns are fields and the rows are records. A field is a specific entry in a record. For

example, in a table of contacts, the name, address, and phone number would be fields. A record is the combination of all the fields in one row.

All of the tables in the database we created contain the information necessary to contact each person or organization, including the name of the organization or person, their address, phone number, and fax number. In addition, the tour company table includes a comments field to make notes about the frequency of that company's visits to the Garden. Also, the donor table has a field for the amount of the previous donation and another field to indicate whether or not a newsletter was sent to that donor. When a table is opened, all of the data inside it is displayed. If there are a lot of tables, this can make it difficult to find a specific record.

A query is a search tool for the table. Queries are built around one or more fields in a particular table. A query can be opened with an argument that corresponds to the fields it is built around. In our case, the queries are built around either the last name of a person or the name of an organization. If a query is opened without an argument, it displays all the data in that table, just like opening the table itself. When an argument is provided, the query searches the table for all the records that match that argument. For example, the name field could be searched for the last name Mitchell. The query only displays those records from the table that match that argument.

A form provides a visible interface for the user to view records and add information to the tables. This provides the user with a method to input individual



entries without having to use the complex table layout. A form also allows users to either edit the data in the open record or delete the record entirely.

In addition to a form for each type of data, we created a form to control the operation of the database. This form contains a pull-down menu, called a combo box by Microsoft Access<sup>®</sup>, and a command button for each type of data. The combo box allows users to find, open, and edit records easily. The command buttons allows the addition of new records to the database.

#### **4.7 Guest Book**

Many botanical gardens in the United States and Costa Rica use a guest book to identify visitor trends and obtain feedback from visitors (see Section 3). In order to give us a general overview of visitor trends at Lankester, we placed a guest book in the Garden's entrance. The receptionist was instructed to ask all visitors to sign the guest book as they leave the Garden. Entries include the date, the visitor's name, address, country of origin, and a section for the visitor's comments or suggestions.

#### **4.8 Revision of Brochures**

Advertising for many tourist attractions is done through the use of brochures (see Section 3). Due to this common practice, we felt that it was important to ensure that Lankester had brochures that were up-to-date, informative, well presented, and free of grammatical and spelling errors.

During our first visit to Lankester, we discovered that the Garden already had brochures in both English and Spanish. We read the English brochure and

found many spelling and grammatical errors. We also found that the brochure was not aesthetically pleasing and did not reflect any of the current developments at the Garden, such as the butterfly farm. In addition, we discovered that the directions to Lankester were inadequate.

After recognizing these problems, we met with our liaison to discuss revising the English and brochure. He agreed and gave us access to the master copy of the brochure. In this brochure, we corrected all the spelling and grammatical errors we had previously found. We eliminated most of the selections containing complex scientific terms and explanations. We then placed the brochure text on a new floral patterned background. Also, we added a section to this brochure detailing Lankester's butterfly farm. Finally, we rewrote the directions to the Garden and presented the new brochure to our liaison in the form of a computer file.

## **5 Fundraising Methodology**

Although the main focus of this project was to attract more visitors to Lankester Botanical Garden, we also planned to provide the Garden with a means to secure adequate funding to implement the marketing recommendations made in this report. Although such a fundraising effort is a continuous process, we began the initial steps of a fundraising campaign that the staff at Lankester will continue.

### **5.1 Donation Card**

A very effective method of raising capital for many botanical gardens in the United States and Costa Rica is through private donations (see Section 2.6.2). The main way these gardens acquire private donations is through the effective use of donation cards.

The 1998 Lankester Botanical Garden IQP team created a personal donation program and designed a donation card. However, their recommendations were not implemented. In the past year, the University created an special account in which the Garden can deposit the money it obtains from the donation cards. Since the personal donation program is now feasible, we modified the donation card and presented it to our liaison in the form of a computer file.

Figure 5-1: Front Side of Donation Card







<b>Lankester Botanical Garden</b>	
<i>Orchids are epiphytes, Epiphytes grow in trees, Trees live in forests, Protect our forests.</i>	
<b>Donation and contribution information:</b>	
	<b>Contributor:                    \$10</b> <i>For your contribution, you will receive:</i> ☛ Lankester Botanical Garden newsletter
	<b>Supporter:                    \$15</b> ☛ Lankester Botanical Garden newsletter ☛ Two large postcards from the gift shop
	<b>Sponsor:                    \$25</b> ☛ Lankester Botanical Garden newsletter ☛ A poster from the gift shop
	<b>Friend:                    \$50</b> ☛ Lankester Botanical Garden newsletter ☛ One bag of Costa Rican coffee ☛ Mention in the Lankester newsletter
	<b>Patron:                    \$100</b> ☛ Lankester Botanical Garden newsletter ☛ Mention in the Lankester newsletter ☛ Banana paper notebook or writing set
	<b>Benefactor:                \$250</b> ☛ Lankester Botanical Garden newsletter ☛ Mention in the Lankester Newsletter ☛ Lankester T-shirt

Figure 5-2: Back Side of Donation Card

Lankester Botanical Garden is a non-profit organization, controlled and operated by the University of Costa Rica. The Garden was established in order to promote conservation of the tropical epiphytic flora of Costa Rica, with a special focus on orchids. Through research, educational, and horticultural programs, the Garden strives to achieve these goals.

Like all non-profit organizations, Lankester Botanical Garden depends on the donations of individuals and private foundations in order to follow its mission, which contributes to the conservation and understanding of Costa Rican flora.

**To make a contribution, please complete this card and either:**

1) Turn it in at the reception area along with your check or credit card information.  
or:

2) Send it by mail to the address indicated below along with your check or credit card information.

Yes, I would like to help Lankester Botanical Garden:

\$10-Donator                       \$50-Friend                       \$ Other: \_\_\_\_\_

\$15-Supporter                       \$100-Patron

\$25-Sponsor                       \$250-Benefactor

Check: FUNDEVI – Jardín Botánico Lankester

Credit:  VISA    MASTERCARD    AMERICAN EXPRESS

Card Number: \_\_\_\_\_ Expiration Date: \_\_\_\_\_

Name on Card: \_\_\_\_\_

Authorized Signature: \_\_\_\_\_

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: (    ) \_\_\_\_\_ E-mail: \_\_\_\_\_

Jardín Botánico Lankester  
Universidad de Costa Rica  
P.O. Box 1031-7050 Cartago, Costa Rica, A.C.  
(506) 552-3247 Fax (506) 552-3151  
E-mail: lankeste@cariari.ucr.ac.cr

All Donations Are Tax Deductible  
Thank you for your support! Your donation will make a difference!

As can be seen in Figures 5-1 and 5-2, there is a name corresponding to each level of donation. Depending on the size of the donation, varying benefits are offered to visitors as an incentive to have them make a contribution. All visitors who donate \$10 or more receive the Garden's biannual newsletter, which will be discussed in the next section. In addition to the newsletter, donors also

receive a gift from the Garden corresponding to the size of their donation. For donations of \$50 dollars and more, the contributor is mentioned in the newsletter.

To better reach visitors, the donation cards will be placed inside of the Garden's brochures, which will be handed to guests after they purchase an admission ticket. The cards will also be placed next to the guest book, which is located at Lankester's entrance. To further increase the possibilities for donations, the Garden decided to accept contributions made through credit cards, checks, and cash.

## **5.2 Newsletter**

Newsletters also serve as an important resource for obtaining private donations (see Section 2.6.2). This literature is used to create a sense of connection between the gardens and their contributors.

The 1998 LankesterIQP group developed the beginnings of a newsletter, but again their ideas were not completed or implemented. Due to the creation of Lankester's Master Plan, the Garden staff will be more likely to understand the need for and importance of a newsletter. Therefore, we feel that our new ideas for a newsletter will be implemented.

Our project team developed a newsletter for the Garden entitled *La Orquídea*. It contains the information listed in Table 5-1:

**Table 5-1: Information in Lankester's Newsletter**

- An introduction containing the Garden's mission statement and general background information
- An article discussing the university course conducted at Lankester
- An article covering the current projects at the Garden
- An article explaining the field classes offered at Lankester

- A donation page
- A section dedicated to thanking the individuals who donated \$50 and over to the Garden
- An article discussing the research projects conducted at Lankester
- An article concerning the proposed projects at the Garden

Once we finished the layout of the newsletter, we presented it our liaison in the form of a computer file.

## **6 Data Presentation and Analysis**

Through the completion of the steps discussed in the Methodology, we obtained extensive data on trends among tourists to Costa Rica and the details of trips to Lankester offered by tour companies in San José. This data, which allowed us to make appropriate recommendations to the Garden, is presented and discussed in this chapter.

### **6.1 Survey Results**

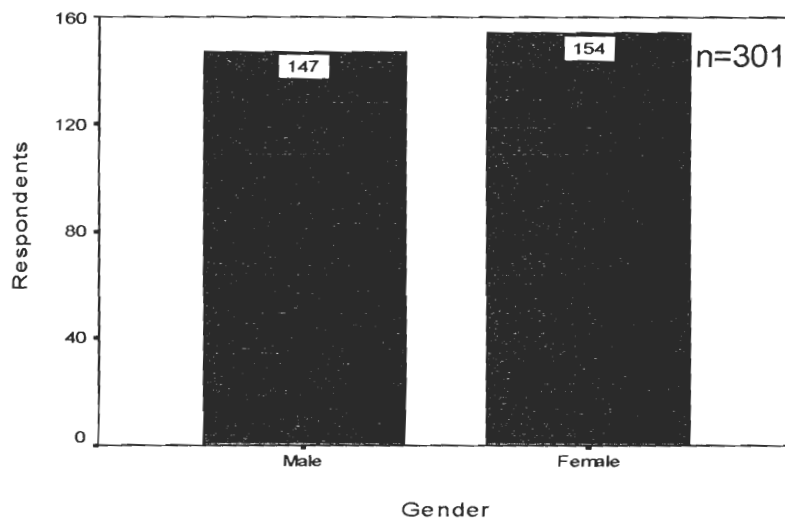
This section contains the results of our marketing survey presented in graphical form. For certain data, we chose to compare responses obtained by the profession of the respondents. This information allowed us to identify which occupations would be most interested in programs offered by the Garden. In order to avoid cluttered and confusing graphs, we chose to only show students, educators, retirees, and businessmen because these professions represent a broad range of potential visitors to the Garden.



### 6.1.1 Demographic Information

When conducting our survey, we obtained responses from almost an equal number of males and females. As shown in Figure 6-1, 147 respondents (49 percent) were male and the remaining 154 respondents (51 percent) were female.

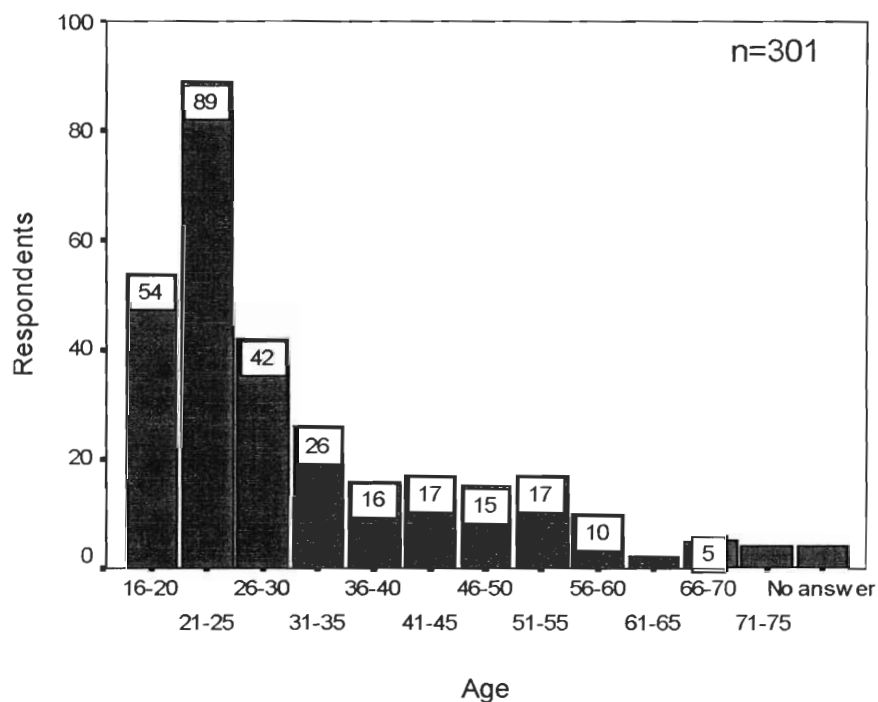
**Figure 6-1: Breakdown of Respondents by Gender**



This fact indicates that the results of our survey reflect the interests of both genders and are not unequally biased towards the interests of either males or females.

Tourists between the ages of sixteen and thirty, inclusive, comprised almost two-thirds of our sample. Figure 6-2 shows that we received responses from 54 tourists (18 percent) between the ages of sixteen and twenty, inclusive, 89 tourists (20 percent) between the ages of twenty-one and twenty-five, inclusive, and 42 tourists (14 percent) between the ages of twenty-six and thirty, inclusive.

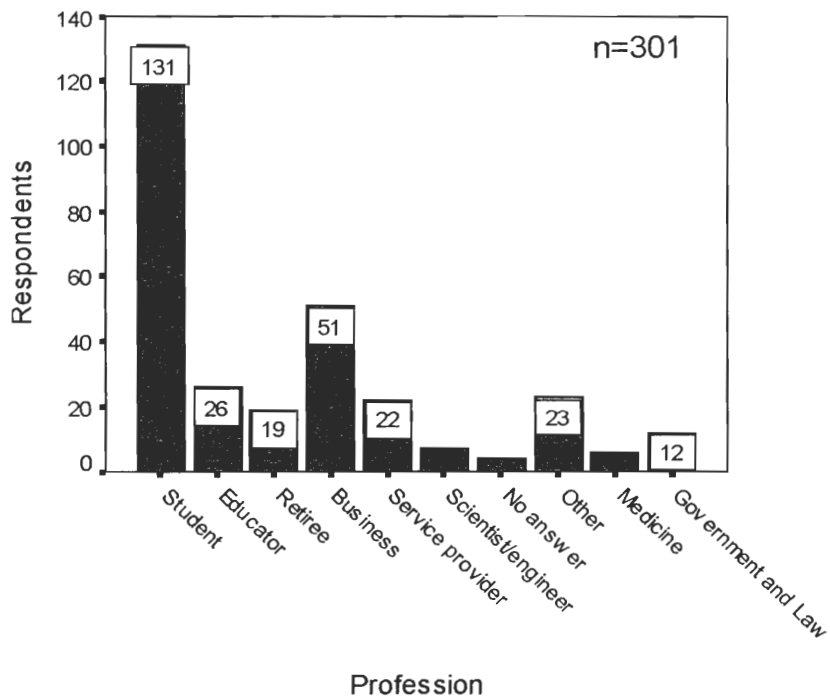
**Figure 6-2: Breakdown of Respondents by Age**



We feel that this fact is due to the time of year at which the survey was conducted. The months of May and June correspond to the summer vacations of schools and colleges in the United States. As a result, many visitors to San José during these months are students and educators who are learning Spanish or traveling during their vacations.

Students and educators made up over half of our sample (see Figure 6-3).

**Figure 6-3: Breakdown of Respondents by Occupation**

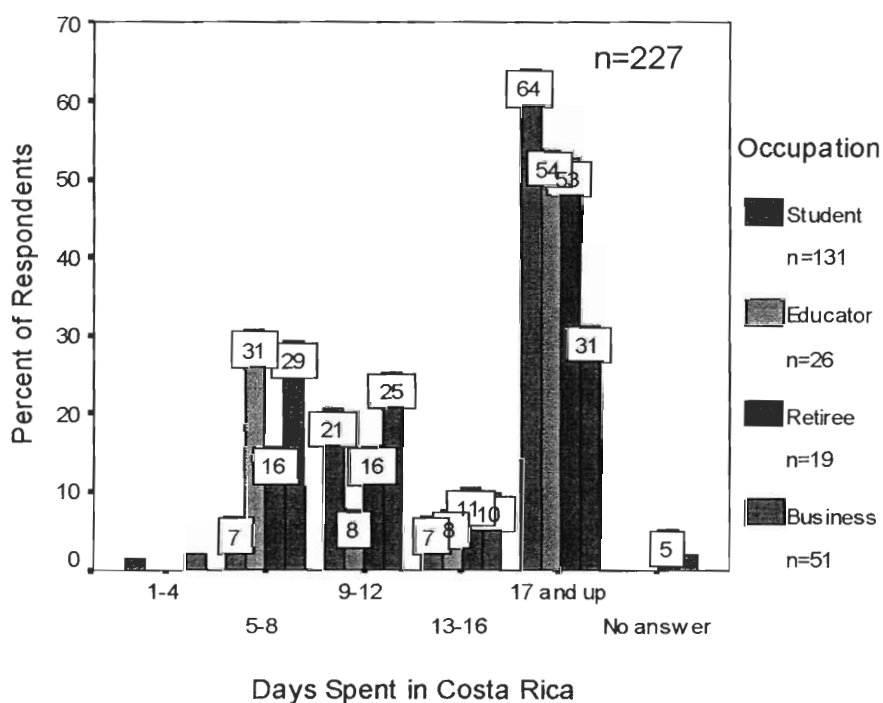


One-hundred thirty one students (44 percent) and twenty-six educators (9 percent) responded to our survey. Because of the large numbers of respondents who are under the age of thirty-one and are students, the results of our survey are likely to closely reflect the interests of high school and college students.

### 6.1.2 Residency Information

As shown in Figure 6-4, most of our respondents are staying for seventeen days or longer.

**Figure 6-1: Breakdown of Respondents' Length of Stay in Costa Rica by Profession (in percentages)**



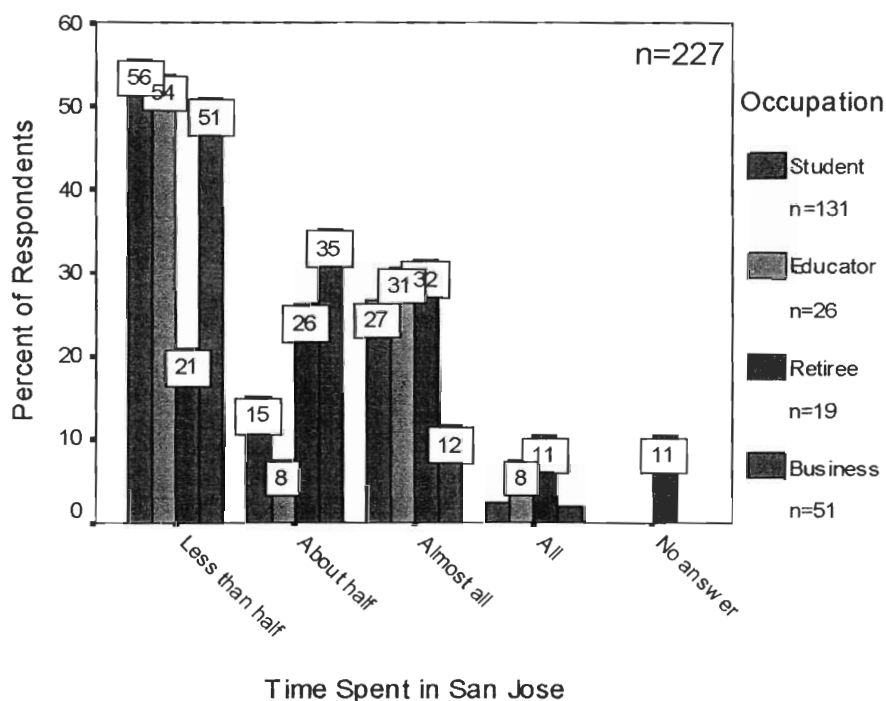
This graph also shows that students and educators are more likely to be staying for this length of time than retirees or businessmen. We believe that students and educators are staying longer because many of them are in Costa Rica to study the Spanish language during their summer vacations.

Tourists who are staying in Costa Rica for longer periods of time are able to visit a greater number of tourist attractions. Therefore, we believe that any advertising done by the Garden should be aimed at those tourists who are staying for longer than two weeks, specifically students and educators. These

people will go to Lankester after visiting the heavily advertised attractions. By stressing the educational value of a visit to the Garden, we feel that Lankester will be able to attract members of these two groups.

Figure 6-5 shows that the majority of both students and educators surveyed planned on spending less than half of their time in San José.

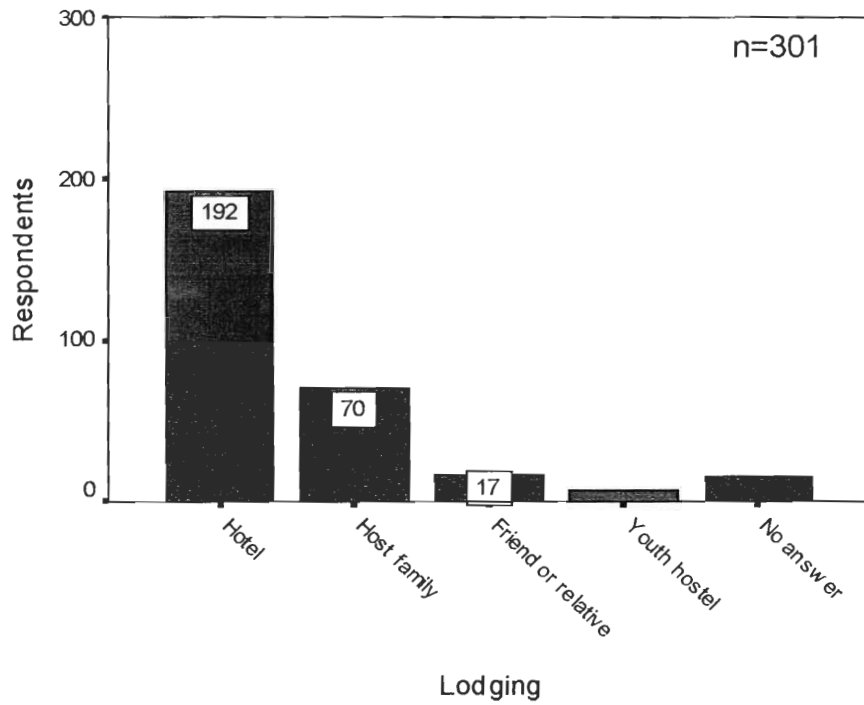
**Figure 6-2: Breakdown of Respondents' Time Spent in San José by Profession (in percentages)**



From our own experience, we believe that these respondents chose to leave San José to escape the traffic, crowds, noise, and smog. For this reason, we feel that, when advertising, Lankester should stress that the Garden provides visitors with a peaceful experience and an escape from San José.

As can be seen in Figure 6-6 almost two-thirds of our respondents indicated that they are staying at a hotel while in Costa Rica.

**Figure 6-3: Breakdown of Respondents by Lodging Type**

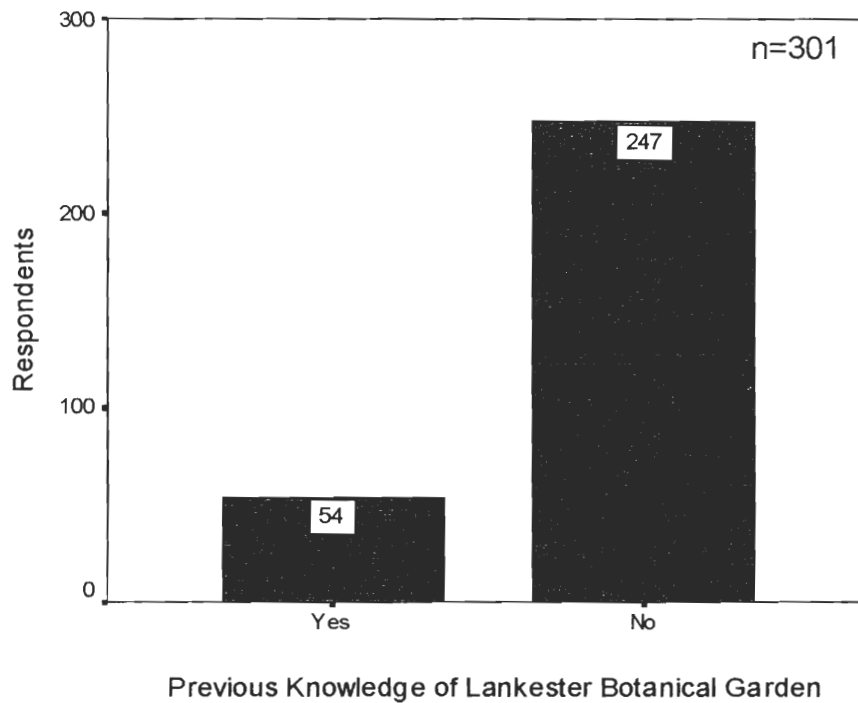


If the Garden does choose to advertise in the San José area, we feel that placing brochures in hotels would be an effective way to reach a large number of tourists.

### 6.1.3 Knowledge of Garden

Of 301 respondents, only fifty-four (18 percent) indicated that they had previously heard of Lankester Botanical Garden (see Figure 6-7).

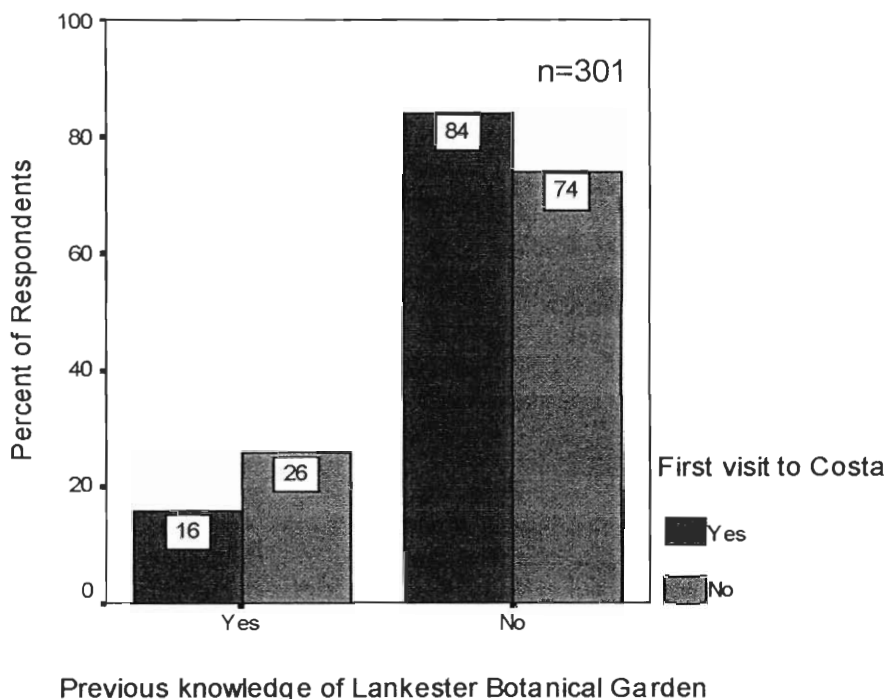
**Figure 6-1: Breakdown of Respondents by Previous Knowledge of the Garden**



We feel that this lack of knowledge of the Garden among our respondents is one of the reasons for Lankester's small number of annual visitors. If tourists do not know of the Garden, they will not consider visiting it. Lankester Botanical Garden must increase its level of advertising in order to attract new visitors.

Figure 6-8 shows that only 26 percent (17 respondents) of return visitors to Costa Rica had previously heard of the Garden.

**Figure 6-2: Breakdown of Respondents with Previous Knowledge of the Garden by Previous Visits to Costa Rica (in percentages)**



Since return visitors are likely to plan to visit attractions missed during their previous visits, this lack of knowledge of the Garden presents a serious problem for Lankester.

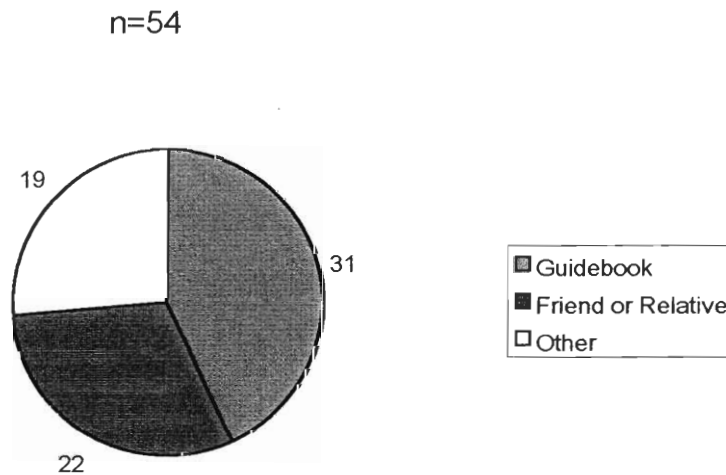


#### 6.1.4 Sources of Information

Our survey asked respondents who had previously heard of the Garden to indicate where they had obtained information about Lankester. This question was answered only by the fifty-four people who stated that they had heard of the Garden. In this question, respondents were asked to circle all the choices that applied to them. The “Other” category includes sources such as tour companies, language institutes, and the internet.

More respondents obtained information from a guidebook than from any other source, as can be seen in Figure 6-9.

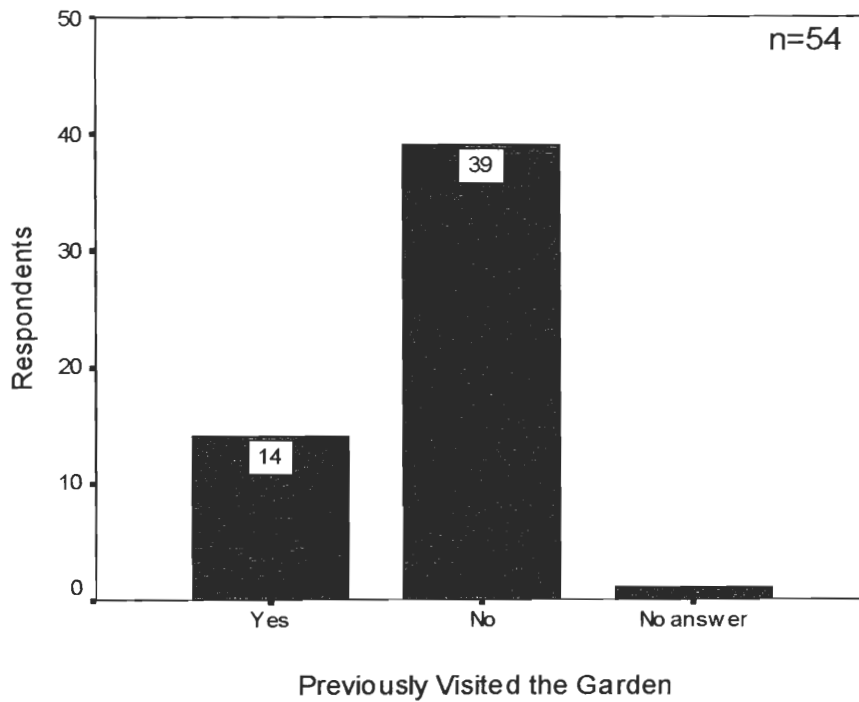
**Figure 6-1: Breakdown of Sources Used to Obtain Information About the Garden**



The second most popular source of information was a friend or family member. For these reasons, the staff at Lankester should attempt to ensure that guidebook descriptions of the Garden are as accurate as possible. The Garden also needs to improve the visitor experience so that guests will recommend Lankester to friends or relatives.

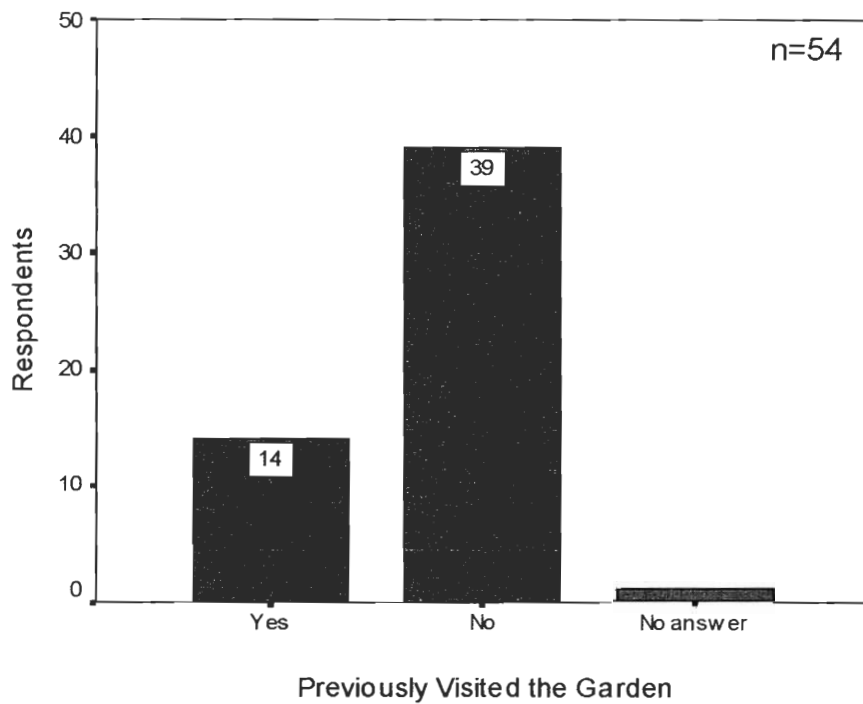
Figure 6-10 shows that only fourteen of fifty-four respondents (26 percent) with previous knowledge of the Garden had visited it.

**Figure 6-2: Breakdown of Respondents With Previous Knowledge of Garden by Whether They Have Visited It**



Additionally, as indicated by Figure 6-11, of the forty individuals who had not visited the Garden, only eight (20 percent) were definitely planning on going to the Garden before leaving Costa Rica.

**Figure 6-3: Breakdown of Respondents With Previous Knowledge of Garden by Whether They Have Visited It**

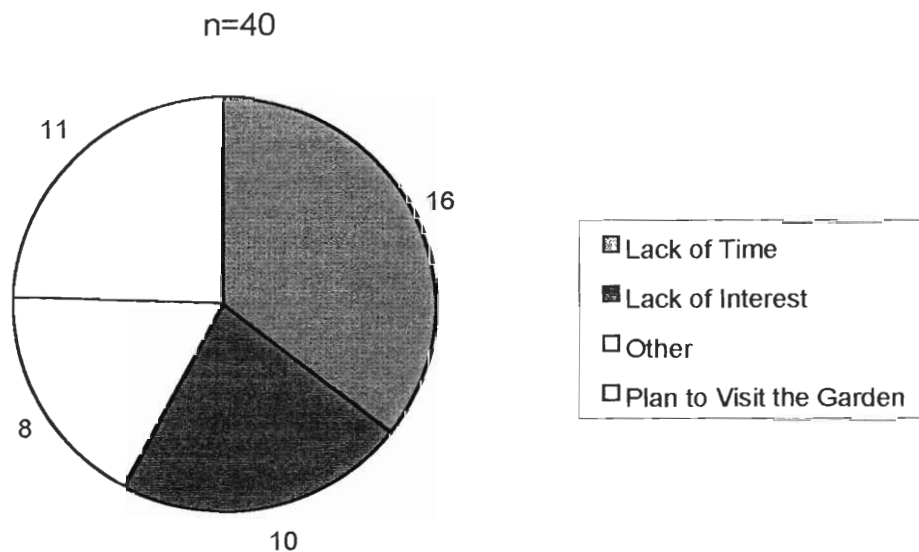


These facts indicate that tourists are not currently visiting the Garden even though they have heard of it. For this reason, Lankester’s staff should stress those aspects of the Garden that most appeal to tourists when advertising.

Our survey asked respondents who had previous knowledge of the Garden but had not visited, what their reasons for not visiting were. Only respondents who had previous knowledge of the Garden but had not visited it answered this question. Respondents were asked to circle as many choices as were appropriate. The “Other” category includes reasons such as the location of the Garden and the cost of admission.

As seen in Figure 6-12, more tourists cited a lack of time than any other reason for not visiting the Garden.

**Figure 6-4: Breakdown of the Reasons Given for Not Visiting the Garden**

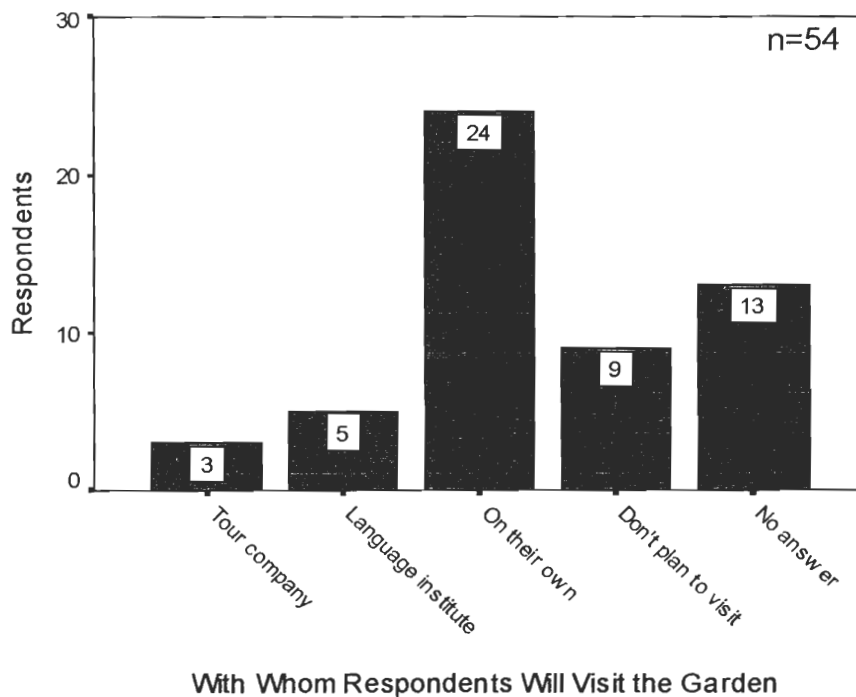


This fact indicates that tourists do not rank Lankester Botanical Garden as a priority on their list of activities. We believe that by advertising all the programs that Lankester has to offer, tourists will become more interested in visiting the Garden. The second most popular reason for not visiting Lankester was a lack of interest. We believe that while many respondents may not be interested in visiting Lankester, they would have an interest in other programs and activities

that can be offered by the Garden, such as nature walks, the butterfly farm, and birdwatching.

Figure 6-13 shows that twenty-four (44 percent) out of fifty-four respondents who had visited the Garden or planned to visit the Garden actually had visited or would visit on their own.

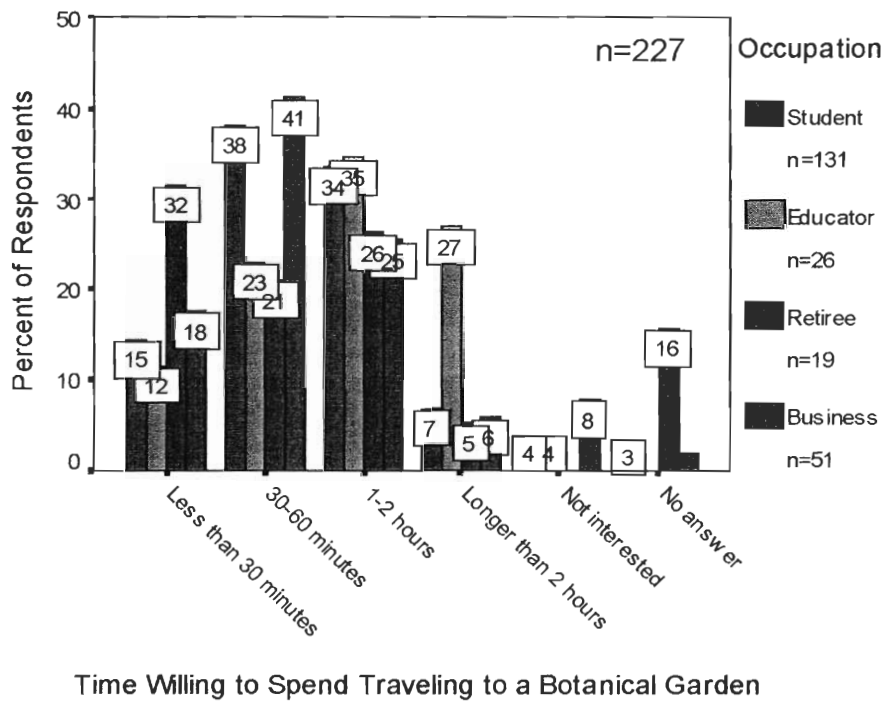
**Figure 6-5: Breakdown of Respondents by With Whom Respondents Visited/Plan to Visit the Garden**



Lankester currently does not offer tours to individuals. Thus, those visitors who do not travel to the Garden with a language institute or tour company are limited to learning about the Garden by walking through its paths on their own. In order to improve the visitor experience for those tourists who choose to visit the Garden on their own, Lankester should consider providing guided tours.

The results of our survey show that more than 75 percent of respondents in the professions displayed, with the exception of retirees, (108 students, 23 educators, 42 businessmen and 10 retirees), are willing to travel more than thirty minutes to visit a botanical garden (see Figure 6-14).

**Figure 6-6: Breakdown of Respondents by Time Willing to Spend Traveling to Visit a Botanical Garden by Profession (in percentages)**



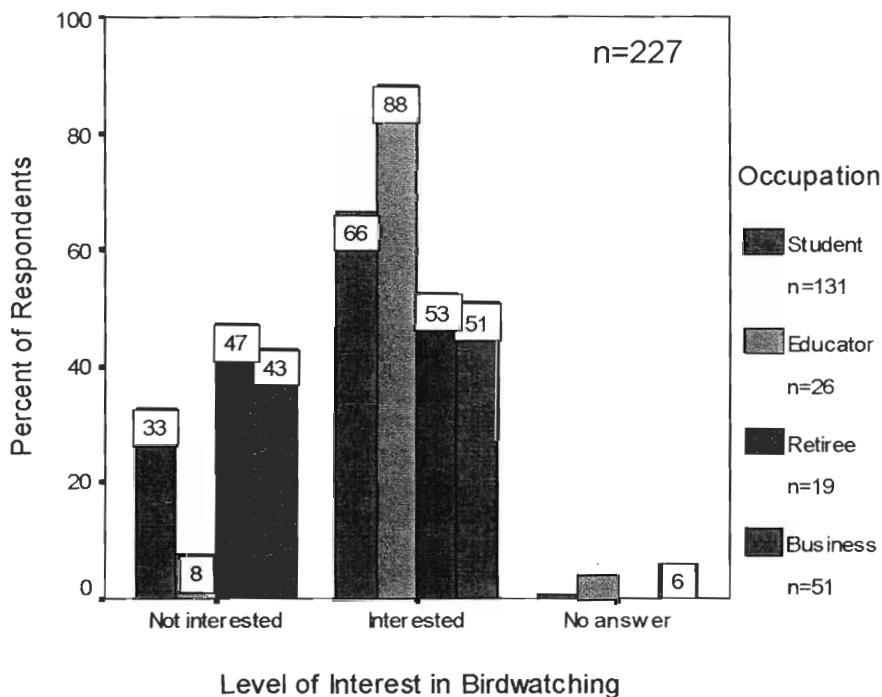
Therefore, the location of the Garden does not negatively affect tourists' decisions to visit the Garden. Many respondents indicated that they would be willing to travel for more than an hour to visit a botanical garden. We believe that by stressing its proximity to San José, the Garden can appeal to these tourists.

**6.1.5 Interest Levels**

A majority of respondents in the occupations shown indicated that they were interested in birdwatching while in Costa Rica. For this reason, we believe that the Garden should investigate the possibility of instituting a birdwatching program on Lankester’s grounds.

As Figure 6-15 shows, educators were the most interested group in this activity.

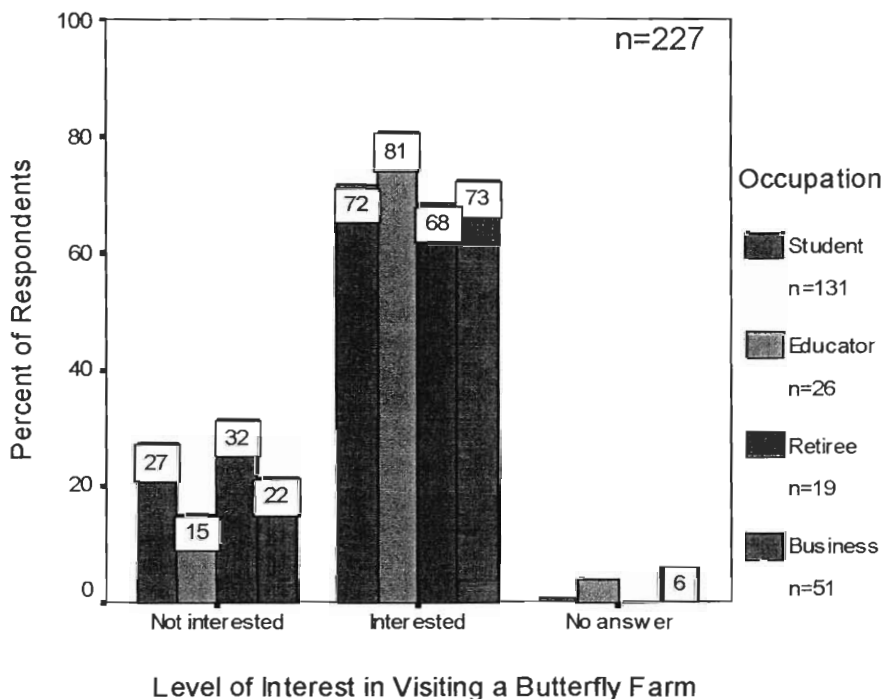
**Figure 6-1: Breakdown of Respondents’ Level of Interest in Birdwatching by Profession (in percentages)**



Students represented the second most interested group. If Lankester does choose to implement a birdwatching program, it should, when advertising, stress the educational value of the program in order to appeal to these two groups.

At least two-thirds of the respondents in the occupations shown in Figure 6-16 indicated that they would be interested in visiting a butterfly farm during their stay to Costa Rica.

**Figure 6-2: Breakdown of Respondents’ Level of Interest in Visiting a Butterfly Farm by Profession (in percentages)**

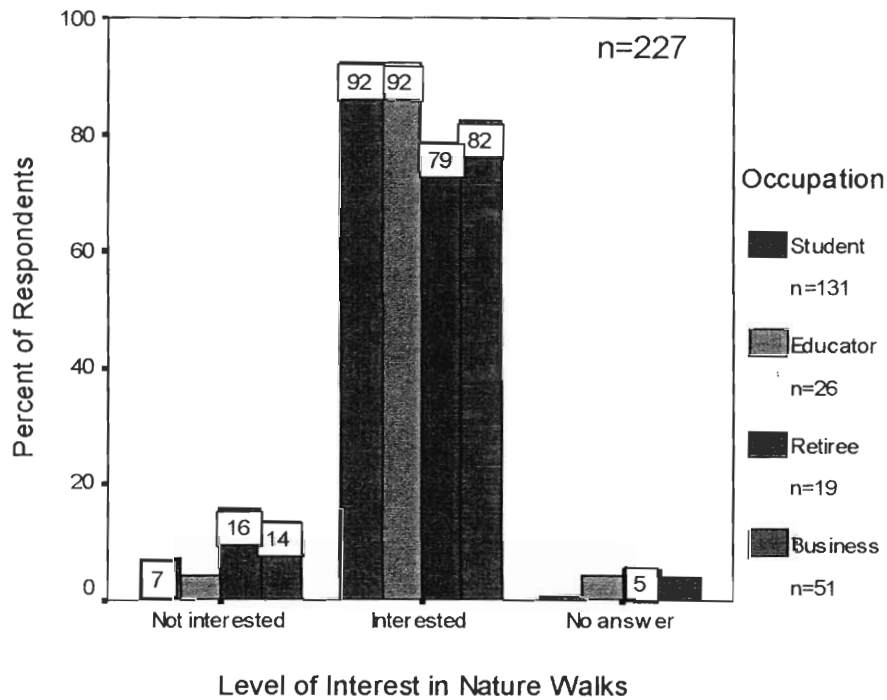


These high levels of interest indicate that the butterfly farm currently under construction at Lankester Botanical Garden can attract many new visitors to the Garden. Because members of all professions have a similar interest level in visiting a butterfly farm, the Garden should target all tourists when advertising the butterfly farm.



Almost all respondents in the four occupations shown in Figure 6-17 replied that they would be interested in taking part in nature walks while in Costa Rica.

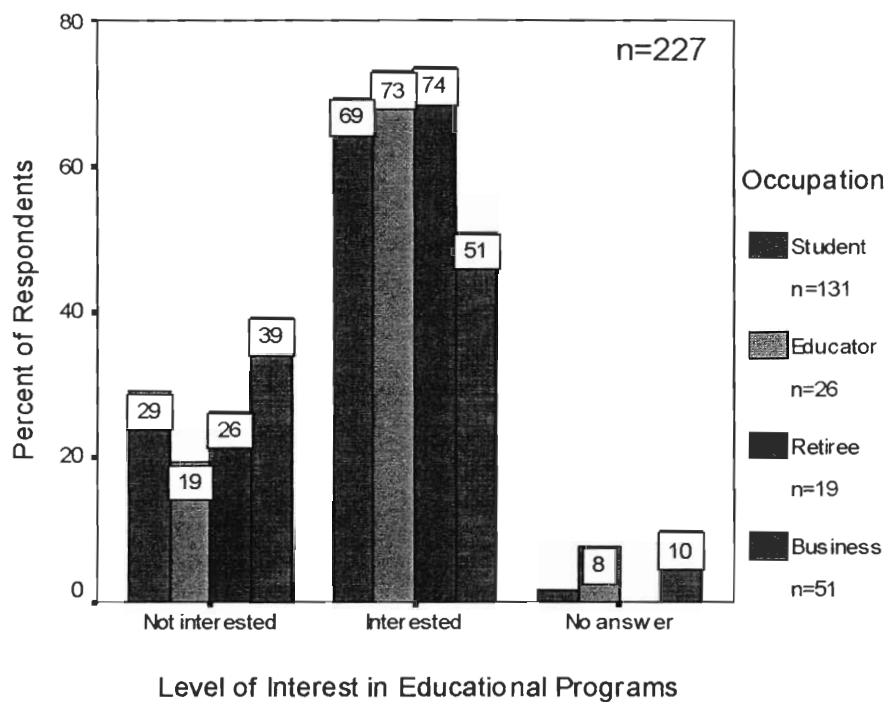
**Figure 6-3: Breakdown of Respondents’ Level of Interest in Taking Nature Walks by Profession (in percentages)**



For this reason, we feel that Lankester Botanical Garden should consider offering guided tours that focus on all aspects of nature within the Garden and not specifically on the plant life.

Although a majority of individuals from the four occupations shown in Figure 6-18 indicated that they would be interested in educational programs about Costa Rica’s environment, the percentages of interested tourists in all professions are lower than those for birdwatching, visiting a butterfly farm, and taking nature walks.

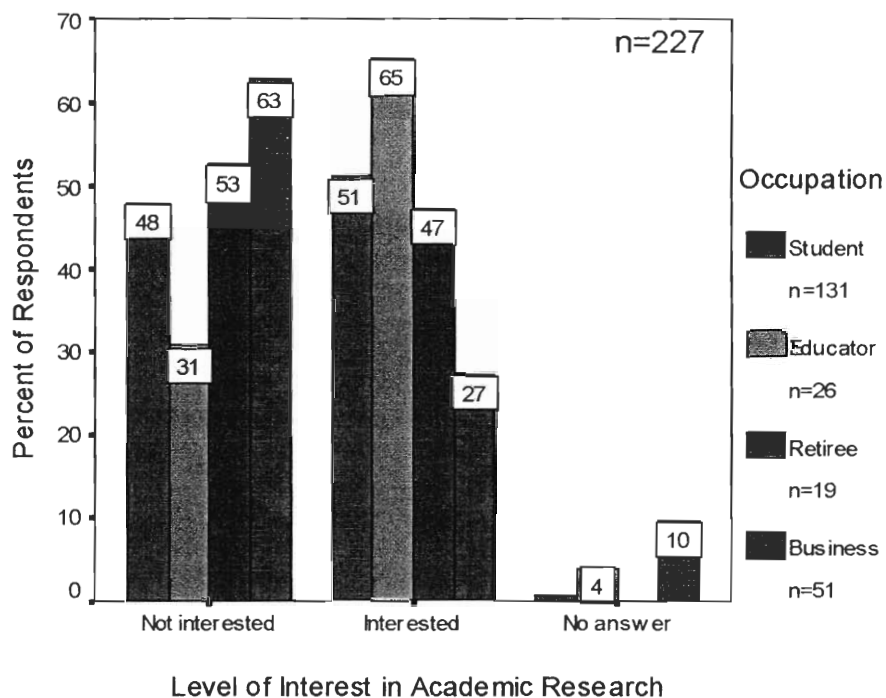
**Figure 6-4: Breakdown of Respondents’ Level of Interest in Educational Programs about Costa Rica’s Environment by Profession (in percentages)**



While the institution of an educational program about Costa Rica’s environment would appeal to many people, we believe that the Garden would experience more success by focusing its efforts on the development of other programs, such as the butterfly farm or a birdwatching program. Lankester could, however, add to the educational value of a visit to the Garden by including educational aspects in other programs offered.

The percentages of respondents in the four occupations displayed in Figure 6-19 showed a considerably lower level of interest in academic research than in any other activities Lankester could offer.

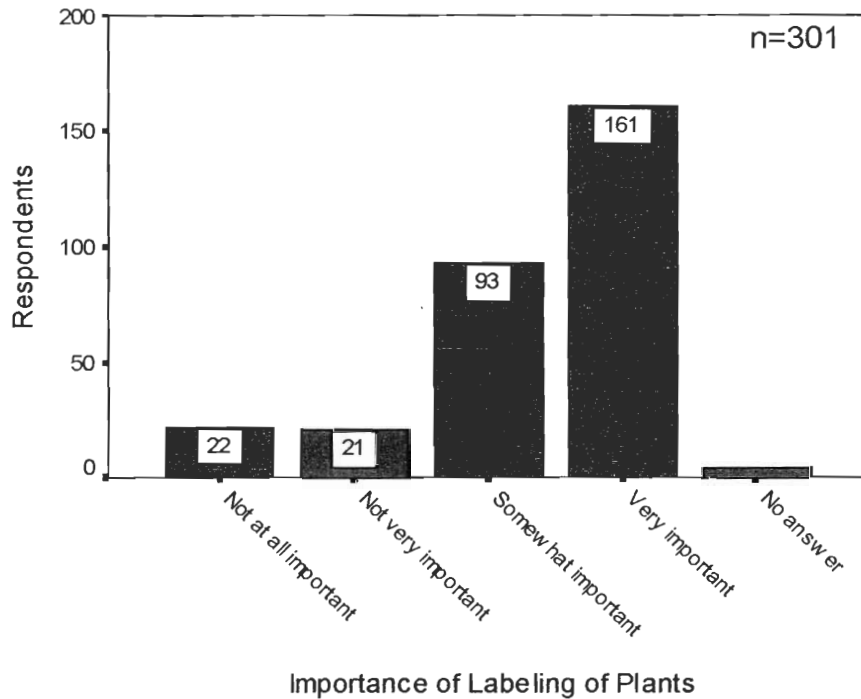
**Figure 6-5: Breakdown of Respondents' Level of Interest in Academic Research by Profession (in percentages)**



We believe that these respondents would be more interested in learning about the research that occurs at the Garden rather than taking part in research themselves. For this reason, we feel that Lankester should not use the academic research conducted at the Garden to attract tourists. Instead, the opportunity to take part in research at the Garden should be made known to college students in the United States. A research exchange program could help Lankester develop long-term relationships with universities in the United States and make the Garden eligible for grants from US government agencies.

Figure 6-20 shows that 161 of 301 respondents (53 percent) felt that labeling of plants would be very important during a trip to a botanical garden.

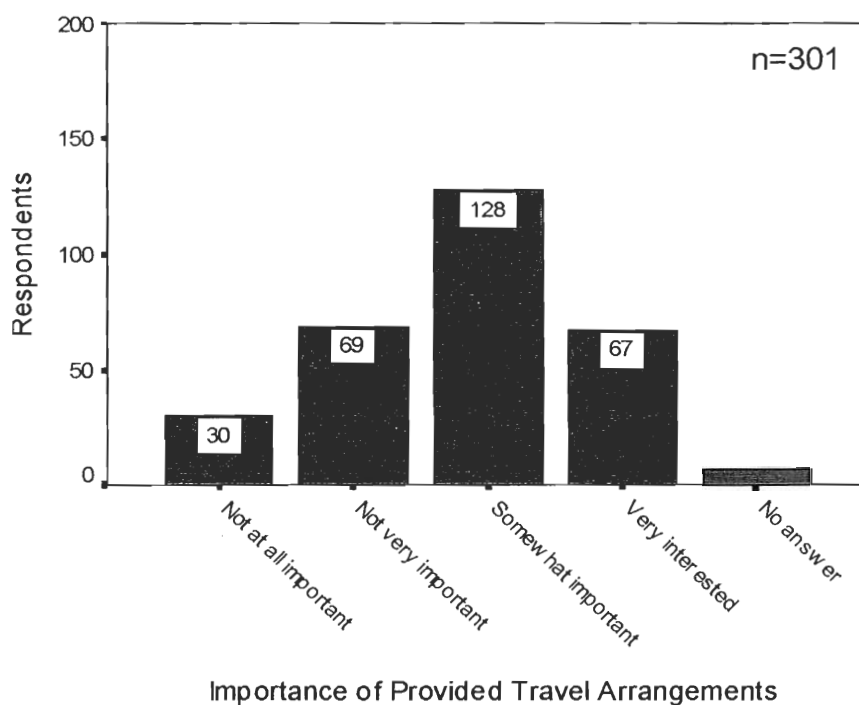
**Figure 6-6: Breakdown of Respondents by Level of Importance Placed on Labeling of Plants at a Botanical Garden**



Another ninety-three respondents (31 percent) indicated that labeling of plants would be somewhat important. Additionally, the IQP completed in 1998 at the Garden determined that the labeling of plants was important to the majority of visitors. Because of the importance placed on the labeling of plants by tourists, we believe that Lankester would benefit greatly from labeling its plant species. Such labels would increase the educational value of a visit to the Garden and might cause guests to be more likely to recommend Lankester to a friend or relative.

Of the 301 respondents to our survey, 128 (43 percent) indicated that provided travel arrangements would be somewhat important during a trip to a botanical garden, as seen in Figure 6-21.

**Figure 6-7: Breakdown of Respondents by Level of Importance Place on Provided Travel Arrangements to a Botanical Garden**



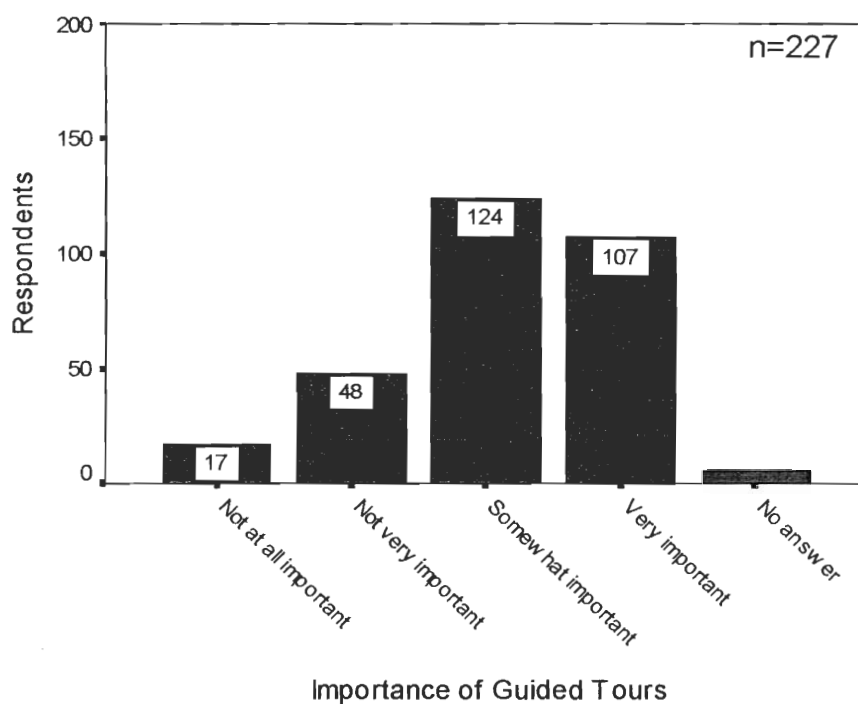
Another sixty-seven respondents (22 percent) felt that travel arrangements would be very important when visiting a botanical Garden. Because more people indicated that travel arrangements would be somewhat important than any other choice, we believe that although respondents would be willing to travel to a botanical garden on their own, provided travel arrangements from their hotel to the Garden would make them more inclined to visit.

Lankester has the ability to provide transportation for tourists to and from the Garden in two ways. One possibility is that the Garden use a van or bus from

the University of Costa Rica to transport visitors to and from San José. A second option is for the Garden to note in their advertisements that most tour companies in San José run guided tours to the Garden. In order to ensure that making reservations for these tours is as easy as possible for tourists, Lankester could also list the contact information for one or more reputable tour companies.

As seen in Figure 6-22, 107 of 301 respondents (36 percent) felt that guided tours would be very important during a trip to a botanical garden.

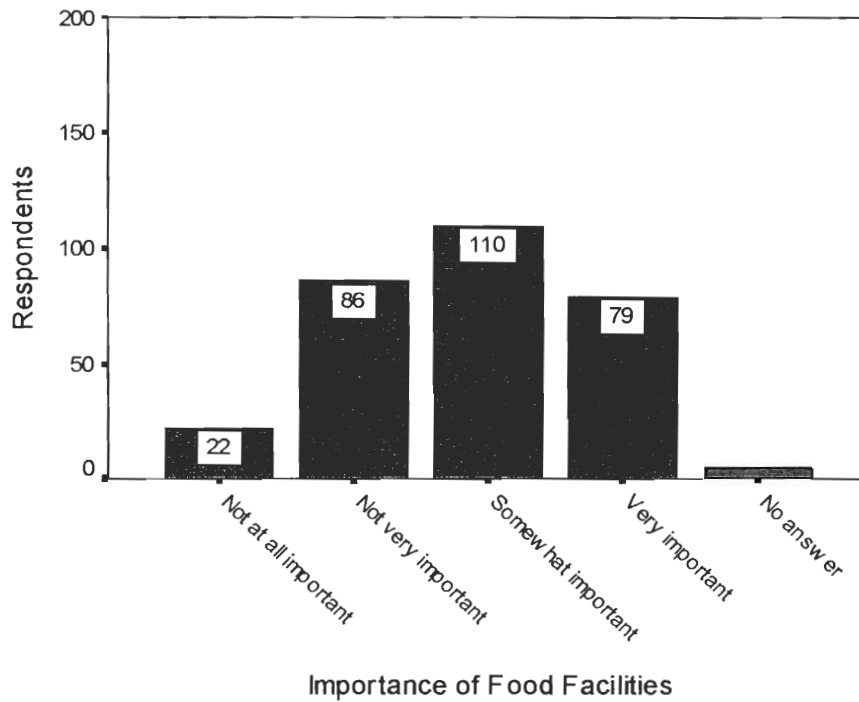
**Figure 6-8: Breakdown of Respondents by Level of Importance Placed on Guided Tours at a Botanical Garden**



Another 124 respondents (41 percent) indicated that guided tours would be somewhat important. Because such a large percentage of our respondents indicated that guided tours would be important to them, we believe that Lankester Botanical Garden should consider offering guided tours to its visitors.

Although 110 of 301 respondents (37 percent) indicated that food facilities would be somewhat important at a botanical garden, we feel that Lankester would not benefit greatly by developing food facilities (see Figure 6-23).

**Figure 6-9: Breakdown of Respondents by Level of Importance Placed on Food Facilities at a Botanical Garden**



We believe these facilities would not serve to bring new visitors to the Garden because they were not ranked as being very important by our respondents.

## 6.2 Tour Company Data

After contacting language institutes and hotels, we compiled the following list of tour companies. We contacted each company to determine specific information about trips offered to Lankester. Every agency requires two days notice to offer a tour and a minimum of two people on each tour. This section presents, in spreadsheet form, the information about trips including Lankester Botanical Garden obtained from contact with tour companies in the San José area.

**Table 6-1: Summary of Contact with Tour Companies**

Name	Type of Tour	Others	Cost	Lunch	Time
Costa Rica Expeditions	day	O & I	\$ 68	yes	7:30 - 4:30
Horizontes	day	O	\$ 45	yes	8:00 - 4:00
	day	O	\$ 39	no	8:00 - 4:00
	day	O & I	\$ 62	no	8:00 - 5:00
Costa Rica Sun Tours	day	O & I	\$ 65	no	8:00 - 5:00
	half	Cartago	\$ 65	no	8:00 - 1:00
Tikal	day	O & I	\$ 62	yes	8:00 - 4:00
	day	O & I	\$ 55	no	8:00 - 4:00
Adventuras Naturales	rafting only				
Fantasy Tours	only Orosi & Irazu				
Swiss Travel	don't offer - used to, but too many cancellations				
Camino Travel	day	O & I	\$ 62	yes	7:30 - 4:00
	day	none	\$ 30	no	11:00 - 3:00
	day	none	\$ 41	yes	11:00 - 3:00
Central American Tours	day	O & I	\$ 60	yes	8:30 - 4:00
Ecole Travel	don't offer - suggested Expendiciones Tropicales				
Turisol	day	O & I	\$ 54	yes	7:30 - 4:00
Turismo Joven	don't offer				
Tursa	day	O & I	\$ 54	no	8:00 - 4:00
	half	none	\$ 30	no	8:00 - 1:00
Viajes Alredor del Mundo	day	O & I	\$ 54	yes	7:50 - 4:00
	half	none	\$ 34	yes	11:50 - 4:00
Viajes Exectivas	don't offer				
Sunshine Travel	day	O & I	\$ 62	yes	6:00 - 4:00
Expediciones Tropicales	day	O & I	\$ 55	yes	8:00 - 4:00
Eclipse Travel	day	O & I	\$ 62	yes	8:30-4:30



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**IQP/MQP SCANNING PROJECT**



George C. Gordon Library  
WORCESTER POLYTECHNIC INSTITUTE

## 7 Recommendations

The following section contains nineteen recommendations based on our research and survey results. The majority of the suggestions deal with ways to attract more people to Lankester Garden. Many of these ideas deal with programs that the Garden can offer that would appeal to tourists. In addition, it is important for the Garden to market these improvements so that the tourists to San José are aware of them.

We have divided our recommendations into two categories: short term and long term. The short term recommendations are ideas that we feel can feasibly be completed within the next six months. The long term recommendations can be beneficial to Lankester but require time and money that the Garden does not presently have. As Lankester obtains more money and possibly new staff members, these long term recommendations can be implemented. Tables 7-1 and 7-2 display all of our recommendations, which are further discussed in this section.

**Table 7-1: Short Term Recommendations for Lankester Botanical Garden**

<b>Short Term Recommendations</b>
Distribution of Brochures
Butterfly Farm
Guided Tours
Improvement of Guidebook Write-Ups
Tour Company Information Sheets
Letters to Tour Companies and Language Institutes
Guest Book
Uses for Database
Donation Card
<i>La Orquidea</i> Newsletter

Table 7-2: Long Term Recommendations for Lankester Botanical Garden

<b>Long Term Recommendations</b>
Additional Staff Members
Transportation
Birdwatching Program
Contact with North American Universities
Labeling of Plants
<i>In Vitro</i> Orchids
AABGA Membership
Future IQPs
MQP at Lankester Botanical Garden

## **7.1 Short Term Recommendations**

### **7.1.1 Distribution of Brochures**

The data obtained from the completion of our survey shows that only a small percentage of tourists in San José are aware of the existence of Lankester Botanical Garden. In order to increase the number of annual visitors to the Garden, Lankester's staff must investigate the possibility of local advertisements.

We believe that the most effective method of advertising locally will be the placement of Lankester's brochures at locations in San José that experience heavy tourist traffic, including hotels, souvenir shops, and restaurants. Of these options, we feel that the placement of brochures in hotels should be the first priority of the Garden. Guests in these hotels will be entering and leaving the building several times a day and will thus have a high level of exposure to pamphlets located in the hotel lobby.

A disadvantage of choosing hotels is the fact that tourists staying with friends, relatives, or a host family will not have the chance to see the brochures.

For this reason, the Garden should place advertisements at locations that all visitors to San José will visit, specifically restaurants and souvenir shops.

In order to place brochures at these locations, the Garden should contact the manager of each establishment and ask for permission to place advertisements there. If the manager gives permission, a Garden employee should inquire as to how many brochures the manager thinks would be appropriate. The staff member should also record the name of the person with whom they speak. A representative of the Garden should then deliver the appropriate number of brochures to the location. In order to ensure that the location does not run out of brochures, a staff member from the Garden should periodically contact the hotel, restaurant, or shop to inquire as to the number of brochures remaining.

#### **7.1.2 Butterfly Farm**

The results of our survey indicated that the surveyed tourists have an interest in a butterfly farm. Two hundred eighteen people indicated that they had some level of interest in visiting a butterfly farm. Lankester is presently building a butterfly farm on the property of the Garden. The farm will be completed in the middle of July, 1999. We recommend that Lankester advertise their new farm and design the farm to attract more visitors, as discussed in the remainder of this section.

The butterfly farm at Lankester has many positive aspects, and the staff can capitalize upon these strengths when advertising. First and most importantly, entrance to the butterfly farm will be included in the cost of the admission to the Garden. Many of the other butterfly farms in Costa Rica charge

fees ranging from \$4 to \$16. In addition, the Garden has over thirty species of butterflies that have been identified. All of the butterflies are indigenous to Costa Rica, specifically to the nearby Orosi Valley. The employees of Lankester believe that the plants located in the farm will attract many more species. Finally, there is a unique relationship between butterflies and certain types of orchids at Lankester. Many orchids in the Garden need butterflies to pollinate them.

We believe that Lankester needs to market these strengths when advertising the Garden. Information about the farm can be placed in Lankester's brochure. The Garden needs to place much emphasis on the fact that the Garden's admission fee also includes butterfly farm. Additionally, the Garden should include information about the farm in any correspondence they have with guidebook companies. Information should include:

**Table 7-1: Marketing Info for the Butterfly Farm**

- Size of the butterfly farm
- Number and names of noteworthy species in the butterfly farm
- Total number of butterflies
- Best time of day to see the butterflies

Because we feel that it is so important for Lankester to market the butterfly farm, we looked at the brochures of other butterfly farms in Costa Rica to obtain a better understanding idea of how other places run their farm.

We examined three butterfly farms in Costa Rica. The first, Spirogyra, is located in downtown San José. They have thirty different species and offer bilingual tours every half-hour. The admission is \$4. The Butterfly Garden, located in Monteverde, has forty species of butterflies. They also display information about the various stages of the development of a butterfly as well as

the importance of butterflies in nature. They have guided tours several times a day in Spanish, English, German, and French, and the cost is \$5. The final farm we researched was the Butterfly Farm at La Guacima. The unique fact about this farm is the fact that they export butterflies all over the world. Their ninety-minute tour begins with a short video about butterflies in Costa Rica and continues with a walk through their garden and labs. Each stage of development is discussed in great detail, and educational signs are posted throughout the garden.

Based on this information, we recommend that Lankester create signs in both English and Spanish to post along the path into the butterfly farm. The signs can be made at the same location as the plant identification labels. These signs should describe the different stages of growth of butterflies in Costa Rica and the importance of the butterflies to the orchids in the Garden. One employee at Lankester has great knowledge of butterflies and is the person who has completed all of the identification of the butterflies in the Garden. Although he does not speak English, his knowledge could be very useful in the design of the signs. Working with a bilingual employee, he could develop the text for the signs.

### **7.1.3 Guided Tours**

In our survey, twenty-four out of the fifty-four people (44 percent) who had visited or planned to visit the Garden stated that they visited or would visit on their own (See Figure 6-13). This is twenty-one more than those who indicated that they had visited or would visit with a tour company. Additionally, 231 (77 percent) out of 301 respondents indicated that a guided tour at a botanical garden is important (See Figure 6-22). Finally, 268 (89 percent) out of 301 people expressed interest in the ideas of a nature walk (See Figure 6-17).

Presently, Lankester Garden only offers guided tours to groups of local school children. People who travel to the Garden with a tour company receive a tour from the tour company's guide, but those who come to the Garden on their own do not. Because our data showed that more people travel to Lankester on their own, and that most people considered guided tours to be important, we recommend that Lankester offer guided tours to all visitors.

Tours could be offered at 9 a.m. and 1 p.m. every day of the week and should be offered in both English and Spanish. Lasting approximately two hours, the tour should cover each of the eleven areas of the Garden. Since many people expressed an interest in nature walks, the guided tours should include the animal and insect life in the Garden and the ways in which these creatures interact with the plant life.

Lankester does not currently have the staff to offer these tours. The Garden does have a Spanish tour guide that gives tours to local school children. Part of her job responsibility could include giving Spanish tours to visitors. Since there are very few funds available for such a position, we feel that it would be best to look for volunteers to give the English tours. A good place to begin this search is with the entry forms filled out by the school groups. Lankester averages approximately one school group a day during the week. These groups return year after year, indicating that the schools must enjoy the Garden. Lankester could contact the schools to find out if teachers on vacation or parents would be willing to help out as volunteers.

In order to ensure that there is a tour guide available when people are interested, the Garden should ask tourists to call for reservations. While the receptionist at the Garden does not speak English, we feel that this idea is feasible because the tourists will most likely be asking hotel, language school, or tour company staff for assistance in making travel plans. An alternative solution would be for the tourists to leave their phone number with the receptionist and have an English speaking staff member return the call.

#### **7.1.4 Improvement of Guidebook Write-ups**

The results of our survey indicate that the main way visitors have heard about Lankester Garden is through guidebooks. Since guidebooks seem to be important to tourists, we looked at Lankester's write-ups in various guidebooks and found them to be very short, non-descriptive, and not reflective of the Garden.

We recommend that the Garden compose a new write-up and send it to all of the guidebook publishers listed in Appendix H. The University of Costa Rica will pay the postage to mail the write-ups to the publishers. Also, the Garden must be prepared to handle any responses it receives from the guidebook companies. Lankester should be aware that some guidebook publishers will not accept write-ups. Some companies have guidebook writers who visit each tourist attraction and write about their experience at each place. If Lankester receives replies from some of these companies, the Garden should invite a representative from each of them to it. This individual should receive a tour of Lankester accentuating the Garden's high points, such as its butterfly farm, *in vitro* orchids, diverse bird life, and the times of the guided tours and educational programs.



### 7.1.5 Tour Company Information Sheets

Through our contact with tour companies in the San José area, we learned that many agencies offer trips that include a visit to Lankester Botanical Garden. However, the staff at the Garden currently has no information about the tour companies that bring visitors to the Garden. Nor do the tour companies keep records with details of these tours. For this reason, we recommend that the Garden collect information from the tour companies that bring groups to the Garden. This task could be accomplished by distributing an information sheet to the tour company representative as they are paying for the group. This information sheet should include spaces for the date, time, name of the tour company, number of non-residents in the group, and other places included in the tour. A sample information sheet is shown in Figure 7-1.

**Figure 7-1: Sample Information Sheet**

Fecha: _____	Hora: _____
Agencia de Viaje: _____	
Numero en grupo: _____	Numero de extrañeros: _____
¿Cuales otros lugares incluye este viaje?	
<input type="checkbox"/> Valle Orosi <input type="checkbox"/> Volcán Irazú <input type="checkbox"/> Cartago <input type="checkbox"/> Otro _____	

After collecting information from tour groups for four weeks, the staff at Lankester Garden can use this data to determine which tour companies bring the most people to the Garden. Once these agencies have been identified, we

suggest that a staff member from the Garden contact the tour companies that frequently bring groups to the Garden. As part of this contact, we recommend that the staff at the Garden ask a representative of the tour company for feedback about the company's trips to the Garden. We believe that the tour companies may be able to identify which aspects of the tour their customers most enjoy and which aspects could be improved. We also believe that, because tour companies have constant contact with visitors to San José, they will be able to suggest ways for the Garden to make itself more appealing to tourists in general. Additionally, we believe that strong relationships between the Garden and tour companies will encourage these agencies to actively promote a trip to Lankester to their customers.

#### **7.1.6 Letters to Tour Companies and Language Institutes**

Our survey results show that only three (6 percent) out of fifty-four respondents with prior knowledge of the Garden heard of Lankester from a language institute. Language institutes are very popular with tourists, and we believe that, if Lankester were properly advertised by language institutes, more tourists would hear of the Garden and, thus, may become interested in going. Additionally, twelve of the seventeen tour companies we contacted offer tours to Lankester, but only five (9 percent) of fifty-four respondents with previous knowledge of the Garden heard of the Lankester from a tour company. From this information, we concluded that tour companies are not promoting tours that include the Garden.

Our recommendation is for the Garden to send a letter to language institutes and tour companies explaining the Garden's mission and recent

developments, including the butterfly farm. Included with this letter, the staff at Lankester should send several brochures and ask the language institutes and tour companies to display these brochures with those of other tourist attractions. The purpose of this mailing will be to inform potential visitors of the existence of the Garden and provide them with visitor information.

#### **7.1.7 Guest Book**

We recommend that Lankester Botanical Garden place a guest book in the reception area of the Garden. Although this type of book will not allow Lankester to determine trends among visitors because not all visitors will choose to sign it, the book will allow the Garden to obtain feedback from guests. Additionally, the guest book will allow visitors to feel that their opinions matter to the Garden.

This guest book should be placed in the reception area of the Garden and should be identified with signs in English and Spanish. The book should contain columns for the date, the visitor's name and country of origin, and comments or suggestions. A pen should be attached to the book so that all visitors are able to sign it.

For the book to provide the most benefit, a member of the staff at Lankester must periodically review the entries in the guest book and record comments or suggestions offered by multiple patrons. If visitors make suggestions that are feasible, the Garden should work to implement them to improve the experience for future visitors. If negative comments are made, the Garden should work to eliminate the source of these problems. If visitors make

positive comments, the Garden should continue to focus on that aspect of the visit because visitors find it enjoyable.

As a trial, we placed a sample guest book in the reception area for four weeks. Visitors to the Garden seemed to be receptive to the guest book and made many entries. We feel that this book is the best method for the staff at the Garden to obtain input from guests and that it will be very successful at the Garden.

#### **7.1.8 Uses for Database**

The database our project team made for Lankester Botanical Garden contains seven different sections: universities, contacts, tour companies, language institutes, hotels, donors, and research institutes. We have at least one recommendation for the use of each of these parts.

Lankester may use the university section of the database to send its biannual newsletter to the listed universities. The Garden may also identify a contact person from each university to further develop the relationship between Lankester and the university.

The contact section of the database may be used as a reference to obtain information quickly and easily about these contacts and to add new contacts to the list. These contacts are made up of individuals and companies that have an interest in helping the Garden. This database section is important for the Garden because Lankester currently has no records of any of its contacts.

Lankester may use the tour company and language institute sections of the database in three ways. First, the Garden can use these two parts of the database to keep track of which companies and institutes come to the Garden,

how many groups from each organization come to the Garden, how often they come, and how many people are in each group. Secondly, Lankester can use these two sections of the database to send a letter to these companies and institutes informing them of what programs the Garden offers and how the Garden is suitable for a half day trip from San José. Finally, Lankester can use these two database sections to send an annual Garden brochure to these companies and institutes. This brochure will remind these businesses of what Lankester has to offer as a day trip. Currently, the brochure has been designed and presented to our liaison in the form of a Microsoft Word® file. The University of Costa Rica will pay for the postage of mailing these items.

Lankester may use the hotel part of the database as a resource list to know where to distribute its brochures. The donor section of the database can be used to record people and companies that give money to the Garden. This database will allow the staff at Lankester to record the donor's name, address, donation amount, and donation history. This information can be used to send out Lankester's *La Orquidea* newsletter which will be mailed biannually, once in March and again in September.

#### **7.1.9 Donation Cards**

Once Lankester has a marketing director and a biannual newsletter, we feel the Garden should implement a donation card. For this purpose, our project team has modified a donation card from the 1998 Lankester IQP project. This card can be printed by the University of Costa Rica and placed in two different locations. The donation card should be included in the March issue of *La Orquidea* in order to give past donors and universities an opportunity to make

donations. The cards should also be placed on a rack at the Garden's entrance next to the newsletter so visitors can easily make donations while at the Garden.

The money obtained from the donation cards will be placed into the Garden's FUNDEVI account. The money from this account can then be used to make improvements to Lankester and fund the Garden's AABGA membership.

#### **7.1.10 La Orquidea Newsletter**

Based on research from our case studies (see Chapter 3), a newsletter is an important asset to botanical gardens. Since Lankester did not have a newsletter, we created *La Orquidea* for the Garden. We recommend that this newsletter become a biannual publication that the marketing director is in charge of maintaining. *La Orquidea* should be printed in March and in September by the University of Costa Rica. Since the March issue will be published at the time when most of the orchids are in bloom, the newsletter could concentrate on which orchids are blooming. A donation card will also be included in this issue. The September newsletter will discuss what the Garden has done in the past six months.

*La Orquidea* should be sent biannually to donors and to the universities listed on the Garden's database. The University of Costa Rica will cover the sending cost of the newsletter. The newsletter should also be available on a rack at the entrance to the Garden for visitors to take.

## 7.2 Long Term Recommendations

### 7.2.1 Additional Staff Members

Based on research from our case studies (see Chapter 3), we have concluded that Lankester needs at least one full-time marketing director. This person could begin working one or two days per week, but should expect to become full-time as soon as the Garden can afford to pay a full time salary. This marketing director should be in charge of the following:

**Table 7-1: Proposed Duties and Responsibilities of Lankester’s Marketing Director**

- Writing, editing, and laying out the newsletter
- Mailing the newsletter
- Distributing the Garden’s brochures
- Handling Lankester’s budget
- Maintaining the donation cards
- Printing the newsletters, brochures, and donation cards through the University
- Updating the Garden’s database
- Updating Lankester’s webpage
- Establishing the Garden as a member of AABGA
- Keeping good relations with Lankester’s contacts
- Keeping an inventory of the gift shop

The marketing director should be able to speak and write in Spanish and English, have experience writing grant proposals, and have some managerial skills.

The marketing director can be funded by the Garden’s Empresa Auxiliar account, which contains the revenue Lankester receives from admission sales. This account is normally used to fund improvements to the Garden and the salaries of several employees. The money in this account will no longer be needed to fund improvements to Lankester because, as we learned from our interview with Any Gonzalez (see Appendix B), the Garden’s new FUNDEVI

account, created for donations and gift shop sales, will provide funds for the improvements.

In the future, we also recommend that the Garden hire an assistant for the marketing director. This could be done as soon as the Garden acquires sufficient funds. An assistant marketing director would be responsible for writing grants in Spanish and English, thus allowing the marketing director to concentrate on the marketing and advertising responsibilities for the Garden. Many of the other botanical gardens we contacted have such a person, and we believe that Lankester could benefit from such an employee. In addition to writing grants, the assistant marketing director would be in charge of researching grant opportunities for which Lankester is qualified. This person would also need to stay in contact with the grant organizations so Lankester's name will be remembered by the organizations.

### **7.2.2 Transportation**

According to the results of our survey, provided travel arrangements to a botanical garden would be at least somewhat important to 195 (65 percent) out of 301 respondents. Therefore, we feel that a shuttle to and from the Garden would appeal to many potential visitors and increase the attraction of a visit to the Garden.

Our recommendation is for the Garden to attempt to reserve a van from the University of Costa Rica for this purpose. The University has many eighteen-passenger vans that are available for University-related purposes. The fact that the Garden offers transportation should be included in their brochure. Potential visitors could then call the Garden to make reservation and arrange a tour. If the



Garden is able to obtain the use of a van, they could develop a package that includes transportation to and from the Garden, a guided tour, and lunch. In addition, if the Garden implements a birdwatching program, they could provide a package that combines an early morning birdwatching tour with transportation to and from the Garden.

We believe that the Garden should first offer this service on a limited basis of two days a week, in order to measure the popularity of transportation among visitors. If visitors use the service often, the Garden can increase the frequency with which the service is offered to meet the demands of tourists.

### **7.2.3 Birdwatching**

Of the 301 respondents to our survey, 197 (65 percent) said that they had at least some interest in birdwatching. Also, 231 (77 percent) people indicated that guided tours would be important at a botanical garden. Thus, we recommend that Lankester establish a birdwatching program that focuses on attracting these people. According to the staff at Lankester, the best time to go birdwatching is early in the morning. The program should be advertised in the Garden's brochures, and visitors should call the Garden to make reservations. If the Garden is able to use a van from the University, the van can pick up tourists at hotels in San José and transport them to the Garden. There is at least one employee at the Garden who has the requisite knowledge of birds to serve as the guide. The specifics of the birdwatching experiences can be determined by the staff at Lankester, as they have more knowledge of the types of birds in the Garden.

We recommend that Lankester ask tourists to call in advance for reservations for the birdwatching tour. The Garden can implement the same system for phone reservations as mentioned in Section 7.1.3.

#### **7.2.4 Contact with Universities**

From our contact with other botanical gardens, both in the United States and Costa Rica, we learned that botanical gardens greatly benefit from an affiliation with a university or horticultural organization. We believe that Lankester Botanical Garden would benefit from an association with American universities and, therefore, recommend that the Garden take steps to initiate such a relationship.

As part of this project, we developed a list of universities that we believe may be interested in a relationship with Lankester (see Appendix E). We also wrote a letter of introduction for the Garden to send to those universities (see Appendix D). When the staff at the Garden feels that they can follow through on any responses from the universities, they should send the letter to the heads of the biology departments at the selected universities. The letter of introduction is currently saved on the computer at the Garden and can be printed at the University of Costa Rica. An employee of Lankester should follow up these letters with personal contact. This staff member should call the recipient to ensure that the letter was received and to answer any questions that they might have about the Garden. This type of personal contact will cause Lankester's name to be better remembered.

### 7.2.5 Labels that Identify Plants

The results of our survey show that 161 (54 percent) out of 301 respondents felt that the labeling of plants at a botanical garden is very important. Another ninety-three (31 percent) believed that labeling plants is somewhat important. For these reasons, we recommend that Lankester Botanical Garden clearly label their plant and tree specimens in English, Spanish, and Latin, which is the scientific language used for identification of plants. Although these labels will not bring people to the Garden by themselves, they will allow visitors to the Garden to have a more educational experience, which may make them more likely to suggest a visit the Garden to a friend or relative. We also believe that the labels will result in more positive descriptions in guidebooks and that this change may attract more visitors to the Garden because of the large number of tourists that rely on guidebooks for travel advice.

The labels placed in the Garden should be made of a durable material and be easy to read. The location of the labels should be such that there is no confusion as to which plant is being identified. We believe that the labels should include the Latin name of the plant, as well as the common name in both English and Spanish. We further believe that many visitors to the Garden would also find the country of origin of the plants an interesting fact.

### 7.2.6 *In vitro* Orchids

According to Fodor's guidebook, "The gift shop in Jardín Lankester is one of the few places in Costa Rica where you can buy orchids that you can bring home legally. Along with the endangered plants comes CITES papers—a sort of orchid passport—that permits you to take them across international borders

without any customs problems” (Rockwood, 1999: 100). This fact along with the information we obtained from a project completed in 1996 entitled: “A Study of Marketing Possibilities at the Rain Forest Aerial Tram “ allowed our IQP project team to make recommendations about how Lankester could capitalize on its *in vitro* orchid-selling ability.

The 1996 IQP determined that species of orchids native to the Costa Rican rain forest would be best to sell. They also discovered that there are five species of orchids that are very popular with their perspective orchid markets. These species are *Acostea costarricensis*, *Huntleya burtii*, *Epidendrum circinatum*, *Oerstedella wallisii*, and *Sobralia powellii*, which they recommended due to their brightly colored flowers and their relatively large petals.

Currently, Lankester sells the *Cattleya skinneri*, *Stanhopea gibbosa*, and *Barkeria lindleyana* orchids for \$14.00 (4,000 colones). The Garden also sells and the following smaller orchids for \$4.00 (1,200 colones): *Encyclia cordigera*, *Cattleya skinneri*, *Epidendrum pfavii*, *Stanhope gibbos*, *Trichopilia suavis*, *Barderia lindleyana*, and *Laulia harpophylla* crossed with *Sophronitis acvensis*. Since Lankester does not sell any of the five most popular orchid species, we recommend that the Garden start producing these types of orchids.

We also suggest, in accordance with the results of the 1996 IQP, that the Garden should sell its orchids for \$5.00 instead of \$4.00 per individual plant, and \$16.00 instead of \$14.00 for the larger orchid plants. Some of these prices could be even higher due to the rarity and popularity of the species sold. The 1996 project team also discovered a price listing for rare species of tropical orchids,

ranging from \$8 to \$250 per *in vitro* plant. If Lankester priced its rare orchids accordingly, they could make more money than they do at present.

The 1996 IQP group learned that there are four main markets for orchids: orchid growers, orchid societies, botanical gardens, and gift shops. These locations, complete with addresses, are in Appendix R. We recommend that the Garden contact these organizations to inform them which *in vitro* orchids Lankester sells.

One of the markets for orchids is commercial orchid growers. Lankester can provide the growers with rare species that the growers cannot cultivate. Another market for orchids is orchid fanciers. There are many orchid societies that expressed a particular interest in buying orchids for display and sell to sell during their orchid shows. Other botanical gardens also are interested in buying orchids to use in their gardens. Lankester can supply these gardens with tropical orchids found only in Costa Rica. A final market for orchids is gift shops. Many tourists coming to Costa Rica are interested in buying orchids as souvenirs. Lankester currently sells its orchids to tourists, but it does not advertise this fact. Since tourism is a large and growing industry in Costa Rica, the Garden must start advertising its *in vitro* orchids.

Since Lankester's orchids can be legally exported, we recommend that the Garden ship its orchids to foreign markets. After hearing from various shipping companies, the 1996 IQP team concluded that air freight is the best way to ship orchids from Costa Rica. They discovered that the APA Worldwide Movers would ship orchids in large quantities. However, Lankester is not currently

prepared to ship orchids, so it may be more efficient and easier for the Garden to use a company like Federal Express or UPS.

While transporting orchids to other botanical gardens and commercial orchid growers, the Garden does not need to package the orchids as they do when they sell them in the gift shop. The orchids sold in the gift shop are individually packaged with directions on how to grow them, but orchid growers and botanical gardens will not need this information. Lankester can package these orchids in the simplest way possible to save costs.

### **7.2.7 AABGA Membership**

In our research, we discovered an international association for botanical gardens, the American Association of Botanical Gardens and Arboreturns (AABGA). There are many benefits to membership, including:

**Table 7-1: Membership Benefits of AABGA**

- Annual newsletter,
- Publications from other botanical gardens,
- Contact and relationships with other botanical gardens, and
- Access to AABGA Resource Center.

We feel that membership in the AABGA would be a tremendous asset to Lankester Botanical Garden. Art museums, nature centers, and a historical house are members of the AABGA. These places have an interest in botanical gardens and could be potential donors to Lankester. The AABGA would provide Lankester with the means to contact these groups.

The information available from the AABGA could help the staff at Lankester with horticultural issues, marketing ideas, and fundraising suggestions from other botanical gardens. Newsletter articles deal with involving the public in

botanical gardens, using management effectively at a garden, the use of computers for botanical gardens, and many more topics. These resources would be available for free or at a reduced cost if Lankester became a member.

The AABGA web page allows member institutions to search for other member institutions that have specific traits, such as food concessions, research, horticulture therapy, post-graduate education, retail shops, private events, and youth education. If Lankester is interested in learning about any of these ideas, they can search for and contact these other gardens for information.

The AABGA calculates membership fees based on the annual operating budget for the institution. Since Lankester's operating budget is under \$100,000, the membership fee would be \$150. We feel that Lankester could use the money generated from the donation cards to cover the cost of membership. Lankester could mention the campaign to join the AABGA in the donation card, so the donors know where their money is going. Although this may be a large investment for the Garden, we believe that the resources and support from the AABGA could help the Garden attract more visitors and help with research grants. Over time, the benefits of membership in the AABGA will offset the membership fee.

The address for the AABGA is:

AABGA  
351 Longwood Rd.,  
Kennett Square, PA 19348,  
(610) 925-2500, fax (610) 925-2700

### **7.2.8 MQP at Lankester Botanical Garden**

Since our project team has discovered that many botanical gardens have ties with universities in the United States, we recommend that Lankester become affiliated with WPI as part of its Major Qualifying Project (MQP) program. The MQP is a group project conducted in a student's major area of study that is part of the degree requirement. The goal of this project is to give the students the opportunity to learn from real-world interactions and to put into practice the knowledge acquired during their studies at WPI.

If students from the United States perform research at Lankester, the garden will be eligible for research grants from United States organizations, including the National Science Foundation and the US Fish and Wildlife Service. Also, the Garden will also be able to initiate relationships with other universities more easily since the Garden's association with WPI will give them additional credibility.

We have already established the fact that there is interest on both Lankester's and WPI's behalf. We have talked to members of the Biology Department at WPI, and there is interest in learning more about what Lankester can offer. Our liaison feels that the Garden is suited to host an MQP team, and there is a member of the staff available who would work as a liaison with the MQP team. The Garden needs to contact the Biology Department at the University of Costa Rica to make certain that the University would not object to the Garden hosting WPI students. As long as the University of Costa Rica does not object, employees at Lankester should contact WPI with a list of possible scientific areas of study for projects at the Garden. After reviewing this



information, the Biology Department at WPI can decide if an MQP at Lankester would be feasible. The staff at Lankester should contact Professor Ron Cheetum and Professor Susan Vernon-Gerstenfeld. Professor Cheetum is the head of the Biology department and any new MQP would have to be approved by him. He would also be able to decide which staff member is best suited to a project at a Botanical Garden. Professor Vernon-Gerstenfeld should also be a contact because of her knowledge of the Garden and of Costa Rica. Many of the employees at Lankester know her. She also speaks Spanish so the director of the Garden could call her to discuss the project rather than relying on the assistant director to translate. Their complete addresses are:

Prof. Ron Cheetum  
Department Head of Biology  
100 Institute Road  
Worcester, MA 01609  
USA  
cheetum@wpi.edu

Prof. Susan Vernon-Gerstenfeld  
Assistant Director of Project Center  
100 Institute Road  
Worcester, MA 01609  
USA  
svg@wpi.edu

### **7.2.9 Future IQPs**

In the process of completing this project, we discovered several areas of the Garden that could constitute the basis for future IQPs at the Garden.

One idea concerns the management and organization of the staff at Lankester. One of our previous recommendations is the hiring of a marketing director for the Garden. An important part of this suggestion will be the determination of the tasks and responsibilities of that person. In addition, some departments at Lankester do not have a specific person in charge of that department's activities. The Executive Director presently oversees all operations. This organizational structure prevents the Director from

concentrating on research. Also, while working with the Garden, we sensed that the duties of each person and position were not clearly defined, thus leading to a great deal of overlap and, perhaps, confusion as to what must be done. We feel that an IQP could look into these problems in greater detail and propose possible solutions.

At the beginning of our project, one of our anticipated goals was to investigate methods of fundraising for the Garden. As we became involved in the project, we deemed the marketing aspect to be more important than obtaining funding. However, fundraising is still necessary. Researching Costa Rican laws, finding potential grants, and writing grant proposals would be of great benefit to the Garden. Thus, we recommend an IQP to research these topics. We also recommend that at least one, and preferably more, of the team's members be fluent in Spanish to make researching Costa Rican laws feasible.

At the moment, Lankester does not take inventory of the Garden's gift shop. This fact makes it difficult to determine what items are most popular and how much money the shop generates. Keeping track of this information would allow the Garden to make informed decisions about what products to purchase for resale. Therefore, we recommend that an IQP team research inventory procedures and create a database that Lankester can use to keep track of the gift shop's inventory.

Special events can be used to gain recognition for the Garden (see Section 2.6.6). Our idea is to create a list of businesses and individuals who do or could support the Garden in some manner. Lankester could then invite these

people to a lunch or dinner with a keynote speaker to promote the Garden. To attract more people, the event could focus on the conservation of land and plants. If time permits, this event could be planned to occur at the end of the project team's stay in Costa Rica. The project team could also determine whether the University of Costa Rica would help finance the cost or provide a location for the event.

Lankester currently cultivates *in vitro* orchids. We recommend finding other orchid growers in Costa Rica and determining what market exists for orchids in Costa Rica, including who the potential buyers are, how much is typically charged for orchids, and what times of the year they are in the most demand. The project would also have to discover ways of introducing Lankester into this market.

This next idea for a future IQP involving Lankester could be completed in the United States. This project also would be a study of the orchid market, but would focus on the market in the US and would answer the same questions as the IQP discussed in the previous paragraph.

Our seventh IQP recommendation is to continue the study of marketing possibilities at Lankester. The 1998 project team completed a survey that identified information about the type of people who visited the Garden. The survey completed in this project focused on preliminary background information and general interests of tourists to Costa Rica. Our recommendation is for a future project to complete a more in-depth marketing research survey. This

survey could focus on specific interests of potential visitors, such as what would be important to them in a guided tour or a butterfly farm.

Our final recommendation is for an IQP to establish the Garden as an MQP project site. Although this IQP team did not complete the necessary research to determine the specific requirements for an MQP site, and we believe that an IQP team could be formed to establish Lankester as a location for a MQP. The project would involve contacting members of the Biology department at WPI to determine if there is student interest in a project at the Garden. The team would also need to determine what Lankester can offer to WPI students. Potential project areas include fundraising, marketing, management, environmental education and conservation, and botany.

## 8 APPENDIX A - History of the Organization

*Note: The majority of the information in this appendix is taken from the 1998 Interactive Qualifying Project "Reinventing the Garden: A Study at Lankester" completed by Lesley Chamberlain, Eric Las, Tim Miranda and Christopher Tullman. We have spoken with Jorge Warner, our liaison at Lankester Botanical Garden, who informed us that there have been no major changes in the past twelve months. The information not in that report was obtained from the document "Servicios del Jardín Botánico Lankester, 1998."*

### 8.1 Mission Statement

Lankester Botanical Garden's mission, as taken from their brochure, is to promote the conservation of the tropical epiphytic flora of Costa Rica, especially orchids, through research, educational, and horticultural programs.

### 8.2 Background

The British naturalist, Charles H. Lankester, founded the Lankester Botanical Garden in the 1950's. Until his death in 1969, Lankester's plantation, "Las Concavas," was dedicated to the cultivation of coffee and the study and conservation of orchids, ferns, and bromeliads ([www.cariari.ucr.ac.cr/~lankeste/homee.html](http://www.cariari.ucr.ac.cr/~lankeste/homee.html), 1998). In March 1973, the American Orchid Society and the Stanley Smith Foundation, an English horticultural association, acquired the plantation. Soon afterwards, they donated the Garden to the University of Costa Rica, which now maintains control.

On the Garden's 10.7 hectares (26.4 acres) of land, the Lankester Botanical Garden has dedicated itself to the collection and conservation of many species flowers native to Costa Rica. The Garden includes one of the largest collections of orchids in Latin America, containing over 800 species (Lankester

Video, 1994), and has one of the largest collections of miniature orchids in the world. Also, epiphytic flora, or "air-plants," indigenous to Costa Rica is a subject of focus due to their popularity and rarity.

The scientific laboratories operated at the Garden use specially controlled conditions to grow various plant species. The Garden has successfully reproduced several species of previously "extinct" native flora. There are also several open-air greenhouse structures, which are used to cultivate a number of plant species that require frequent replanting (Lankester Video, 1994). In addition, Lankester conducts taxonomy research, which is the classification of living organisms.

The Garden is a major tourist attraction that attracts nearly forty thousand visitors annually, most of whom are students from local schools. Visitors can learn how to care for orchids and other plants that are grown in private gardens. Demonstrations are given that show how to start, transplant, and divide seedlings. Groups of students participate in tours that stress the importance of protecting the environment and tell the students how they can help.

### **8.3 Notable Collections of the Garden**

Lankester Botanical Garden is widely known for excellent examples of several collections: orchids, cacti and succulents, tropical forest, and bromeliads. Definitions of technical terms may be found in the glossary (Appendix T).

#### **8.3.1 Orchids**

Costa Rica has over 1,400 species of orchids distributed throughout 180 genera. Orchids belong to the largest family of flowering plants. They range

from one centimeter in diameter to five meters in length. The majority of orchids are terrestrial or rupicolous, or “growing on rocks”, species.

Lankester Botanical Garden has approximately eight hundred species of orchids, both native and foreign to Costa Rica. Although most orchids bloom only once per year, they bloom at different times, thus allowing visitors to find orchids in flower at any time of the year. Lankester Botanical Garden is noted for its growth of *Cattleya skinneri*, the national flower, *Sobralis* species, which bloom for only one day, and *Cattleya dowiana*, one of the most endangered species in Costa Rica.

### **8.3.2 Cacti and Succulents**

These types of plants share the ability to live for long periods without water and at high temperature. Lankester Botanical Garden has cacti, agaves, crassulaceae, and euphorbias. These species generally grow in the tropical dry forest although some may be found in wet forests.

### **8.3.3 Tropical Forest**

The tropical premontane forest located at Lankester Botanical Garden is one of the few protected areas in the vicinity of Cartago. It is a natural secondary forest that has grown for the past twenty years on abandoned pasture land. The forest contains a large variety of flora, including Orchids and bromeliads.

### **8.3.4 Bromeliads**

The Bromeliad family has more than 2,500 species in fifty-two genera. They grow from the Southeastern United States through Chile and Argentina, with one exception: a species native to West Africa. Costa Rica has more than

two hundred native species of these plants, which can be identified by their arrangements in rosettes and their brightly colored inflorescence.

#### 8.4 Business Information for Lankester Botanical Garden

*NOTE: The information in the following section was obtained from the document "Servicios del Jardín Botánico Lankester, 1998."*

##### 8.4.1 Objectives of the Organization

The general objective of Lankester Botanical Garden is to promote the study, conservation, cultivation, and reproduction of Costa Rican epiphytic flowers. These objectives are broken down into several detailed areas in a document entitled "Servicios del Jardín Botánico Lankester" (1998):

**Table 8-1: Objectives of Lankester Garden**

- To undertake scientific research about the biology and ecology of epiphytic plants, especially orchids.
- To promote the cultivation and reproduction of rare or endangered epiphytic plants.
- To develop live plant collections with a focus on national plants and to provide a general scientific platform for research.
- To make a substantial effort towards the education of environmental protection for both general visitors to the Garden and strategic planning groups.

**Figure 8-1: Lankester Organizational Chart**

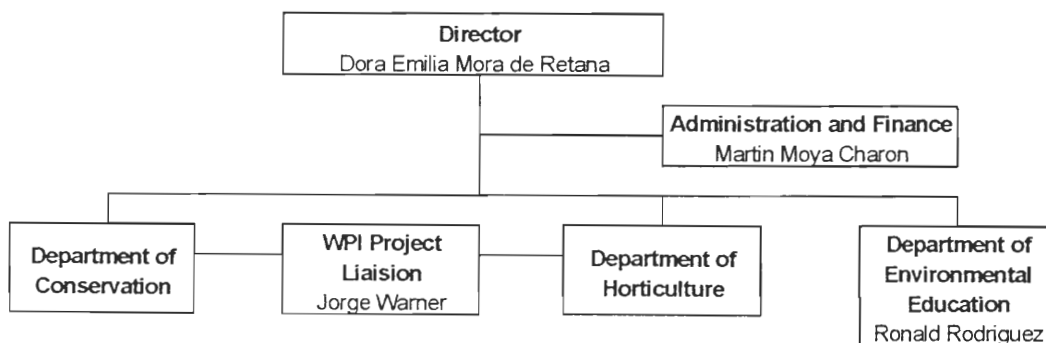




Table 8-2: List of Positions at Lankester Botanical Garden (June, 1999)

**MANAGEMENT**

Function	Position	Paid by	
Dora Emilia Mora, Lic.	Director	P.O.	

**ADMINISTRATION**

Function	Position	Paid by	Hours
Marín Moya	Assist. Administrator	E.A.	Tu-Sa, 8am-4pm
Andrea Bonilla	Receptionist	FUNDEVI-292	M-F, 8am-4pm
Paulo Fedullo	Receptionist	FUNDEVI-292	Sa-Su, 8am-4pm
Carlos Cambroneró	Guard	P.O.	M-F, 4pm-10pm
Johnny Fuentes	Guard	P.O.	Variable
Blanca Quirós	Janitor	FUNDEVI-292	Variable

**HORTICULTURE**

Function	Position	Paid by	Hours
Jorge Warner, M.Sc.	Department Chief	½ E.A. ½ P.O.	M-F, 8am-4pm
Carlos Quirós	Agricultural Coordinator	P.O.	M-F, 6am-2pm
Mauricio Bonilla	Agricultural Worker 2	P.O.	M-F, 6am-2pm
Carlos Quesada	Miscellaneous Worker	P.O.	M-F, 6am-2pm
Jorge Brenes	Agricultural Worker 2	P.O.	M-F, 6am-2pm
Reynaldo Gómez	Agricultural Worker 1	P.O.	M-F, 6am-2pm
Juan Cervantes	Agricultural Worker 1	P.O.	M-F, 6am-2pm
José Solano	Agricultural Worker 1	E.A.	M-F, 6am-2pm

**RESEARCH**

Function	Position	Paid by	Hours
Priscila Saldaña, B.Sc.	Laboratory Assistant	FUNDEVI-495	M-F, 8am-4pm
Mario Blanco, B.Sc.	Graduate Assistant	R.B.	Variable
Gabriela Marín	Assistant	R.B.	20 hours

**ENVIRONMENTAL EDUCATION**

Function	Position	Paid by	Hours
Jaime Aguilar	Field Courses	P.O.	Variable
Marisol Mayorga, B.Sc.	School Visits	FUNDEVI-274	M-F, 8am-4pm

**P.O.** = Presupuesto Ordinario. The funds provided directly from the University of Costa Rica.

**E.A.** = Empresa Auxiliar. The funds provided by ticket sales.

**FUNDEVI** = Fundación para la Investigación. It administers the funds of the following Garden projects:

274 = Field Courses

292 = Store Sales

495 = Orquid Sales

**R.B.** = Régimen Becario. Funds administrated by the University of Costa Rica to finance the students who participate in research projects.

#### **8.4.2 Department of Conservation Description**

Lankester is involved with the reproduction and distribution of orchids in the country that are collected in accordance with the procedures developed by members of the Conservation Assessment and Management Plan group. This program is for selected orchids in Costa Rica. The conservation area also involves the symbiotic reproduction of endangered species of orchids to recreate their natural environment.

#### **8.4.3 Department of Horticulture Description**

The Department of Horticulture develops the plans for the landscaping of the Garden, as well as the creation of plant displays for the public. This department also works to establish new living collections in the area. In addition, the Garden is working to strengthen the orchid population by emphasizing conservation of national orchids that have ornamental and non-ornamental value, as well as foreign plants that have any educational or research use.

#### **8.4.4 Financial Summary of Lankester Botanical Garden**

*Due to confidentiality issues regarding the University of Costa Rica, the project team was unable to obtain detailed financial data from Lankester Botanical Garden.*

Lankester Botanical Garden is owned and operated by the University of Costa Rica. In order to obtain any funding from the University, Lankester must develop a budget specifying how the funds will be spent. Approximately 50 percent of the total annual expenditures for Lankester are covered by the University budget, while the rest must be raised from entrance fees and gift shop

sales. Raised income is often directed to pay for large one-time expenditures, such as the renovated research laboratory.

The University pays the salaries of several employees of the Garden and gives the Garden 500,000 colones, approximately \$1,700, each year. Gift shop sales go towards paying the salary of the guard, and the salaries of the rest of employees at the Garden are fully financed through the funds raised by their positions. For instance, the tour guides receive a percentage of the money that visitors pay for guided tours. In addition, the environmental education specialist is compensated from the payments for courses offered by Lankester.

Other expenses are paid with income raised by entrance fees and gift shop sales. The entrance fees are set at \$3.50 (1000 colones) for foreign tourists, \$1.75 (500 colones) for Costa Rican nationals, \$2 (600 colones) for foreign students, \$1 (300 colones) for national students. In 1997, the entrance fees brought in \$105,000 from the approximately 17,500 foreign tourists, 10,400 Costa Rican nationals, and 8,600 students. However, 15 percent of the income generated by visitors is given to the University, reducing the Garden's net earnings to \$89,250 in 1997.

Although the University owns Lankester, the Garden has control over several aspects of daily business practices. Lankester manages the visitors' gift shop, which sells plants, t-shirts, books, and other items. The Garden is also permitted to purchase any necessary goods and can decide what brand to buy and from which manufacturers.

## 9 Appendix B – Strategic Development Plan

Any Gonzalez, currently a student at the University of Costa Rica, is striving to get her masters in business administration. Through her connection with the University, Any knew of Lankester Botanical Garden, and she decided to do her master's dissertation on the selling and marketing of Lankester's *in vitro* orchids. In January of 1999, Mrs. Gonzalez visited Lankester and spoke with the Assistant Director of the Garden. During this conversation, the Assistant Director clearly stated that Lankester was not ready to handle any large project because the Garden staff was lacking management organization. So, in light of this new information, Mrs. Gonzalez changed her dissertation topic to helping create a master plan concerning the management of the Garden.

Mrs. Gonzalez has been working to create a Master Plan Of Action for the Garden. She is writing this strategic development plan because the University of Costa Rica has cut its funding to Lankester, leaving the Garden on its own to raise money. In order to increase its income, the Garden needs to develop a master plan which will lead to a new way of thinking. This new outlook and plan will help make the Garden become self-sufficient, so that it will not be heavily effected by future University budget cuts. The Master Plan is also important because it establishes a direction for the development of the Garden and provides the staff with organizational structure, goals to work toward, and motivation.

Before Mrs. Gonzalez began working with the staff of Lankester, she observed how the staff functioned and how it ran the Garden. She stressed that

although the staff tried to make changes to overcome the Garden's budget cuts, she also identified three major problems with the staff's approach to rectify the Garden's situation. The largest problem she recognized was that Lankester lacked a master plan. The other two problems that Mrs. Gonzalez noticed were that the Garden staff never follow through with an idea on how to improve the Garden's situation, and that the development of the Garden was occurring in isolated areas.

Mrs. Gonzalez began working with the Lankester staff in March of 1999. She first conducted pre-diagnostic tests such as interviewing the staff and investigating the Garden's financial situation. From these trends, she determined the specific strengths and weaknesses of the Garden.

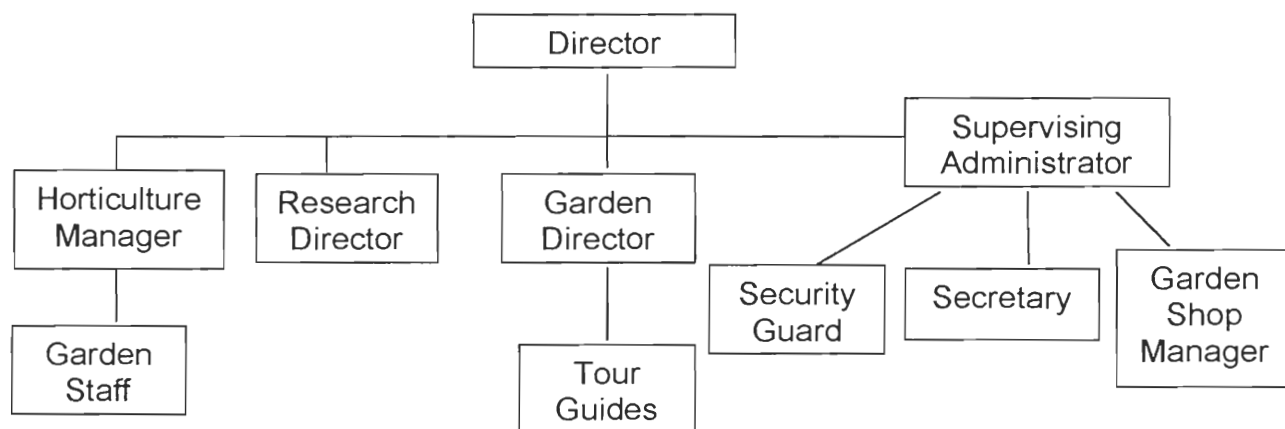
Mrs. Gonzalez was also able to develop a mission statement for her Master Plan that focused on fixing the weaknesses of the Garden. She divided her mission statement into six strategic development areas: organization, infrastructure, generation of resources, production, development of human resources, and marketing. Each development area has at least one goal that the Garden staff will strive to reach through the completion of various projects.

Although each of these six strategic development areas encompass separate goals, Mrs. Gonzalez's main intent was to show why each of these areas is important for the overall development of the Garden. She worked with the staff at Lankester to help them fully understand how the six areas of development would improve the Garden.

Under the development area of organization, Mrs. Gonzalez concentrated on teaching the Garden staff why it is important to organize all of the Garden's resources. For example, she stated that the staff should keep an inventory of the items in the gift shop and an annual budget. She stressed that the inventory and budgetary information should be maintained on a computer and frequently updated. This process would allow the Garden staff to become very aware of Lankester's financial status, to understand where the Garden's revenue comes from, and to know when items may have been stolen.

Under the strategic development area of infrastructure, Mrs. Gonzalez examined the hierarchy of the Garden and made recommendations for new positions to be created in order to properly run the Garden. Figure 9-1 below shows Mrs. Gonzalez's suggested organizational infrastructure for the Garden.

**Figure 9-1: Suggested Organizational Infrastructure for the Garden**



Along with her new organizational structure, Mrs. Gonzalez clearly explained the necessity of the management positions at Lankester. Part of the reason the Garden is so in need of management is because currently the Garden has none (See Organizational Chart in Appendix A).

Mrs. Gonzalez's main goal for the generation of resources area is to show the importance of why resources such as contacts with universities, companies, and other botanical gardens are important. She wants the Garden staff to have a list of these contacts readily available and suggested placing these contacts in a database.

For the strategic development area of production, Mrs. Gonzalez talked about increasing Lankester's *in vitro* production and exportation of orchids. She will be giving the Garden staff some ideas on how to achieve this increase in production, but the staff will be ultimately responsible for the outcome.

The development of the human resources area ties in closely with the strategic development area of infrastructure. In the human resources area, Mrs. Gonzalez wants the Lankester staff to be placed in positions within her new Garden hierarchy that utilize each staff member's specialty. She feels that if the staff members work in positions that best suit their ability, they will be more capable of performing their jobs, and therefore, be more motivated to do the best they can at their job.

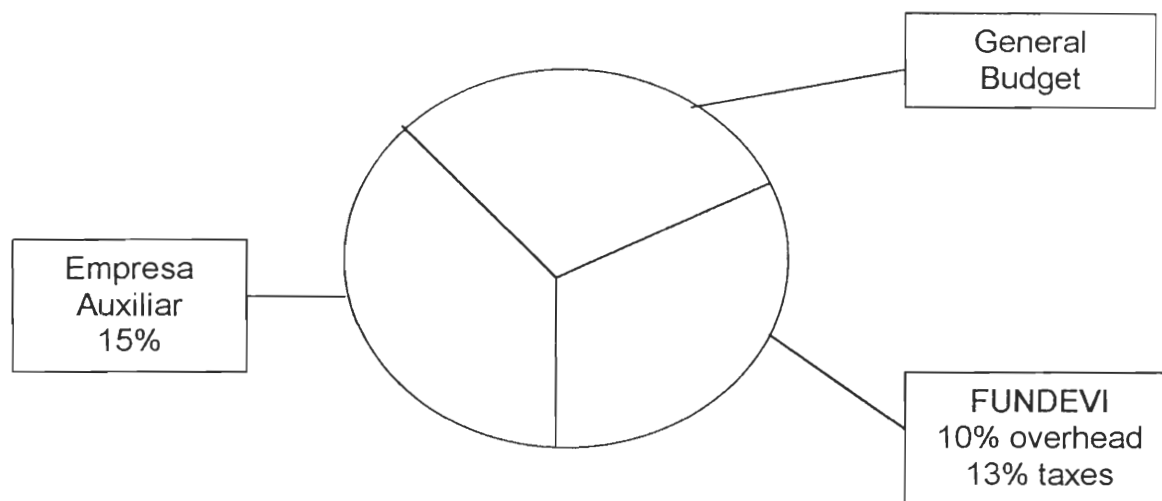
The last strategic development area in Mrs. Gonzalez's Master Plan is marketing. Her main goals in this area are to prepare the Garden staff to be able to handle large numbers of visitors and to suggest to the staff that they should develop a plan to market the Garden, its products, and its courses.

As part of her Master Plan, Mrs. Gonzalez took the staff of Lankester to Wilson Botanical Garden to observe how a successful botanical garden functions. At Wilson, the staff participated in a workshop aimed to increase their

knowledge and understanding of the six strategic development areas in the Master Plan of Action. During the workshop, the staff watched two different videos, entitled *Vision of the Future* and *The Story of a Botanical Garden*. The first video discussed the importance of having a vision and setting goals. The second video documented the development of an extremely successful botanical garden in Pennsylvania. Both of these videos were aimed to motivate the staff to want to help Lankester develop into a self-sufficient botanical garden.

In the discussion of her Master Plan of Action, Mrs. Gonzalez briefly explained Lankester's current budget. Below in Figure 9-2 is the overall division of the budget. The three sections of the budget are not drawn to scale.

**Figure 9-2: Lankester's Current Budget**



The General Budget category is controlled by the University of Costa Rica so it is regulated by government laws. The General Budget only covers 50 percent of Lankester's annual budget. Eighty-five percent of the money given to the Garden by the University is for the salary of the Garden employees and the



other 15 percent is for garden development, new projects, research, and garden construction. A current problem with the General Budget is that every year the University increases the wages of its employees. Therefore, money is taken out of the 15 percent of the General Budget that is used for garden improvements, so each year the Garden is able to fund fewer improvements.

The Empresa Auxiliar category of Lankester's budget encompasses the capital generated by garden admissions. This part of the Garden's budget funds the salary of about half of its staff. A negative aspect of this situation is that if the Garden does not bring in enough revenue, it will not be able to pay members of its staff. Although the Empresa Auxiliar category of the budget is separate from that of the University, the Garden must pay a 15 percent "overhead" fee to the University. This means that 15 percent of the total revenue present in the Empresa Auxiliar at the end year has to be given to the University.

The final part of Lankester's budget is the FUNDEVI account. It was recently created by the University of Costa Rica Board of Directors as a place to put the revenue generated by the Garden's gift shop, courses, and research, and donations made to the Garden. This account is a private sector for the Garden to place its money, which means it is independent of the government's laws. Although a private sector, the Garden must still pay a 10 percent "overhead" fee to the University and a 13 percent tax to the Government. Even though the Garden has to pay both an "overhead" fee and taxes on the FUNDEVI account, it is easier for the Garden to manage money in this account because of the lack of

government regulations. The only stipulation on the FUNDEVI account is that the Garden is not allowed to use the funds in this account to hire new employees.

**10 Appendix C – Marketing Survey****LANKESTER BOTANICAL GARDEN SURVEY**

Thank you for taking the time to complete this questionnaire. Lankester Botanical Garden is a part of the University of Costa Rica. Although affiliated with the University, Lankester is open to the public year round. The Garden is located outside the city of Cartago, southeast of San José. Lankester Botanical Garden is interested in creating special events and programs that will attract a variety of people. The Garden is interested in your opinion!

**Please circle the number or numbers that best represent your response.  
Feel free to add your own comments to each response.**

1. Is this your first visit to Costa Rica?
  1. Yes
  2. No # of previous visits  
\_\_\_\_\_
2. How many days are you staying in Costa Rica?  
\_\_\_\_\_
3. During your stay in Costa Rica, how much time will you spend in San José?
  1. Less than half
  2. About half
  3. Almost all of the time
  4. All of the time
4. Were you previously aware of Lankester Botanical Garden?
  1. Yes
  2. No [skip to question 10]
5. Where have you heard of Lankester? (circle all that apply)
  1. Guidebook
  2. Internet
  3. Language institutes
  4. Tour company
  5. Local advertisement
  6. From a friend or family member
  7. Other \_\_\_\_\_
6. Have you been to Lankester either on this trip or previous trips?
  1. Yes [skip to question 9]
  2. No
7. If you have not visited the Garden, how likely are you to do so on this trip?
  1. Definitely
  2. Probably
  3. Probably not
  4. Not at all
  5. Not Sure
8. If you have not visited Lankester, what are your reasons for not doing so? (Circle all that apply)
  1. Lack of time
  2. Cost
  3. Location
  4. Lack of interest
  5. I plan to visit the garden before I leave Costa Rica
  6. Other \_\_\_\_\_
9. If you have been/plan to go to the Garden, who did/will you go with?
  1. Tour company
  2. Language institute
  3. On your own/with traveling companions
  4. I do not plan to visit the Garden
10. How long would you be willing to spend traveling to visit a botanical garden?
  1. Less than thirty minutes
  2. Between thirty minutes and an hour
  3. Between one and two hours
  4. Longer than two hours
  5. Not interested at all
11. I am
  1. Male
  2. Female
12. What is your age?  
\_\_\_\_\_
13. What is your primary profession? (examples: student, educator, retiree, business)  
\_\_\_\_\_

**Over to back page**

13. How interested would you be in taking part in the following activities during your stay in Costa Rica?

	Not At All Interested	Not Very Interested	Somewhat Interested	Very Interested
a) Birdwatching	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Visiting a butterfly farm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Nature walks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Educational programs about Costa Rica's environment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Academic Research	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

14. How important would the following things be during a trip to a botanical garden?

	Not At All Important	Not Very Important	Somewhat Important	Very Important
a) Labeling of plants	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Provided travel arrangements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Guided tours	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Food facilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**THANK YOU FOR YOUR HELP!**

Lankester Botanical Garden • 552-3247 • P.O. Box 1031-7050 Cartago, Costa Rica, A.C

## **11 Appendix D – Letter to Universities**

(see next page)



Jardín Botánico Lankester  
Universidad de Costa Rica  
Tel: 552-3247, Fax: 552-3151  
e-mail: lankeste@cariari.ucr.ac.cr



July 27, 1999

«University\_Contact»  
«University\_Name»  
«Address»  
«City», «StateOrProvince» «PostalCode»

Dear «University\_Contact»:

Lankester Botanical Garden, located outside San José, Costa Rica, has the world's largest collection of miniature orchids. The Garden has approximately eight hundred species of orchids, both native and exotic. Additionally, the Garden has 180 species of birds and thirty species of butterflies. Lankester conducts ongoing research in the field of orchid taxonomy and *in vitro* fertilization. The Garden, through its affiliation with the University of Costa Rica, offers collegiate classes in orchidology and continuing education classes for nature lovers. Lankester currently wishes to establish relationships with universities in the United States that would focus on the use of Lankester's research facilities by students at «University\_Name».

Lankester's mission is to promote the conservation of the tropical epiphytic flora of Costa Rica, especially through research, education, and horticulture programs. Their mission is further broken down into four major goals:

- To undertake scientific research about the biology and ecology of epiphytic plants, especially orchids
- To promote the cultivation and reproduction of rare or endangered epiphytic plants
- To develop live plant collections with a focus on the national plants of Costa Rica and to provide a general scientific platform for research
- To make a substantial effort towards the education of environmental protection for general visitors to the Garden

There are two areas of research occurring at Lankester Botanical Garden. The first area deals involves taxonomy of the Garden's flora. The employees are focusing specifically on the numerous orchid species at the Garden. Currently, the Director of the Garden, Dora Emilia Mora, a renowned orchidologist, is studying and describing all the species of the *Orchidaceae* family present at Lankester. As the director completes her research, she publishes books and papers concerning the new and rare species of orchids that she has classified.

The second area of research occurring at the Garden is orchid propagation. Using the technique of *in vitro* fertilization, Lankester produces orchids for three major purposes. The first purpose is concerned with the study of the life cycle and reproduction methods of the orchids as well as with their possible medicinal qualities. The Garden also propagates certain species of orchids to help prevent their extinction. Finally, in order to make the illegal collection and selling of wild orchids from Costa Rica less profitable, Lankester produces orchids that are cheaper and healthier than wild orchids.

If you would like more information about the research conducted at Lankester Botanical Garden or feel that your school and students can benefit from a relationship with the Garden, please contact, Jorge Warner, at the address or phone number below:

Jorge Warner  
Jardín Botánico Lankester  
Universidad de Costa Rica  
P.O. Box 1031-7050  
Cartago, Costa Rica, A.C.  
Telephone (506)-552-3247  
Fax (506)-552-3151

Thank you very much for your time and consideration.

Sincerely,

Dr. Dora Emilia Mora  
Director  
Lankester Botanical Garden

**12 Appendix E – List of Universities**

<p><b>Clemson University</b></p> <p>Dr. Stephen A. Lewis Chair, Department of Plant Pathology and Physiology Clemson University Clemson, SC 29634-0377 slewis@clemson.edu Tel: (864) 656-3450 Fax: (864) 656-0274</p> <p><b>Cornell University</b></p> <p>Richard G. Harrison Ecology Chairman E145 Corson Hall Cornell University Ithaca, NY 14853</p> <p><b>Duke University</b></p> <p>James S. Clark Biological Sciences Building Box 90338 Duke University Durham, NC 27708</p> <p><b>Louisiana State University</b></p> <p>Dr. Harold Silverman, chair Department of Biological Sciences 508 Life Sciences Building Louisiana State University Baton Rouge, LA 70803 USA Tel: 225-388-2601 Fax: 225-388-2597</p>	<p><b>Michigan State University</b></p> <p>Dept. of Botany and Plant Pathology 166 Plant Biology Building East Lansing, MI 48824-1312 Tel: (517) 355-4683</p> <p><b>Pennsylvania State University</b></p> <p>Robert B. Mitchell Department of Biology 208 Mueller Laboratory Pennsylvania State University University Park, PA 16802-5301 Tel: (814) 863-0278 Fax: (814) 865-9131</p> <p><b>Stanford University</b></p> <p>David D. Ackerly Department of Biological Sciences Gilbert Building Stanford University Stanford, California 94305-5020 Tel: (650) 723-2413 Fax: (650) 723-6132</p> <p><b>Tulane University</b></p> <p>John T. Barber Department of Ecology, Evolution, and Organismal Biology 6823 St. Charles Avenue New Orleans, LA 70118</p>
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<p><b>University of California at Berkeley</b></p> <p>Plant and Microbial Biology Faculty UC Berkeley 111 Koshland Hall # 3102 Berkeley, CA 94720-3102</p>	<p><b>University of Delaware</b></p> <p>Dr. Sherry Kitto, Professor of Horticulture Department of Plant and Soil Sciences 149 Townsend Hall Newark, DE 19717-1303</p>
<p><b>University of California, Irvine</b></p> <p>Dean Shin Lin School of Biological Science University of California, Irvine Irvine, CA 92697 Tel: (949) 824-5011</p>	<p><b>University of Florida</b></p> <p>George Bowes Chairperson, Department of Botany College of Liberal Arts and Sciences 220 Bartram Hall University of Florida Gainesville, FL 32611 Tel: (352).392-1175 Fax: (352) 392.3993 email: bowes@nervm.nerdc.ufl.edu</p>
<p><b>University of California at Santa Cruz</b></p> <p>Barry Bowman Biology Chairman UCSC Department of Biology 225 Sinsheimer Labs 1156 High Street Santa Cruz, CA 95060 Tel: (831) 459-2209 Fax: (831) 459-3139 chair@biology.ucsc.edu</p>	<p><b>University of Kansas</b></p> <p>Dean Stetler Dept. Of Biological Sciences Lawrence, KS 66045-1910</p>
<p><b>University of Connecticut</b></p> <p>Dr. Gregory J. Anderson Department of Ecology and Evolutionary Biology University of Connecticut 75 N. Eagleville Road, U-43 Storrs, CT 06269-3043</p>	<p><b>University of Miami</b></p> <p>Dr. Michael Gaines Cox Science Building, Rm 215 Coral Gables, Florida 33124-0421 Tel: (305) 284-3974 Fax: (305) 284-3039 mgaines@umiami.ir.miami.edu</p>

<p><b>University of Michigan</b></p> <p>Ikuma, Hiroshi Department of Biology Natural Science Building (Kraus) Ann Arbor, MI 48109-1048 Tel: (734) 763-7142 Fax: (734) 647-0884</p> <p><b>University of North Carolina</b></p> <p>Jon M. Stucky, Associate Professor 3203 Gardner Hall North Carolina State University Raleigh, NC 27695-7540 Tel: (919) 515-2227</p> <p><b>University of Texas</b></p> <p>The Graduate Coordinator Institute of Cell and Molecular Biology University of Texas Austin, Texas 78712</p>	<p><b>University of Wisconsin</b></p> <p>John H. Andrews 1630 Linden Drive Madison, WI 53706 Phone: (608) 262-1410 Fax: (608) 263-2626</p> <p><b>Washington University in St. Louis</b></p> <p>Biology and Biomedical 660 S. Euclid Ave., Campus Box 8226 St. Louis, MO 63110 Tel: (314) 362-3365 Fax: (314) 362-3369</p> <p><b>Yale University</b></p> <p>Office of the Chair of the Biology Department Yale University P.O. Box 208103 New Haven, CT 06520 Tel: (203) 432-3508 Fax: (203) 432-3597</p>
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## **13 Appendix F – Newsletter Articles**

### **13.1 Article 1 - Who We Are**

The Lankester Botanical Garden has dedicated itself to promoting the conservation of the tropical epiphytic flora of Costa Rica through research, horticulture programs, and environmental education.

Lankester is internationally recognized for its outstanding collections of epiphytes, which are plants which live on other plants. In particular, Lankester has a wonderful collection of orchids. In Costa Rica there are more than 1,400 species of orchids distributed in approximately 180 families. With roughly 800 species of orchids, the Garden has one of the largest collections in the world of both native and exotic orchids, especially miniature orchids, in Latin America.

The Garden is also home to numerous species of butterflies, moths, and other insects. Also, there are several species of animals and more than 150 species of birds. This very large number of species is approximately 18 percent of all species of birds in Costa Rica.

The British Naturalist, Charles H. Lankester, founded the Lankester Botanical Garden in the 1950's. The Garden is located approximately an hour from San José in Costa Rica, between the towns of Cartago and Paraíso. In 1973, the American Orchid Society and the Stanley Smith Foundation of England acquired the Garden. Lankester was later donated to the University of Costa Rica, which currently maintains control of the Garden.

Lankester's 10.7 hectares (26.4 acres) of land are separated into thirteen different gardens, and each include a variety of plant collections. Lankester has collections of palms, ferns, cacti, and many other native plants. There are also three sections of secondary growth tropical premontane forests in various stages of natural regeneration. These forests have grown on farmland that was abandoned twenty years ago.

The Garden is an important tourist attraction, drawing some forty thousand national and international visitors every year. Lankester is also a popular destination for school trips. An average of ten thousand students per year visit the Garden on these trips each year. The Garden is a very beautiful and tranquil oasis. We invite you to come and share the beauty and diversity of Lankester Botanical Garden.

For further information please write to:

Jardín Botánico Lankester  
Universidad de Costa Rica  
P.O. Box 1031-7050  
Cartago, Costa Rica, A.C.  
Telephone (506) 552-3247

**13.2 Article 2 - Courses in Orchidology**

For the past several years, Lankester Botanical Garden has offered an Orchidology course to students at the University of Costa Rica. The duration of this course is approximately one semester, and it is taught in Spanish by the Director of the Garden. Normally, about ten students majoring in biology enroll in this course each semester. This course is also open to non-biology majors, and all the classes for the course are held at the Garden and meet once a week for a duration of three hours.

The course provides fundamental information about the orchid family, which is the largest family of flowers in Costa Rica. No background knowledge of orchids is required. The course includes classroom lectures given by the Director of the Garden, Dora Emilia Mora. During the lectures, students study and discuss the classification, natural history, and conservation of different Costa Rican orchid species. Additionally, half of the class is spent in the Garden examining orchids. While in the field, the students use the knowledge from their lectures to identify various species of orchids. As the course progresses, the students also study the different families of the orchids.

In addition to the time spent at Lankester, the students make three trips to various locations across the country to study orchids in their natural habitats. The first excursion is a day trip to Cerro de la Muerte. The second and third are three day, two night trips to San Ramón and Monteverde, respectively. The trips allow students to gain valuable experience with the orchids located outside of Lankester.

In order to complete the course, the students must do research on a topic related to orchids and present their results to the class. Once the students complete the course, they receive four credits from this course. An average course load for students from the University of Costa Rica is sixteen to twenty credits per semester.

Over the past few years, the course has been extremely successful. For this reason, Lankester plans to continue to offer the Orchidology course and, in the future, hopes to expand its selection of courses.

### **13.3 Article 3 - Butterfly Farm**

In July of 1999, Lankester Botanical Garden will open its butterfly farm. The farm will be located in the southwest corner of the Garden. Unlike other butterfly farms, which capture butterflies, Lankester's will allow the butterflies to move in and out of the farm. The butterflies will be naturally attracted to the area by the sweet-smelling plants located inside the farm. The Garden staff has identified more than thirty species of butterflies that currently reside in the Garden. All of these butterflies are indigenous to Costa Rica, specifically to the nearby Orosi Valley.

The butterflies at Lankester play a crucial role in the lives of certain types of orchids that are present in the Garden, specifically some species of orchids that rely solely on butterflies to pollinate them. Butterflies visit flowers, searching for food in the form of nectar. The orchid *Epidendrum radicans* relies on butterflies for its pollination, but it does not produce much nectar. Using a survival mechanism known as mimicry, the orchid fools the butterfly into visiting it by looking like other orchids that produce more nectar. The butterfly does not know the difference, so it visits both types of orchids, pollinating each of them in the process.

Entrance to the butterfly farm, which is currently \$7, will be included in the price of admission to the Garden.

**13.4 Article 4 – Field Classes Offered at Lankester**

Lankester Botanical Garden offers more than fifteen field courses for anyone who is a nature lover. These continuing education classes range from topics about orchids to butterflies to birds to the general wildlife of Costa Rica. Each course is taught by an expert in the particular field of study. Some courses are offered on a weekly basis and meet every Saturday for four consecutive weeks. These courses range from \$61 to \$75. Other classes are offered over the course of a weekend and usually involve traveling to a location outside of the Garden to experience the nature there first hand. These weekend courses also include a guide, transportation, and meal, and for this reason, are ideal for tour groups sponsored through a US botanical garden. The prices range from \$75 to \$120. None of the courses that Lankester offers require previous knowledge of the subject and everyone is welcome to enroll. Courses include those listed in Table 13-1.



Table 13-1: Courses Offered by the Garden

<b>Español</b>	<b>English</b>
Aprende a Fotografar la Naturaleza	Learn to Photograph Nature
Aprende a Cultivar sus Orquideas	Learn to Cultivate Orchids
Conozca las Aves Diurnas y Nocturnas de la Zona Sur	Learn about the Diurnal and Nocturnal Birds of the Southern Zone
Conozca las Mariposas de Costa Rica	Learn about the Butterflies of Costa Rica
Ecología e identificación de las Ranas de Costa Rica	The Ecology and Identification of the Frogs of Costa Rica
¿Cómo Reconocer y Cual Es la Importancia de los Arboles del Caribe?	How to Recognize and What is the Importance of the Caribbean Trees
Conozca las Plantas Medicinales de Costa Rica	Learn about the Medicinal Plants of Costa Rica
Técnicas de Relajación en la Naturaleza	Relaxation Techniques in Nature
Conozca las Aves Costeras	Learn about the Coastal Birds
Conozca las Aves Diurnas y de Caño Negro y La Zona Norte	Learn about the Diurnal and Nocturnal Birds of Caño Negro and the Northern Zone
Conozca las Aves Diurnas y Nocturnas de Monteverde	Learn about the Diurnal and Nocturnal Birds of Monteverde
¿Cómo Observar e Identificar las Aves de Costa Rica?	How to Observe and Identify the Birds of Costa Rica
Conozca las Aves Diurnas y Nocturnas del Bosque Lluvioso	Learn about the Diurnal and Nocturnal Birds of the Rain Forest
Ecología y Cultivo de las Palmas de Costa Rica	The Ecology and Cultivation of the Palms of Costa Rica

## 13.5 Article 5 – Donor Card

## Lankester Botanical Garden

*Orchids are epiphytes,  
Epiphytes grow in trees,  
Trees live in forests,  
Protect our forests.*

### Donation and contribution information:



**Contributor: \$10**

*For your contribution, you will receive:*

- ☛ Lankester Botanical Garden newsletter



**Supporter: \$15**

- ☛ Lankester Botanical Garden newsletter
- ☛ Two large postcards from the gift shop



**Sponsor: \$25**

- ☛ Lankester Botanical Garden newsletter
- ☛ A poster from the gift shop



**Friend: \$50**

- ☛ Lankester Botanical Garden newsletter
- ☛ One bag of Costa Rican coffee
- ☛ Mention in the Lankester newsletter



**Patron: \$100**

- ☛ Lankester Botanical Garden newsletter
- ☛ Mention in the Lankester newsletter
- ☛ Banana paper notebook or writing set



**Benefactor: \$250**

- ☛ Lankester Botanical Garden newsletter
- ☛ Mention in the Lankester Newsletter
- ☛ Lankester T-shirt

The Lankester Botanical Garden is a non-profit organization, controlled and operated by the University of Costa Rica. The Garden was established in order to promote conservation of the tropical epiphytic flora of Costa Rica, with a special focus on orchids. Through research, educational, and horticultural programs, the Garden strives to achieve these goals.

Like all non-profit organizations, the Lankester Botanical Garden depends on the donations of individuals and private foundations in order to follow its mission, which contributes to the conservation and understanding of Costa Rican flora.

**To make a contribution, please complete this card and either:**

1) Turn it in at the reception area along with your check or credit card information.

**or:**

2) Send it by mail to the address indicated below along with your check or credit card information.

Yes, I would like to help the Lankester Botanical Garden:

- \$10-Donator                       \$50-Friend                       \$ Other: \_\_\_\_\_  
 \$15-Supporter                       \$100-Patron  
 \$25-Sponsor                       \$250-Benefactor

Check: FUNDEVI – Jardín Lankester

Credit:  VISA  MASTERCARD  AMERICAN EXPRESS

Card Number: \_\_\_\_\_ Expiration Date: \_\_\_\_\_

Name on Card: \_\_\_\_\_

Authorized Signature: \_\_\_\_\_

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: ( ) \_\_\_\_\_ E-mail: \_\_\_\_\_

Jardín Botánico Lankester  
 Universidad de Costa Rica  
 P.O. Box 1031-7050 Cartago, Costa Rica, A.C.  
 (506) 552-3247 Fax (506) 552-3151  
 E-mail: lankeste@cariari.ucr.ac.cr

All Donations Are Tax Deductible

Thank you for your support! Your donation will make a difference!

**13.6 Article 6 - Donor Listing**

**Thank You!**

Special thanks to the following individuals and organizations for their contributions to Lankester Botanical Garden. It is through their support that Lankester can continue to provide education and research about the conservation of tropical epiphytes.

### **13.7 Article 7 – Research at the Garden**

There are two different research projects in progress at Lankester Botanical Garden. The first project deals with taxonomy, or the classification of the Garden's flora, which is mostly composed of orchids. Currently, the Director of the Garden, Dora Emilia Mora, a renowned orchid scientist, is studying and describing all the species of the *Orchidaceae* family present at Lankester. When the director completes her research, she publishes books and papers concerning the new and rare species of orchids that she has classified. A graduate student who works at the Garden is also involved in this taxonomy project. At this time, he is trying to classify all the orchid species, especially the miniature orchids, living in one of Lankester's greenhouses. Three years ago, the Assistant Director of the Garden created a database to store the orchid taxonomy information researched at the Garden. Currently, members of Lankester's staff enter information about plants in the Garden into the database. This database is considered to be a very important resource for all botanists and scientists.

The second research project occurring at the Garden is orchid propagation. In order to make the illegal collection and selling of wild orchids from Costa Rica less profitable, Lankester reproduces orchids that are cheaper and healthier than the wild orchids. The Garden hopes that, in addition to discouraging wild orchid theft, it can reproduce rare and endangered species of orchids. Lankester uses the technique of *in vitro* fertilization to grow its orchids. To grow orchids in this manner, the Garden introduces tissues, seeds, and even parts of plants into media filled with nutrients that promote tissue development or

plant germination. Lankester uses this germination technique to add variety to the species of orchids it produces.

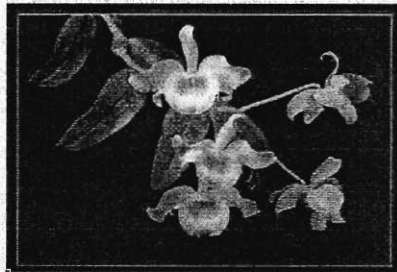
**13.8 Article 8 – Current Projects**

There are several improvement projects in progress at Lankester Botanical Garden. One of the Garden's major projects is the butterfly farm, which is currently in the final stages of development. Upon completion, the farm will be open to all the Garden's visitors at no extra cost. A second ongoing project consists of redesigning the Garden's walkways. At this time, many of Lankester's walkways are in poor condition, and the Garden would like to rebuild all its walkways to improve them. Because the Garden does not have sufficient funding, work on the walkways is progressing as the Garden obtains funds. Another proposed project for Lankester is the remodeling of its classroom. Presently, the Garden has a room that is designated for classroom use, with desks and a chalkboard. Since Lankester is looking to expand the classes offered at the Garden, the employees feel that remodeling the classroom would make it more conducive to student learning.

## 14 Appendix G – Brochure

### Lankester Botanical Garden

- One of the World's Largest Collection of Miniature Orchids
- 800 Species of Orchids
- Butterfly Farm at No Additional Cost
- Opportunity to Birdwatch



Lankester's mission is to promote the conservation of the tropical epiphytic flora of Costa Rica, especially through research, education, and horticulture programs. Their mission is further broken down into four major goals:

- To undertake scientific research about the biology and ecology of epiphytic plants, especially orchids
- To promote the cultivation and reproduction of rare or endangered epiphytic plants
- To develop live plant collections with a focus on the national plants and to provide a general scientific platform for research
- To make a substantial effort towards the education of environmental protection for general visitors to the Garden



## Lankester Botanical Garden

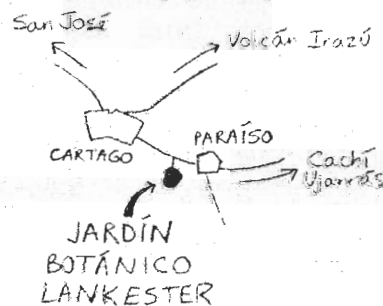
• The British Naturalist, Charles H. Lankester, founded the Lankester Botanical Garden in the 1950's. In 1973, the American Orchid Society and the Stanley Smith Foundation of England acquired the Garden. Lankester was later donated to the University of Costa Rica, which currently maintains control of the Garden.

• Lankester's 10.7 hectares (26.4 acres) of land are separated into thirteen different gardens, including a variety of plant collections. Lankester has collections of palms, ferns, cacti, and many other native plants. There are also three sections of secondary growth tropical premontane forests in various stages of natural regeneration.

• The Garden is a very beautiful and tranquil oasis. We invite you to come and share the beauty and diversity of Lankester Botanical Garden.

### How to reach the Garden:

There is no direct bus service, but you can take the bus from San José to Cartago (35 min.) Once in Cartago, walk to the side of the Ruinas Church where you can take a bus to Paraíso. You should tell the driver to let you off at the entrance to Lankester Garden, and from there walk down the street. When you see the sign for the Garden, head to the right. Most tour companies offer transportation and guided tours. A few of the tours are: Eclipse Tours (223-7510) and Expediciones Tropicales (257-4171)



Lankester Botanical Garden  
Telephone (506) 552-3247

**15 Appendix H – List of Guidebooks**

<p>Fodor's Costa Rica 99 c/o Costa Rica Edition 201 East 50<sup>th</sup> Street New York, New York 10022 USA</p>	<p>Insight Pocket Guides APA Publications Ltd. P.O. Box 7910 London SE 18ZB England Fax (44-171)-620-1074</p>
<p>Costa Rica Handbook c/o Moon Publications P.O. Box 3040 Chico, CA 95927 USA travel@moon.com</p>	<p>Costa Rica - Adventure in Nature P.O. Box 613 Santa Fe, NM 87504 USA</p>
<p>Traveler's Costa Rica Companion Choose Costa Rica for Retirement Backpacking in Central America The Globe Pequot Press 6 Business Park Rd. P.O. Box 833 Old Saybrook, CT 06475-0833 USA</p>	<p>Lonely Planet - Costa Rica 155 Filbert St. Suite 251 Oakland, CA 94607 USA</p>
<p>Adventurer's Guide to Costa Rica attn. Harry S. Pariser c/o Hunter Publishing 300 Raritan Center Parkway Edison, NJ 08818 USA Fax (908)-417-0482 salsa@catch22.com</p>	<p>The New Key to Costa Rica Publications in English Apdo. 7-1230 1000 San José, Costa Rica or Ulysess Press 3286 Adeline St. Suite 1 Berkley, CA 94703 USA</p>

## 16 Appendix I – Interview with Professor James K. Doyle

On Friday March 26, 1999, a group member interviewed Professor Doyle, an Associate Professor in the Department of Social Science and Policy Studies at Worcester Polytechnic Institute. He teaches psychology and decision making classes at WPI and also serves as an advisor to Worcester IQPs. In addition, he has written two articles for the Interdisciplinary and Global Studies Division, *Introduction to Interviewing Techniques* and *Introduction to Survey Design and Methodology*.

To begin the interview, Professor Doyle received a general overview of our project, so he would be able to answer the questions with a specific project in mind.

The following is an adapted version of the interview that took place with Professor Doyle.

*Q: Now that you have heard about our project, we would like to receive an expert's opinion on the best way to approach this survey. How would you begin?*

A: The first thing that comes to my mind is finding out why people visit either Wilson or Lankester Gardens. I believe that this can be best accomplished by surveying people as they come in to the garden. Everyone will have some preconceived notions, and whether they are correct or incorrect, they should be considered.

*Q: Is it too early to survey right when they walk into Lankester Botanical Garden? They have not even seen the Garden yet.*

A: People know their reasons for going to a certain tourist attraction before the even get there.

*Q: When would be other good times to approach tourists?*

A: The best time is when they are not very busy. Do not try to approach them as they are leaving to head off down a new trail. Try to find them when they are more relaxed, perhaps lunchtime or while they are resting on a bench.

Q: *How can proper sampling be achieved with this survey?*

A: The easiest way would be to vary the times and locations of the surveys. People who arrive in the morning may have different opinions than those who visit in the afternoon. Perhaps stationing members of the group around the garden to administer the survey would also ensure proper sampling.

Q: *What should the age limit be on the people that we distribute the survey to?*

A: It is best to give them only to the people that are old enough to plan their own vacation if you are trying to figure out what drew them to the garden. Even though kids 12 and up are competent to answer, their primary reason for visiting will be that their parents dragged them there.

Q: *How many people are needed to consider a survey complete and accurate?*

A: Ideally, 300 people are a good minimum. Usually, no more than 1200 are required. The polls that are shown on television only have about 1500 people taken into account. The biggest factors on size are time and money. In your case, time will be the biggest problem.

Q: *What if we can't get 300 people?*

A: You have to work with what you are dealt with. As long as your response rate is high, you should be okay. The response rate is the most important part of your survey. Response rate is the ratio of the number of people who fill out the survey to the number of people asked to fill out the survey. This number needs to be above 50% for the survey to have any value. You are better off with a smaller number of people questioned and a higher response rate.

Q: *What if we wanted to survey people as they were leaving the Garden, how would we choose which people to ask to fill out a survey?*

A: It would obviously be in your best interest to be able to have every person fill out a survey, but that can be unrealistic at times. If there were too many people, the best idea would be to make a rule and stick to it. For example, every fifth person would be asked to fill out a questionnaire.

Q: *Would it be okay to compare data from two different places, where every fifth person filled out a survey at one place and every person filled out a survey at the other?*

A: Yes.

Q: *Many of the books that we have read have had various opinions on open-ended versus closed-ended questions. What is your opinion?*

A: Closed-ended questions are the easiest to analyze; the responses can just be typed into a computer and compiled. The drawback of them is the need to anticipate people's possible answers. Open-ended questions are much more complicated to analyze. A good survey includes one or two. They are needed to give the person completing the survey the chance to say something that the interviewer did not anticipate. They can also provide valuable quotes for your written IQP. Although it is possible to analyze these subjective answers, it really needs to be worth the effort, since it is so time consuming. If you are asking both an open-ended and close-ended question about the same topic, you must ask the open-ended one first, as to avoid influencing the person's response.

Q: *In addition to the actual visitors, what other people would be valuable resources to talk to?*

A: Definitely talk to the tour guides at the gardens. Also talk to the drivers of the tour buses and see why the companies bring people there. Is the garden easy to get in and out of? Is the cost cheap?

Q: *What would be some good resources to read in preparation for this project?*

A: You need to read my two articles written for the Interdisciplinary and Global Studies Division. They should help a great deal. There is also a wonderful book by Salant and Dillman entitled How to Conduct Your Own Survey.

Q: *What software package do you use to analyze survey data?*

A: I use SAS. It is the most powerful and flexible software around. But it is not designed for beginners. If you can not use SAS or run SAS from Costa Rica, your best bet would be to purchase a cheap software that will still complete the tasks you are interested in.

Q: *Anything else to add?*

A: Yes. I am very jealous of your trip. My wife and I are avid bird watchers, and I have heard that Costa Rica has many beautiful birds.

Q: *Would you wake up early to see the birds at 5 AM in the Garden?*

A: Yes. My wife and I regularly wake up at 3 AM to see owls. Any birdwatcher would be more than willing to wake up early to watch birds.

Q: *Thank you very much for your time and help.*

A: You are welcome. And good luck with your project.

## 17 Appendix J – Interview at Tower Hill Botanical Garden

### Summary of Interview

Date: Thursday March 31, 1999

Interviewees: Phyllis Stoddard, Director of Fundraising for Tower Hill  
Michael Arnum, General Manager and Cornell University School of Horticulture alumni

*The project group began the interview by asking general questions about Tower Hill. The following is a summary of the answers given by Phyllis Stoddard.*

In 1842, a group of male professionals, merchants, and public officials gathered together with the common bond of staging a fruit and flower display in Worcester, Massachusetts. The enormous success of this event led to the creation of the Worcester County Horticulture Society. Through the years, the organization began to focus all their efforts on cultivating gardens. After moving to several locations throughout the Worcester area, the society decided to relocate to Tower Hill Farm in Boylston, ten miles outside of Worcester in 1986. The 132 acres of meadow, woodland, and wetlands was renamed Tower Hill Botanical Garden. The Garden is still closely affiliated with the Worcester County Horticulture Society.

Tower Hill is the first and only comprehensive botanic garden in New England. The grounds contain twenty distinct gardens, dedicated to wildflowers, winter plants, perennials, and numerous other types of flora. Tower Hill is designed to accommodate 150,000 visitors each year. There is also the Lawn Garden that can hold over 1,000 people for outdoor events. In addition to the

gardens, Tower Hill also has a library with over 8,000 books and periodicals on the subject of botanical gardening and flowers. The Stoddard Education and Visitors Center contains a theater, three classrooms, offices, a garden shop, exhibition area, and a café.

*Q: What is the breakdown of Tower Hill's income? Where does the money that Tower Hill receives each year come from?*

A: About 21% comes directly from the admissions fees. The cost is \$7 for adults, \$5 for seniors, and \$3 for youths. Members of the Worcester County Horticulture Society are admitted without cost. Approximately 28% of our income is from the membership. The basic cost for a membership is \$40 for an adult and \$50 for a family per year. Other membership categories, such as friend, patron, benefactor also exist. The remaining 51% comes from grants we receive.

*Q: What types of grants are they and where do they come from?*

A: The majority of them are private foundation grants, such as the Alden, Fuller, and Stoddard family foundations. The Worcester County Horticulture Society has been around for a long time and many of these families have been donating since the very beginning.

*Q: You mentioned special events as part of your income. What kind of events does the Garden offer?*

A: We offer a wide range of activities to try and attract people with very diverse interests. Our most successful event is the annual Plant Sale. We request donations of plants and flowers from local nurseries and garden owners. These plants are then sold at the garden and Tower Hill is able to keep the revenue from the event. The reason this event is so successful is because we do not have to spend any money, since everything is donated. The nurseries like to donate because it is free publicity and the private gardeners are often very proud of their work. Our profit from this event ranges between \$20,000 and \$30,000. Each summer we have a concert series outside on the Lawn Garden. And this year we are also holding several indoor concerts that are slightly more formal. We sell tickets in advance, and usually receive a decent turnout. We have both classical and folk concerts. Although we don't receive nearly as much as from the plant sale, this event appeals to people other than plant aficionados and may stimulate their interest in the garden.

Another event we just started a few years ago is garden tours. The idea has been going on at the national level for quiet some time. We ask local and regional garden owners if they would be interested in showing off their gardens.



The response has been quite favorable - people love to show off what they have done in their homes. Once we establish a list of places to show, we create flyers with the information about which gardens will be shown and mail them to our mailing list. People decide which tour they would like to go on and reply to us. Originally, we used a bus to get people from one place to another, but as the numbers grew, that became impossible. Now we rely on people driving. We ask for a donation when we give the directions. One of the things that surprised us the most was the interest in city gardens. We figured that people would only like to see rural or suburban gardens, but were proven wrong. In years past, we had cocktails and dinner at the garden afterwards, but people always seemed to be too tired to want to socialize.

We have a gift shop, The Shop at Tower Hill, on the premises. We receive a portion of their sales. The shop offers Tower Hill memorabilia, books on gardening, homemade jams, honey, and sweets, and other fun gardening things. We have found that there are people who come to Tower Hill for the gift shop alone.

At several times during the year, we offer dinners or brunches at the Garden. We are in the process of planning our Mother's Day brunch right now. We offer a meal inside the Stoddard Center, which looks out over the gardens. We use a caterer to make the meals - the food has to be prepared before it is brought in, because we don't have the facilities. We usually break even on the event, and a great deal of planning goes into the event. I would not recommend it for a quick and easy moneymaker. It serves more to attract people to the Garden who might not otherwise come.

Another effective fundraiser is our annual membership drive. We contact all our members, past and present and anyone else who has ever visited the Garden. Whenever someone comes to the Garden, we try our best to get mailing information from him or her. We ask people who visit the Garden, the gift shop, or attend a special event. All of this information is stored in a database. We generate letters from this list. For our 1998 appeal, we mailed 12,557 letters and received responses from 514. The appeal raised \$80,669. The letters were folded, stuffed, stamped, and labeled by twenty volunteers. We estimate that we saved several thousand dollars by having volunteers completing this work.

Another fundraiser that has become increasingly popular is commemorative items. People donate money to Tower Hill in memory of loved ones, and then trees, benches, and gardens are named in honor of the deceased. It is a great way to preserve the memory of anyone close to you. Often times the family places Tower Hill's name in the obituary for people to donate money to us in lieu of flowers. Unfortunately, we have recently had several long-time members pass away. But they have left large sums of money to the Garden in their will.

Tower Hill also rents out their gardens and function rooms inside for weddings, anniversaries, bar mitzvahs, and other special events. This fundraiser has just become popular in recent years. It is a great way to make money since there is no effort involved on our behalf. We require the people

using our property to use one of our approved caterers. The price varies depending on the size and length of the event.

*Q: What are some of the ways that you use to advertise the Garden?*

A: We try not to spend a lot of money on our advertising budget. We have developed some cheap and effective methods. Often we write press releases for the papers about different events that we have at the Garden. This way, our "ads" run for free. Occasionally, we will place ads in the Worcester Telegram and Gazette. Using our mailing list, we send postcard to our active members about upcoming events and general garden information. Another way that we have found very effective is through word of mouth. We have a lot of active members that are very enthusiastic about what goes on in the Garden, and we know that they pass the word along to their friends. We also run various classes about gardening at the Tower Hill. We believe that this also spreads the word about the Garden. Also, we frequently have art exhibits from local museums in our Great Hall. The museum will advertise the event at the museum, and people that are interested in art will come to the Garden. Again, it draws in another crowd of people that may not have been interested in the Garden at first.

*Q: You mentioned that you have a library here at the Garden. What kinds of books do you have? Who uses the library?*

A: We have a very extensive collection of books and periodicals on gardens and gardening. We have many historic books as well, some of the town of Boylston records, dating back over 100 years. There is a separate vault for many of the very old books, where the temperature and humidity is controlled. We also store paintings there. A librarian is on duty for the hours that the library is open. We mainly attract researchers at all levels looking for specific information that can't be found anywhere else. Professors giving lectures and talks often come here to find material. Some days we have many visitors and other days few people come in.

At this point, Ms. Stoddard recommended that we speak with Michael Arnum, the General Manager of Tower Hill and a Cornell University School of Horticulture alumnus.

*Q: Could you tell us about the Cornell University School of Horticulture?*

A: The unique part about this school is that, much like University of Costa Rica, has a botanical garden associated with it. Cornell Plantations is part of the University and receives some funding and support from the school. The Garden is located on the campus of the University. Students from many different majors use the Garden: the horticulture students study and complete research in the Garden, pre-vet students study the toxic types of plants in the garden, music

students perform in the Garden, and many other students go there to relax or play sports.

*Q: Do the students do a lot of volunteer work there or receive credit from the University for helping out there?*

A: There are a few students that do help out in the Garden, but most are too busy with school work. Those who do can receive credit. The majority of the volunteers are outsiders who simply enjoy gardens.

*Q: How does the garden fundraise?*

A: The biggest source of fundraising that I can think of is the Alumni Appeal Program. Every year, I receive a letter from the University asking for money. On the reply card, there is a box to check off for the money to go directly to the Plantations. I don't know about other people, but I always donate, since I know that the money is going to a specific place and not just the school. I don't know too much more about other fundraising activities, but I can give you some names at Cornell to contact.

*Q: Ms. Stoddard and Mr. Arnum, based on what we have told you about Lankester, what strategies would you advise for fundraising?*

- A:
1. Try special events, especially the plant sale
  2. Look for money from foundations (*they gave us foundation names*)
  3. Try to get the school involved, even though it is located far away
    - a. Display art from the art department
    - b. Have music students give concerts
  4. Contact the Alumni Department at the University of Costa Rica and see if you can get the Garden on the appeal list

After the interview, we were given a tour of the grounds and library. Ms. Stoddard also provided us with a great deal of literature from the Garden.

## 18 Appendix K – Interview with Professor Phil Robakiewicz

The following interview was conducted with Worcester Polytechnic Institute ecology professor Phil Robakiewicz in his campus office on March 24<sup>th</sup>. Professor Robakiewicz was particularly important to interview because he has been to Lankester Botanical Garden a few times, the most recent time being five years ago. He started out the interview discussing the Garden, his impressions of it, and how he heard about it. He also mentioned that many people were present in the Garden when he was there, and he commented that most of the tourists appeared to be either American or European. He talked about the specific type of research conducted in the Garden, the feasibility of getting funding from orchid growers, marketing strategies that could aid the Garden, and how Lankester compared to other gardens he had visited. Finally, he spoke of how well he thought Lankester marketed itself.

**Vanessa:** Now that you know about both Wilson and Lankester Botanical Gardens, why do you feel Wilson is more successful at attracting visitors?

**Prof. Robakiewicz:** Wilson Botanical Garden does better than Lankester because Wilson is part of the Organization for Tropical Studies, which is a research institute that has several sites in Costa Rica. Wilson is able to bring student groups and researchers through the Garden all the time. Wilson's visitation rates are going to be a lot higher than Lankester's.

**Vanessa:** Are there any differences in the Gardens with respect to their functions?

**Prof. Robakiewicz:** The last time I was at Lankester was about five years ago so it's been a little while, but, yes, there are two real fundamental differences in the roles of the gardens. Now, they both are visitable in the sense that the public can walk through both gardens, but Wilson does have that additional aspect of being a biological research site as well. Also, Wilson has dormitories, cabins, and a cafeteria.

**Vanessa:** When you last visited Lankester, were there any places to stay or eat?

**Prof. Robakiewicz:** No, Lankester didn't have either of those. It's definitely a day trip kind of place.

**Vanessa:** Do you think Lankester's location affects its marketability?

**Prof. Robakiewicz:** Well, it's very close to Cartago which is the old capitol, so in fact you can get there by taking a bus to Cartago and then taking another little bus to Lankester. So, I think part of the problem is that Cartago isn't marketed well as a site. Lankester is more like a garden center, in the sense that it's all planted and its close to the old city of Cartago and doesn't have a wilderness aspect about it at all.

**Vanessa:** How did you find out about Lankester when you got to Costa Rica?

**Prof. Robakiewicz:** I read about it in one of the Costa Rican guidebooks initially looking for day trips from San José.

**Vanessa:** Did you purchase the guidebook in the US or in Costa Rica?

**Prof. Robakiewicz:** I got it here in the States. I think the Garden was in the Key to Costa Rica.

**Vanessa:** Does the Garden sell any brochures or advertise itself in any way?

**Prof. Robakiewicz:** Not to my knowledge. In San José, I don't ever recall seeing anything like a pamphlet, flier, or brochure about the Garden.

**Vanessa:** What were your first impressions of the Garden?

**Prof. Robakiewicz:** That it was a bit unkempt, maybe a little bit run down. That there didn't seem to be a lot of interest in attracting many visitors to it. Now the flip side of that. It's a really quiet, peaceful place. I used to go there just to relax because it is a nice contrast to San José. I don't like cities and San José is kind of an unpleasant city with a lot of diesel fumes. So I used to go to Lankester just to spend the day walking around and relaxing. The Garden was great for that. There would be only three or four other people there for the whole day. The Garden clearly had very low visitation rates.

**Vanessa:** How many other people were there in the Garden?

**Prof. Robakiewicz:** Very very few. Very few.

**Vanessa:** Were they mostly indigenous people, Costa Ricans, or were they from other countries?

**Prof. Robakiewicz:** My guess is they were probably mostly European tourists.

**Vanessa:** Are the plants in the Garden labeled? In Spanish or English?

**Prof. Robakiewicz:** Well, there's not a lot of interpretive signage there, but there are labels on things. The Garden was really good about giving the Latin names of the plants and things, which I think, is really really important. I think if you're a serious plant tourist you don't just want common names. I forget whether the labels were in English or Spanish because I'm fluent in Spanish.

**Vanessa:** Did the Garden have any special programs there?

**Prof. Robakiewicz:** Not that I know about, but I never looked for them. Nothing was really obvious. Also, whenever I was on site there, I'm not sure I ever recall seeing anybody who looked like they were in charge. Also, just to add, my reasons for going there are probably different than most casual tourists. I mean I have enough rain forest experience that I just wanted somewhere to be quiet and get out of San José. So there's that little problem. I'm going there with a different bias.

**Vanessa:** Was anything advertised at the Garden, such as slides, films, or events for children?

**Prof. Robakiewicz:** No. No, one time when I was there I know a student group came through. Young kids came there. But I don't remember...I'm a T-shirt collector, and I don't remember there even being T-shirts to buy at that particular point in time.

**Vanessa:** What kind of research do they do at the Garden?

**Prof. Robakiewicz:** They do orchid breeding. So they hybridize orchids.

**Vanessa:** Is the laboratory separate from the Garden? Are tourists allowed to see it?

**Prof. Robakiewicz:** It would have to be separate because you have to grow orchids sterilely. If it were to be a public site it would require going into an incubator facility.

**Vanessa:** Does Lankester have any brochures or booklets that explain their research?



**Prof. Robakiewicz:** Not that I recall, no. And that's certainly something that the OTS sites, including Wilson, all do. They have descriptions of their ongoing research projects that are available for casual visitors to take a look at and if there are long-term sites.

**Vanessa:** Is Lankester part of OTS? Why or why not?

**Prof. Robakiewicz:** No, they're a separate organization. The Organization for Tropical Studies is a consortium of universities. It's just that the things that OTS does are not what Lankester does. The Organization for Tropical Studies is a group that works on natural history settings and things. So things such as plant breeding are not in their venue. So OTS wouldn't have an interest in being involved with Lankester and vice versa.

**Vanessa:** Would orchid growers in Costa Rica want to invest in Lankester? Do you think that there is potential in that?

**Prof. Robakiewicz:** Yeah, I think so. The way that Costa Rica is set up they're pretty open to the involvement of off-shore interests in things that go on in Costa Rica so if people had enough interest in the sort of work in hybridization that they do at Lankester it would be something that would be feasible anyway.

**Vanessa:** What improvements would you make to the Garden?

**Prof. Robakiewicz:** One thing I would do would be make it easier to get to. It's very near San José but you have to take a couple of buses to get there. So, to have something, like a little shuttle bus that maybe ran two trips a day or something like that, that would work. And then a lot of the other things that I think would help there would just be mostly aesthetics, rounding out the plantings, and pruning them. Five years ago, it was a pretty bare bones place. You got the feeling that somebody kind of set this up in their backyard.

**Vanessa:** What do you feel the best way to market Lankester would be?

**Prof. Robakiewicz:** The thing that would have to be focused on is that this is just a little place to get away when you're in the city. A quiet place. Again, what most people are going to Costa Rica for, this place is not providing. It's not wild, it's not out of the way, it's not rainforestry, it's just sort of a quiet little contemplative place which, you know, if you're stuck in San José for a two day layover or something waiting for a flight, it makes a great day trip. One thing that's really hard to find in San José is pretty little places.

**Vanessa:** And that's what attracted you to it?

**Prof. Robakiewicz:** Right, and it cost like a quarter to get in or something. Again, I think part of what would need to be done as I mentioned before was that

it would need to have to be tied in with marketing of Cartago which is the old capital and there's way more history in Cartago. There is the center of town, which is the old blown out fort. The city was destroyed in an earthquake and volcanic eruption a while ago. And there's some sort of ruins, they're contemporary ruins, but there are still ruins there that make it worth, just going to Cartago. It is a nice ten-minute trip because it's different from San José, it's quieter, there's a lot of little local markets and fruit vendors. It gives you a little bit more of a flavor of the country and culture of Costa Rica because San José is very metropolitan. You would think you were in a European city when you're in San José.

**Vanessa:** Have you gone to gardens in the states also? How does Lankester compare?

**Prof. Robakiewicz:** Yeah. I like to visit botanical gardens and arboretums and things like that. The big ones in the United States are over the top. I mean they've got enclosed buildings and landscaped areas and the Lankester would be a lot more comparable to...I don't even know if we have anything like Lankester...it would be a lot more comparable to a sort of a fancy garden center. I don't know if you've ever been to Weston Nurseries, its out on Route 135 and it's a nursery that does huge production of plants and hybridizing plants and then they ship to other places, and then you can buy stuff there. But it has also got a fair amount of landscaping. Lankester is more like that except that it doesn't have all the sales products than just something like the National Arboretum or the Arnold Arboretum in Boston. It's not like that at all.

**Vanessa:** Do you think that it would help if Lankester sold something?

**Prof. Robakiewicz:** Ahhh, I don't know. Again, the thing that they do is orchids, and you can't import export those things and whether there's a local market for that kind of thing, I'm not so sure.

**Vanessa:** What are some other botanical gardens that our group should visit in the Worcester area?

**Prof. Robakiewicz:** Tower Hill, or Garden in the Woods in Framingham. Garden in the Woods actually has an interesting comparison because their specialty there is native plants and they have walks through the woods that have been planted with various native plants and they're all labeled. They also have a souvenir shop and a place where you can buy plants that they propagate there on site. They're all local New England plants and that way its sort of similar because a lot of the orchids that they grow at Lankester are native Costa Rican orchids. If they could recreate somehow displays or a walk that kind of showed orchids in their natural settings and people would go like "Oh this might be really nice to have back home." So I think Garden in the Woods would make an interesting tie-in for you.



**Vanessa:** Well, thank you very much for your help.

**Prof. Robakiewicz:** Okay.

## 19 Appendix L – Interview with Professor Chickery Kosauf

The following interview was conducted with Worcester Polytechnic Institute marketing professor Chickery Kosauf in his campus office on March 30<sup>th</sup>. Professor Kosauf answered questions concerning all aspects of marketing. He started off by giving his definition of marketing and then a few broad examples of how his definition is applicable in today's society. Next he discussed marketing plans, how they should be developed, what they should encompass, whom they should target, and why they are useful. He stressed that a marketing plan should never be developed before the adequate research is conducted; he especially emphasized that the target customers of a company need to be determined before any work on the plan commences. He also talked about developing a marketing strategy. He mentioned that the strategy should not only reflect the marketing plan, but closely follow it in order to achieve all the goals in the plan. He talked a little about marketing departments, and when they are beneficial to a company. Finally, he discussed some advertising strategies and ideas.

We gave Prof. Kasouf some background information about Lankester Botanical Garden before we began asking specific questions about marketing strategies for the Garden.

**Vanessa:** Could you give me a broad overview of what you think marketing is and what you think it should accomplish?

**Prof. Kosauf:** Marketing is an interrelated set of decisions. Basically what you're doing is trying to match the ability of the organization with a market opportunity. In the process of doing that you can separate marketing decisions into four categories, often called the four P's of marketing – product, price, promotion, place. They say place, but the p is actually distribution. So basically,

you get each of those in sets of decisions but you have to think about what the product that you're selling is. Not just features, but you need to think in terms of what are the benefits that somebody gets from using a product or going to a site.

**Prof. Kosauf:** A question for you. Who is Lankester's target market?

**Vanessa:** Well, they are not sure. I don't know if they target tourists or native Costa Ricans.

**Prof. Kosauf:** That's typical. People think about marketing they usually think about selling products. They don't think about the other things that go into it, you know, which are is your product irrelevant, trying to establish a target market, trying to understand the benefits, what kind of research might go into it. One possibility with this project could be to collect some data.

**Prof. Kosauf:** Another question to satisfy my curiosity...Is there a city near Lankester?

**Vanessa:** Cartago, but that's about six kilometers away which is about 2 or three miles. Another WPI professor suggested that maybe Lankester could market or capitalize on Cartago because it's a historical place.

**Vanessa:** Do you think it is feasible for our group to write a marketing plan for Lankester?

**Prof. Kosauf:** Something for to think about in order to write a marketing plan, you have to have a grasp of who you're trying to market to, you have to have a grasp of what they're looking for, what benefits they seek, how they make decisions and how they gather information. If you don't have that stuff then you're not going to write a marketing plan, it's that simple. So maybe rather than trying to write a marketing plan, which I think is basically going to be beating your head against the wall with the amount of information that you have, you may want to propose something that's going to more valuable for them because there's going to be some level of accuracy and integrity. Something you can do instead of a marketing plan, you may want to propose some kind of marketing study. I think you would give them far more value with some decent market research than you're going to do by writing a marketing plan that is basically over your head.

**Vanessa:** Do you think we should survey at Lankester for marketing research?

**Prof. Kosauf:** See one of the problems you're going to run into is trying to increase traffic you could certainly go down there and collect data for the people at the park, but that's like going to a ball park where the team's in last place and asking the season ticket holders why they're there when what you're trying to do is figure out how to get the people who aren't paying money to come in. You're

getting data from the loyal users when you're trying to figure out how to attract the non-users.

**Vanessa:** That's another issue. They were trying to get people grants, then we heard that we'd have to write a grant for them or something. So they want to try to get grants, they want to try to get... Prof. Robakiewicz suggested that maybe some other orchid growers would put some funds into the company. I don't know. It's so broad. And right now, we just handed in our literature review and we covered all these areas, so hopefully we'll get in contact with our liaison because we need to focus on one central thing. We said okay "Do you want to market?" and our liaison said sure, but then near the end of the conversation he suggested we get into fundraising. They both bring in money. Do you think fundraising for the Garden by asking for donations is feasible?

**Prof. Kosauf:** Well, you would have to offer benefits. I'm a member of a few things. I'm not spreading major money around, but I send some money to various organizations because I happen to think they are worthy causes. You can go that route but what is the benefit...when I send a check to the New England Aquarium, there is a benefit. And the benefit isn't just my access because I don't get there more than once a year, of course I'd like to get there more, but I just like the place. I think they're doing intrinsically nice stuff. So I feel that I need to support that. In your case, I would benchmark what similar organizations do. Look at the New England Aquarium. Look at the Worcester Art Museum. How do they do fundraising? What do they do for their membership drives. Don't just depend on people to say you know here's some spare change. Check out the book in the Library on benchmarking, there's a couple by [Kean?] and by [Freeman?]. Look at benchmarking because one of the things that might be of value here is to find out what other similar charities do. Because in the end there's a reason someone gives a check to an organization.

**Vanessa:** Do you think it would be feasible for my group to try to look into the fundraising and then start marketing research?

**Prof. Kosauf:** Again, you're not going to write a marketing plan for the Garden. I mean, the reality is that you will do whatever you have to do to make your advisor happy. If you write a good marketing plan between now and the end of the term it's a miracle. And, I think, if Lankester was more together, and you had to get up to speed, then you could probably do it. But they don't at all have their act together, and you're lacking lots of information. I don't hear any articulation of some of the real basic elements you've got to have to make a marketing plan. I mean, you can't writing a marketing plan if you don't know who your target customer is. You need to articulate the product or services. You need to identify your target market or markets. You need to identify and articulate what your competition is. You need to discuss how your customers are making their decisions and what are the key drivers of those decisions. Included with that, you've got to talk about how the customers get their information, what their media

habits are. Then you get into the elements of price points, a promotion plan. Promotion isn't just advertising. It's like trade shows, sponsorships, and so on. And distribution strategy, on one level you might think that distribution is given because that's where the park is, but you may also want to have outreach programs. For example, the Garden may want to have a series of lectures in the city, which is going to help raise traffic. Also, you need to look at what the Garden is competing with for these tourist dollars. If you're looking at trying to understand customers, you certainly could do some preliminary market research, but the problem that you'll run into is that, again, I don't know if they can be targeted.

**Vanessa:** Do you think Lankester could get funds from the United States?

**Prof. Kosauf:** I don't know, I guess I'm not sure what you're going to get out of this educationally. Investigate their grant money. I mean I just don't know if they could. They may or may not.

**Vanessa:** What do you see as realistic for my project group to do?

**Prof. Kosauf:** I mean you could probably write a simple market research project, but the question is, who are your target customers, who do you expect to be participating in this study? Do these people have enough inns and hotels in San José that you could do a survey of American tourists, a short survey of American tourists. You can, but in most hotels they'd probably throw you out in the street for bothering customers. But if these people have some contacts in San José, it might be very interesting to find out if the target market is people who are flying into San José for vacation, you know see if they've even heard of this place. Find out what they are going to do during their vacation. If they're going to see the gardens. What is it that's important? My suggestion would be to try to convert this project into a combination of fundraising by benchmarking US charities if those are applicable, otherwise benchmarking Costa Rican charities.

**Vanessa:** Thank you so much for your time.

## 20 Appendix M – Interview with Ms. Barbara Pryor

The following interview was conducted with Barbara Pryor, the Public Information Director of the Garden in the Woods. This interview was conducted in the conference room of the Garden in the Woods on April 4<sup>th</sup>. Since Ms. Pryor handles most of the marketing, advertising, and fundraising for the Garden in the Woods, she gave particularly useful information concerning these topics. She started off the interview giving a brief background and some statistics about the Garden in the Woods. She then talked about the type of visitors the Garden gets and where they are typically from. She stressed the mission statement of the Garden and how they used this statement to make their marketing plan and strategy. Next, she discussed marketing and the various ways that the Garden in the Woods does its marketing. She also mentioned what strategies the Garden used to achieve the goals set out in their marketing plan, and what types of advertising techniques have been the most successful for the Garden. Finally, she talked about the different ways the Garden in the Woods fundraises, and what methods were most useful to the garden.

Before the interview began, we gave Ms. Pryor some background information about Lankester Botanical Garden and our project.

**Vanessa:** Tell me a little about the background of the Garden.

**Barbara Pryor:** The Garden itself was founded in 1931. The land was purchased in '31 by a man by the name of Will Curtis who was a landscape artist and designer and a graduate of Cornell University. He was very interested in the naturalistic form of landscape design, which was not typical at that time at all. He was a forerunner of this whole idea of natural landscaping although, if you look



historically back into landscape design in England, you will find that there was a whole time when there was a replication of a quote-unquote 'naturalistic look' when they would create ruins to enhance gardens. But he was more interested in using native plants in the home landscape and the propagation of native plants rather than wild collection of native plants and doing research in the propagation of native plants. At the time that he started this garden, most people were interested in recreating European types of gardens with formal designs and perennial borders. So he bought this property because of the terrain, which is very unusual – it's a glacially sculpted terrain – it has ponds, it has wetlands, and it has a stream. So he bought it with the idea that he could display a lot of different plants and that these plants would encourage people to grow native plants in their gardens and he could display them. Because he was a landscape architect he could show people the kind of work he could do for them. So the garden was not just an opportunity to grow flowers, but also for him to show people the kind of work he could do for them. And he supported the garden through his work. He was joined a few years later by a man by the name of Howard Styles and the two men lived on the property until Curtis died in the mid-sixties at which point Styles moved off the property. Curtis had no close relatives and never married. At the time he bought the property it was farming and truck farming in this area. By the time he reached the mid-sixties, there was a tremendous amount of development in Framingham and the developers were trying to buy the property. He envisioned in his death that everything would just be bulldozed and it would be lost. So he had a friend who was also interested in the New England Wild Flower Society. And this friend arranged for the Society to be the recipient of the garden. The society itself was organized in 1900. And through its history it had always been concerned about the preservation of native plants. And has a long conservation history. So it was a natural meshing of the two, this private garden became a public garden. It became the headquarters for the New England Wild Flower Society and its botanic garden.

**Vanessa:** Who owns the Garden now?

**Barbara Pryor:** The Garden is owned by the New England Wildflower Society. It's one of a number of focuses for the society. The Society is a conservation organization, does conservation for a lot of New England, owns a number of natural areas in addition to the Garden, and it has one of the largest adult education programs of any botanic garden in the country. We offer about 250 education programs every year. We take people on field trips to natural areas throughout New England, have courses on site, have courses at different sites, offer a certificate program in native plant studies for adults, and many people who take this program go on and do other conservation work for other organizations, like the Nature Conservancy or the Natural Heritage programs in each of the New England states. They do field work for us or for any other conservation organizations. So the Society's activities are not limited to the gardens. The Garden is just one area in which the Society is involved.

**Vanessa:** How many visitors come to the Garden annually?

**Barbara Pryor:** We have between 45 and 47,000 visitors a year. That includes people who attend our classes and come to use the Garden for that reason.

**Vanessa:** Where do these visitors typically come from if they're not attending your classes? Are they from the United States, around this area, or out of the country?

**Barbara Pryor:** I don't remember exactly what the numbers are. I know that about 9% of our visitors are international visitors. The majority of our visitors come from New England, but the actual numbers I do have written down somewhere.

**Vanessa:** How do you attract your visitors? Do you have to do that or are you very well known? If so, how are you known?

**Barbara Pryor:** The Garden isn't really well known. It's a small garden, non-profit, run by a non-profit organization so obviously we have very limited funds to market. We market the Garden with the Society, and we market the Garden separate from the Society. We market the Garden as part of the conservation effort for the Society to attract members. And you have our membership brochure there, and it explains what the Society is on one side and if you turn it over it describes the Garden in the Woods and its purpose. So you get both of them in one and that's one way we market the two. For people that are gardeners, we market the garden as a place to find native plants for horticulture reasons. We go about marketing the Garden separately from the Society as an attraction. A place to visit like any other attraction, whether you go to the Arnold Arboretum, or you're going to a museum, or you're going to the aquarium, we look at it as an attraction. And as such, we market it using rack cards, and they get put out in various locations where people go looking for ideas of places to visit.

**Vanessa:** So are these rack cards usually in hotels and other tourist attractions?

**Barbara Pryor:** We do an exchange of things like that with other similar organizations for example with Tower Hill Botanical Garden. We do it at tourist attractions, hotels, motels, local libraries, and we also advertise. We have an advertising program.

**Vanessa:** Is the advertising program specifically for Garden in the Woods?

**Barbara Pryor:** We have an advertising program specifically for the Garden in the Woods, and we have one specifically for our nursery. The one for the Garden in the Woods, is very small in terms of dollars, but what I basically do is



advertise in local newspapers to attract people in the area and in one major newspaper which is the Boston Globe. That's about the limit of what we can afford to advertise.

**Vanessa:** Are there people on the advertising staff?

**Barbara Pryor:** No, I do it all. But last year an advertising firm agreed to do some pro-bono work for us. And they now design all of our ads.

**Vanessa:** They do it for free?

**Barbara Pryor:** Yes. And we look for other support as well for our advertising program.

**Vanessa:** Now what do they get anything out of it or is it just total donation?

**Barbara Pryor:** It is just total donation. These companies can say when they're talking to clients that they do pro-bono work, and this is the kind of thing they do. If people are interested in organizations that offer that kind of support it would be an inducement to put their advertising business with them. Basically they do it as a donation to us.

**Vanessa:** How did you determine the target customer?

**Barbara Pryor:** Well, for example, a number of years ago we did a survey of our members to see what their interests were, why they joined the Society, and why they remained members. I have a woman who's a volunteer who has agreed to organize another survey for us specifically for visitors. We intend to do that this year.

**Vanessa:** Survey just the visitors that come in?

**Barbara Pryor:** And asking them maybe a half a dozen questions. For example, we would ask them how they heard about the Garden. What interests they have, and what their expectations are. And hopefully we could survey them again when they left and ask them if the Garden fulfilled their expectations. Did they have any suggestions or thoughts? So we would limit it really to five or six questions. Would they be interested in membership costs? But we would try to keep it very simple. And we're interested in demographics, what age groups are we attracting. When it came to our philosophy for advertising, it was very simple, we have a very limited budget. We need to get as large a cross section of people as possible. So the major newspaper in this area is the Boston Globe. The calendar for the Globe probably has one of the widest readerships of any promotional piece where people are looking for something to do. In addition to that we said what are the communities adjacent to the garden? That's the second group we advertise to because they again would be the most likely to

come. You know, locally, people are going to be looking to see what they can do nearby and they're going to be looking to see what's of significant interest. We figured that with the limited budget, that's all we could spend. But once we decided that, we spent time looking to see where we could get support for our budget. So, for example, the pro-bono advertising work is one way we get support for an advertising budget. The second way is the Mass. Department of travel and tourism supports promotions of attractions and they reimburse us for a percentage of our advertising budget. We applied for a grant from them, and they agreed to support it. We submit to them the information of what we're going to do, and we submit to them copies of our ads. Then they reimburse us for 30% of our advertising.

**Vanessa:** How did you discover the places that presently donate to you?

**Barbara Pryor:** Mass travel and tourism is a very public agency in Massachusetts, so I think I just called them. We joined one of their conventions of visitor's bureaus, and through that we get the support for our budget. The big thing is the convention of visitor's bureau promotes the Garden as an attraction to tourists. So we're always looking for ways to multiply our budget - a way we can get additional support - a small investment that will multiply what we get.

**Vanessa:** How much income does the Garden make from admission?

**Barbara Pryor:** I don't know off the top of my head how much of our budget is dependent on garden admission.

**Vanessa:** Is it a significant amount or not?

**Barbara Pryor:** Well I think that it's a significant amount but one of the things that you have to be careful about is that a garden like this one is very weather dependent. So you can't make garden admission such an important part of the budget that if you have a rainy spring, which is the time when most people visit us that our whole budget would collapse. You have to estimate at the low end rather than the high end of what you probably would get and recognize that there are outside factors that can affect your visitation that you can't control. And certainly the major factor here is the weather. A secondary factor is the economy. When people have more disposable income, they are more likely to visit attractions and go to museums. If the economy is bad and the public feels that they shouldn't be spending money then that's going to impact the Garden. So these are factors that we really can't control. So, if you're looking at Lankester and they're looking to market themselves, they really need to look not just at what they can do internally to promote themselves, but they also have to see what factors affect them over which they have no control and recognize those, particularly if they're setting goals.

**Barbara Pryor:** In addition to our advertising program, we have a very large public information program. We send out between 100 and 120 press releases every year and as a non-profit, the newspapers put in a lot of information about our activities at no charge.

**Vanessa:** Do you have to write the press releases and just send them in? And they run for free?

**Barbara Pryor:** Yes. We do a press release about spring, about summer, and about the fall. I send them out with slides and pictures, I will tell whomever is writing this up that the images is very important to newspapers these days, or magazines, or book publishers. One of the best ways to promote yourself is to have beautiful pictures of what you do or wonderful pictures showing activities in your garden with people. So we send these out with slides to some newspapers or I'll mark on the back that pictures are available. In addition, we send out special releases. For example, we expanded our nursery, and it is now the largest native plant nursery in New England, so we sent out a press release about it. We send out press releases all over New England, not just in this area.

**Barbara Pryor:** One of the things you should recognize is that if you're going to send a press release to Vermont you'd better send some information about Vermont plants, something that they will focus on. If the press release goes to Maine, it's Maine things that must be stressed because that's what their newspapers are looking for. So if we do all these press releases and we have a variety of mailing lists. We focus the articles on the different mailing lists, and on what we think they would be interested in printing. So you have to understand who the audience is of the newspaper that you're sending it off to because they're going to want to include information that is appropriate to their audience.

**Vanessa:** And you try to send newspaper colored pictures?

**Barbara Pryor:** I send color pictures. And most papers these days prefer that. They'll either use them in color or they'll convert them to black and white, but their first preference is color because that's what their readers want. So we promote the Garden during the season when it's open, which is April 15<sup>th</sup> through the end of October. But we promote the New England Wildflower Society and its activities year round. And if Lankester is open year round, I assume that they will have other activities other than just come and look at our garden. We have a number of other activities here. We sell plants during the season, and we promote plant sales. In the wintertime, we sell seeds. All the activities we have we promote to the public. We can't afford to advertise them, but we do send out press releases.

**Vanessa:** Could you just go over how press releases work one more time?

**Barbara Pryor:** I created a mailing list when I started this job years ago. There are media directories that are printed and they will list all the newspapers, the weeklies, the dailies, magazines for the weeklies and monthlies, radio stations, television stations for all the New England states. And since our audience is all of New England we have a couple of mailing lists for newspapers. One for eastern Massachusetts, which is the area around the Garden. One for the rest of the state which also includes not just the newspapers but editors and freelance writers. We have a lot of writers who write for a variety of media and they want to be on our mailing list. So they're included in that way. And then we have the major newspapers in each of the New England States. We have conservation organizations throughout the region for whatever activity the Society has, we try to come up with a mailing list that's appropriate. Sometimes they're for our education programs and they may have a specific focus. If so, we will create a whole new list just for that. But our regular ones that we use month after month, and we send out press releases every month. We decide every month what we're going to feature in our press releases and who they're going to go to. And then I sit down - either I do it or people who work with me - and we write up the press releases. And we mail them out to hundreds of different media every month.

**Vanessa:** So pretty much your only cost is the mailing cost?

**Barbara Pryor:** And my salary.

**Barbara Pryor:** I just want to add that the results are really tremendous because we're not only in the newspapers but in a lot of magazines. A lot of gardening magazines, and home magazines feature the garden in one way or another. So although we have a very small advertising budget which I think is about \$14,000 per year, our overall promotion budget includes all of this publicity. We're also very fortunate in that we have received major donations of images, and we have a business that replicates slides and makes duplicates. They make thousands of duplicates for us every year at no cost, just a donation. We have photographers that donate their slides to us, and we have a company, a business that duplicates them at no charge to us.

**Vanessa:** Do these pictures go in your press releases most of the time?

**Barbara Pryor:** Yeah. And all the press releases will say that we have them available to those particular newspapers or writers that I know probably use them I sometimes just enclose them. In fact the other thing that I do which is part of dealing with the press or the media, is that I get to know the people from the newspapers and magazines. So part of this is not just sending the press releases out, but getting to know the people who work for the organizations. If something special is coming up, I call them directly and say "Will you promote this for us?" I explain why it's a wonderful activity and why their audience would be interested in it if it's a family activity, I might call somebody who features



programs for children. There are columns that are written in the newspaper just for families. There are columns that are written just for gardeners. There are education areas. So we get to know who the people are in those areas, then I phone them. And the other thing we try to do that I think is really important is, because we're a non-profit and because we don't have a lot of money, I feel that we have to be more responsible when we do get requests. So when we get requests from the media we try to respond very quickly and send them out the information that they want. Even if it may not have a direct impact on what we're doing. For example, we got a call from the food section of the newspaper and they wanted to include plants, wild edible plants and they had a list of plants that they wanted.

**Barbara Pryor:** A lot of times, newspapers will call us and say do you have pictures of this plant, and, even though they don't promote the Garden, I'll still send pictures off to them. I do this because I know that if something comes up in the future and there's an opportunity for them to do something about the Garden or the Society or the program that they will be cooperative and willing to do that for us. I don't really look at it like tit for tat, but over a period of years it probably evens out. We just can't expect that it's going to happen right away. That's a big part of our market.

**Vanessa:** Concerning fundraising, where does the Garden get donations from?

**Barbara Pryor:** We get donations from companies that we buy from. We get donations from people that we buy print material from, like people who print our catalogs and magazines. We also get donations from private individuals. Twice a year we do an actual appeal. We do a fall appeal for general operating expenses for the Wildflower Society and in the spring we do an appeal for the Garden in the Woods. And in the fall, we're talking the year-end, so for tax purposes people are interested in making donations. A lot of people make their donations at year-end in order to decide what they're going to donate for the year.

**Vanessa:** Now, are these usually visitors that make the donations?

**Barbara Pryor:** No they're usually our members. Our appeals go out to our members. And we have about 5000 members. That's the New England Wildflower Society memberships. So a lot of gardens have members and usually there are benefits associated with membership.

**Vanessa:** Do you ever have any visitors that donate any money? Do you ask them?

**Barbara Pryor:** Occasionally, but we really don't. It's more of an admission charge. And then if they're really interested in supporting the organization they'll become members of the Society. In addition, we do write grants to foundations

requesting money for specific things. For example, Mass cultural council supports cultural organizations throughout the state and they give grants for various things. They may be for specific projects, they may be general operating expenses, but they have different types of grants that they give. So, that's one of the things I do a little of, but our director does most of it. There's a grant maker's book, you can actually purchase a book that outlines different foundations, what they make grants for, the amounts for which they make them, and the names of contact people. So those are private foundations. In addition to that, there are state and federal agencies that sometimes make grants. We don't get a lot of grants in either way, most of our grants come from private foundations. We get money from something called IMLS, it's a quasi-federal foundation and it supports different museums and libraries across the country. You do have to apply for grants, and many times their standards and requirements are very high. It takes a long time to get them. But that's another way of supporting an organization. Support from the Wildflower Society obviously comes from our membership, from garden admissions, from plant sales, or sales of a product of some kind whether its books in our bookstore, or plants, or gifts. Money also comes from donations by members, and from grants from foundations or state and federal agencies.

**Vanessa:** You talked about the special events that you had and they're usually successful at bringing in a lot of people?

**Barbara Pryor:** Right. A lot of times.

**Vanessa:** Does the Garden have a mission statement?

**Barbara Pryor:** It's in the brochure. The purpose of the Wildflower Society is that it is a conservation organization, and through conservation we educate the public about conservation. We use the Garden in the Woods as a horticultural attraction to promote conservation. We also do some advocacy to promote conservation in other ways. So if you read the mission statement, you will realize that not all of our events are intended to be fundraisers. Some of them are intended to educate people. Some of them are intended to encourage the community to find out more about the Wild Flower Society. For example, we do an Earth Day celebration and we offer free admission, garden tours, a series of family activities, and live animal shows. This is all coming up April 24<sup>th</sup>. It's really an opportunity for members from the community to visit the Garden, particularly there are a number of people for whom the admission charge is a substantial amount.

**Vanessa:** How do you fund this activity coming up? Do you get donations?

**Barbara Pryor:** The Boston Globe is underwriting the cost of everything, and it's the fifth year they've done that for us. We apply - I write a little grant every year asking them to fund it and they've done it every year. It's a great community

outreach both for us and for them. We tell everybody that it's their support that allows us to do it, and they're very generous about it. So we can look for businesses to support specific activities and they'll do that. Then there are other things that we do, little incentives. If you look at the rack card, you'll notice on the back there's a 20% discount on admission. We do a display at the spring flower show, and, in the handout that we offer, we were really trying to promote our nursery, so that's a discount for people who come to the nursery and purchase things.

**Vanessa:** Do you have a web site?

**Barbara Pryor:** Yes, we have a web site that gets thousands, about 10,000, visitors a month.

**Vanessa:** Do you think that's been advantageous to promoting the Garden?

**Barbara Pryor:** Yes, very much. We have about 10,000 people a month that visit our web site, which isn't like 100,000 a day but the number is going up every month.

**Vanessa:** Now is the web site updated often?

**Barbara Pryor:** There's two ways we look at the web site. One is that we put things on the web site that have a long time use. Information about conservation doesn't change. We put on our seed and plant catalog when it's available, and we'll probably put on our nursery catalog, too, but those are not the things that change daily. And in fact, we won't go in and change the web site just because a course is over. We don't have somebody on staff who can spend that kind of time on our web site. So we try to update it on a regular basis, putting things on and taking things off, but we don't do it on a daily basis. It may be every couple of weeks or every month. But when something new comes out we do put it on the web site as soon as we can. For example, we are no longer selling seeds so our seed and plant catalog has been taken off the web site. But, for example, we did a magazine on rare and endangered plants in New England and a lot of that information isn't time dated. So that can stay on the web site indefinitely. We have a lot of people who are interested in rare plants so this is an opportunity for them to find out about rare plants in New England. So that doesn't come off.

**Vanessa:** Do you have research going here in the Garden?

**Barbara Pryor:** We have research on rare and endangered plants, the cultivation of them. That's part of the conservation program of the Society. We administer something called the New England Plant Conservation program, which is a collaboration of more than 65 conservation groups throughout New England. Some of them are public, some of them are private.

**Vanessa:** Do you ever have private researchers use your facilities?

**Barbara Pryor:** Occasionally, we will supply plants or seeds. But most of the time we will get government contracts to do research on a specific plant. What we really try to do is recognize what the purpose of the Society is, and what we do should stay within that focus. We try to do what we do very well. But we can't do everything. But if you do what you do really well, that's fine. Over a period of years we have tried to come up with various promotion pieces that can ultimately can be put together as part of a press packet. Everybody can put their business card in it, and we have some special stationary that goes along with it. We're about to start a capital campaign for our centennial, which will be in the end of the year 2000. We'll be using those kinds of things, and I'm using that as part of our press packet for a grant that we got from the Mass Department of Economic Development and Travel and Tourism. They're funding a garden trail guide.

**Vanessa:** Do you give guided tours?

**Barbara Pryor:** We give guided tours by reservation and we give guided tours every day at 10 o'clock except on Sundays. Every day the Garden is open except Sundays. People can reserve tours for groups of ten or more. There are other people who just come, and they'd really like some way to get information so we are creating a self-guiding booklet that will be keyed to numbered stakes in the Garden, and as part of a tourism promotion. The Mass Department of Economic Development and the Massachusetts Department of Travel and Tourism offered grants to pay for these different promotional pieces to encourage tourists, and we were fortunate enough to get one of those. So, that's something that will be done in June. When you have such a limited budget and you can only do so much because you have a limited staff, you really have to decide what will give you the most bang for your buck and what will give you the most for your time. You want things that you can use over and over again and that can be part of a packet that you can put together over a period of years. Sure, you may not be able to do it all at once in the first year, or even the second year, but after three or four years you can have something that is really terrific. So a lot of it is long term planning, it's not just planning for the short term. Saying this is what we're going to do in three years, this is what we really want to have done. We're going to get this done by this time and this done, and you create a timeline and that's the way you get the work done.

**Vanessa:** Who else is on your staff?

**Barbara Pryor:** The Publications Manager, who handles the magazines. She also does the web site and some other publications as well. We have a Public Information Assistant, who works part time for me and part time for the education department. She does some writing of press releases and she'll be maintaining our database for our different mailing lists. She'll also be doing special projects for the department.



**Vanessa:** So, altogether there's three of you?

**Barbara Pryor:** There's two full time and one part time.

**Vanessa:** Do you have any final recommendations for me?

**Barbara Pryor:** Well, I think the big thing for any organization to get started is they need to set what their mission is. What their purpose is. And when you decide what your mission is, you can focus on how you want to accomplish it with the resources that you have. Your resources may be very limited to begin with, but they may expand over a period of years.

**Vanessa:** Yeah, it also depends on the progress that you make. Thanks very much for your time and help. My project team really appreciates it.

## 21 Appendix N – Interview with Gail Hewson

We interviewed Ms. Hewson of Wilson Botanical Garden with the intention of gaining information primarily concerning fundraising and marketing aspects of the Garden. In our interview with Ms. Hewson, we asked her questions concerning four topics. The first topic dealt with personal questions for Ms. Hewson such as when she started working for the Garden and what her current job responsibilities are. The second topic discussed fundraising for the Garden such as which foundations support it and how it stays in touch with major donors. The third topic in our interview dealt with marketing issues at Wilson including how its marketing process works and whether or not the Garden has special arrangements with tour agencies to promote itself. The final topic encompassed general questions concerning the Garden. Ms. Hewson's responses to the interview questions are summarized below.

### Personal Questions for Ms. Hewson

#### 1. How did you begin working at the Garden?

In 1988 Ms. Hewson visited La Selva, one of the three biological stations of the Organization for Tropical Studies (OTS) and fell in love with it and the idea of rainforest research. She wanted the chance to help raise money and do public relations for the field stations – La Selva, Las Cruces, and Palo Verde - owned by OTS. She quit her job as a member of the personal department in a large San Francisco law firm, but used her connections there to open up contacts to OTS.

#### 2. What are your duties and responsibilities at the Garden?

Ms. Hewson is the associate director of Wilson Botanical Garden. The two main areas that she is in charge of are Development and Visitor Service for the Garden. Some of her jobs under the topic of Development include raising money for the Garden - this year she had to reach \$88,000 - and editing the Garden newsletter entitled, *Amigos Newsletter*. This newsletter includes articles about

botanical gardens, recent research conducted at the Garden, and articles that are designed for the biological layman. Every person who visits the Garden receives a copy of the newsletter as well as letters asking for donations, and the average gift is \$50. Under the topic of Visitor Service, Ms. Hewson does personal relations. She organizes and gives the orientation lecture at the Garden as well as being the “hostess” of the Garden. She also maintains quality control of housekeeping and food service. Finally, Ms. Hewson performs some random jobs at the Garden which include taking pictures of the Garden and finding art to put into the newsletter.

3. What is the management hierarchy here at the Garden? How is your marketing department organized?

She gave us the following list:

Director: Luis Gómez

Associate Director: Gail Hewson

Station Manager: Emilce Ramírez

Administrative Assistant: Charles Acuña

Maintenance Manager: Mario Murillo

Station Naturalist: Carlos Valerio

She added that the Station Manager handles the financial management of the Garden and that the Administrative Assistant is in charge of the doing the payrolls and overnight reservations for the Garden. She also mentioned that there is one store worker and twenty two other full-time employees, six of which are gardeners and the rest are housekeepers.

### **Fundraising:**

1. Which foundations in the United States provide funding for Wilson Garden?

The Garden is financially governed by OTS and receives the majority of funds from there. Ms. Hewson went on to explain where OTS acquires its funds. All of the 57 colleges in the OTS consortium pay an annual fee of \$7,000. This money the OTS collects then goes to where it is most needed within its three field stations. Wilson also receives funds from the National Science Foundation (NSF) for scientific research, but not on an annual basis. Ms. Hewson stressed that the Mellon foundation is a major supporter of OTS, while the Stanley Smith Foundation Trust is a crucial supporter of Wilson. Also, Wilson gets money from many smaller family foundations such as the Winslow foundation for land acquisition.

2. How were these foundations identified?

This is done in OTS' North American offices, although Ms. Hewson does send the Amigos Newsletter on behalf of Wilson to all of the foundations that donate to the Garden.

3. How long has the Garden had an office at Duke University? How was it established?

Wilson has had an office at Duke since very near the beginning of the formation of OTS. It was formed around 1965. OTS originated in the state of Florida originally, but the Executive Director of OTS is Donald Stone, a botanist at Duke, so the OTS office was stationed there.

4. How does Wilson maintain communication with major donors?

Since the majority of donors to the Garden are from private individuals, personal contact is important from the beginning. Ms. Hewson sends letters and photographs to the major donors and even visits them when she is "in the area".

5. What companies in Costa Rica donate to the Garden?

United Fruit/Standard \$10,000

Marriot Hotels \$ 1000-5000

6. What kind of information do the databases on donors contain? Where is this information obtained from?

The database contains the name, address, and for prior donors, the amount of the donation is included. This database is kept updated and is updated in the "crunch time", before Wilson mails out its bi-annual newsletter to everyone on the database (around 900 people).

7. What kind of events for the Garden are held in San José?

Only one event for the Garden is held in San José; its an annual gala event/appreciation night for all contributors to OTS in Costa Rica. Friends of the Garden are invited as well.

8. Do researchers at Wilson pay to use the facilities?

Researches pay \$45 a night to stay at Wilson while conducting their research, but actually pay no cost to use the laboratory.

Birders and tourists pay \$72 per night including meals, and students, including Ph.D. and Masters candidates pay \$31 a night including meals.

**Marketing:**

1. Can we have an overview of how the marketing process at Wilson works?

Wilson does not have much of an advertising budget, so it relies on word of mouth and guidebooks as well as its website and newsletter to market the Garden. Also, major tourist companies and Birders from all over the world know about Wilson.

2. What kind of special exhibits does the Garden offer? When?

The Garden does not offer any special exhibits; it just has the Gala event every April or end of March in San José for donors to Wilson and OTS. Wilson did have a cook-out/plant sale with the people in the local town of San Vito, but it did not attract many people.

3. Does the Garden have any kind of special relationship with travel agencies? If so, which ones?

The Garden does not really have any special relationships or deals with travel agencies. Usually travel agencies come to them to organize tours through the Garden. The majority of visits to the Garden are initiated in the US. Two of the best travel agencies in Costa Rica, Horizontes and Costa Rica Expeditions bring a lot of people to the gardens and they have excellent guides.

Iliana DeTeran, “an orchid lady” set up her own foundation that protects orchids SACRO (Save Costa Rican Orchids).

**General Garden Questions:**

1. Who do you purchase the majority of your supplies from?

Local Hardware stores and different printing agencies in San José, whichever stores or agencies give the best rate.

2. Can we have some more information on the Friends of Wilson Garden?

They receive a newsletter and make private donations to the Garden. There is no kind of annual event held for them.

3. How many annual visitors are there?

There are about 2,500-3,000 annual visitors not counting students or researchers. About 1,000 to 1,300 are day visitors, who are locals from Southern Costa Rica. Another 250 day visitors are foreigners who stay in San Vito. There are about 800 overnight visitors that stay mostly between November and April.

4. What percentage of visitors come with tour groups?

Most visitors come with tour groups.

5. What is the Garden's annual budget?

It is around \$360,000 per year.

**22 Appendix O – Members of the OTS**

University of Arizona	Universidad Estatal a Distancia
Arizona State University	University of Florida
Auburn University	Florida International University
University of California - Berkeley	University of Georgia
University of California - Davis	Harvard University
University of California - Irvine	University of Illinois - Indiana University
University of California - Los Angeles	Instituto Tecnológico de Costa Rica
University of Chicago	James Cook University, Queensland, Australia
University of Colorado	University of Kansas
University of Connecticut	University of Kentucky
Cornell University	Louisiana State University
Universidad de Costa Rica	University of Louisville
Duke University	Urbana/Champaign
University of Maryland	University of Minnesota
University of Massachusetts - Amherst	University of Missouri - Columbia
University of Miami	University of Missouri - St. Louis
University of Michigan	Museo Nacional de Costa Rica
Michigan State University	Universidad Nacional Autónoma
University of North Carolina	Rice University
North Carolina State University	Rutgers University
Ohio University	Smithsonian Institution
Oregon State University	Southern Illinois University
Pennsylvania State University	State University of New York - Stony Brook
University of Puerto Rico	University of Tennessee
Purdue University	Tulane University
USDA Forest Service Research	University of Wisconsin - Madison
University of Utah	Yale University
University of Washington	
Washington University	

## 23 Appendix P – Orchid Grower Questionnaire

This questionnaire was sent via email to eighteen orchid growers/wholesalers by the 1996 IQP “Exploring the Marketing Possibilities of the Rainforest Aerial Tram” team.

### COVER LETTER

We are students at Worcester Polytechnic Institute. This summer we are going to Costa Rica to study several unmarketed species of orchids. We were wondering if you could take the time to fill out this questionnaire about your knowledge of orchids and/or marketing value of them. Any responses would be greatly appreciated. If you have additional information or comments, please feel free to write them at the bottom of the questions. Your email address was found via your webpage. We sincerely thank you for your time.

Teleferico Project Group

Josh Brotherton  
joshb@wpi.edu

Rich Riccio  
rich3@wpi.edu

Leslie Mauriello  
elsie@wpi.edu



## QUESTIONS

1. How popular are orchids?
2. What species is most popular, and why? Does cost effect this decision?
3. What season gives the greatest demand for orchids?
4. What do people look for in an orchid? Most popular desired quality?
5. How do people choose them? What are other qualities about orchids that people find desirable?
6. What types of arrangements are orchids used in?
7. Are orchids generally bought for private use?
8. What is the duration of the flower's bloom?
9. Are orchids perennials or annuals? Are some neither?
10. How are orchids generally sold? Pots, seedlings, arrangements?
11. What type of facility is needed for growing orchids? Grown in wild?
12. How many times (perhaps per year) do you order orchids? What do you do with wilted flowers?
13. How are orchids shipped? How do you receive them?
14. Any information on shipping regulations? Import / export?
15. Pricing: What determines prices? How do you go about pricing new species?

## 24 Appendix Q – Shipping Costs

### Prices for Gateway Agency in Miami, Florida

#### Rates for articles imported into the US:

Customs Entry Fee	125.00 per shipment
Messenger Service	25.00 per shipment
Bond Fee (\$35 minimum)	3.50 per \$1000
Per Classification	5.00 each classification
Per Additional Container	10.00 per container
Re-forwarding	10.00 per shipment
Postage and Petties	5.00 per shipment

#### Additional charges on imports:

Fax Transmissions	15.00 per transmission
Food & Drug Application	25.00 each
Wildlife Application	25.00 each
Plant Quarantine Application	25.00 each
Overtime Charge (\$60 minimum)	30.00 per hour
Missing Documents Cancelation	15.00 each
Marking Notice Handling (\$60 minimum)	30.00 per hour

## 25 Appendix R – Orchid Project Contacts

### Botanical Gardens:

North Carolina Botanical Garden  
<hankd@ils.unc.edu>

Boyce Thomspon Southwestern  
Arboretum  
<borchers@webcom.com>

Devonian Botanic Garden  
<mbedford@gpu.srv.ualberta.ca>

Catalina Island  
<allanfone@aol.com>

### Orchids Societies:

Ann Arbor Orchid Society  
Connie Jo-Crancer Bailie  
<cbailie@umich.edu>

### Orchid Growers:

Hoosier Orchids  
8440 W 82<sup>nd</sup> St.  
Indianapolis, IN 43278  
Fax (317) 291 8949

Oak Hill Gardens  
Box 25  
W. Dundee, IL 60118-0025  
Fax (708) 428-8527

Bergstrom Orchids  
Box 1502  
Keaau, HI 96749  
Fax (808) 982-6047

Andy's Orchids  
734 Oceanview Ave.  
Encinitas, CA 92024  
Fax (619) 632-8991

### Gift Shops:

The Don Carlos Hotel  
Calle 9, Avenida 7 y 9  
San José, Costa Rica  
Tel 221-6707

### Shipping Companies:

United Parcel Service  
Tel: 257-7447  
Fax: 257-5343

### Permit Information:

Ministerio de Agricultura y Ganaderia  
Calle 1, Avenida 1  
San José, Costa Rica  
Tel: 22-29-65

Costa Rican-American Chamber of  
Commerce  
c/o Aerocasilas, PO Box 025216  
Miami, FL 33102-5216  
Tel: 20-22-00  
Fax: 22-02-300

### Orchid Laboratories:

Instituto Nacional de Aprendizaje  
Bolívar Jimenéz Venegas  
Alejuela, Costa Rica  
Tel: 232-4422, ext. 344  
Fax: 231-3197

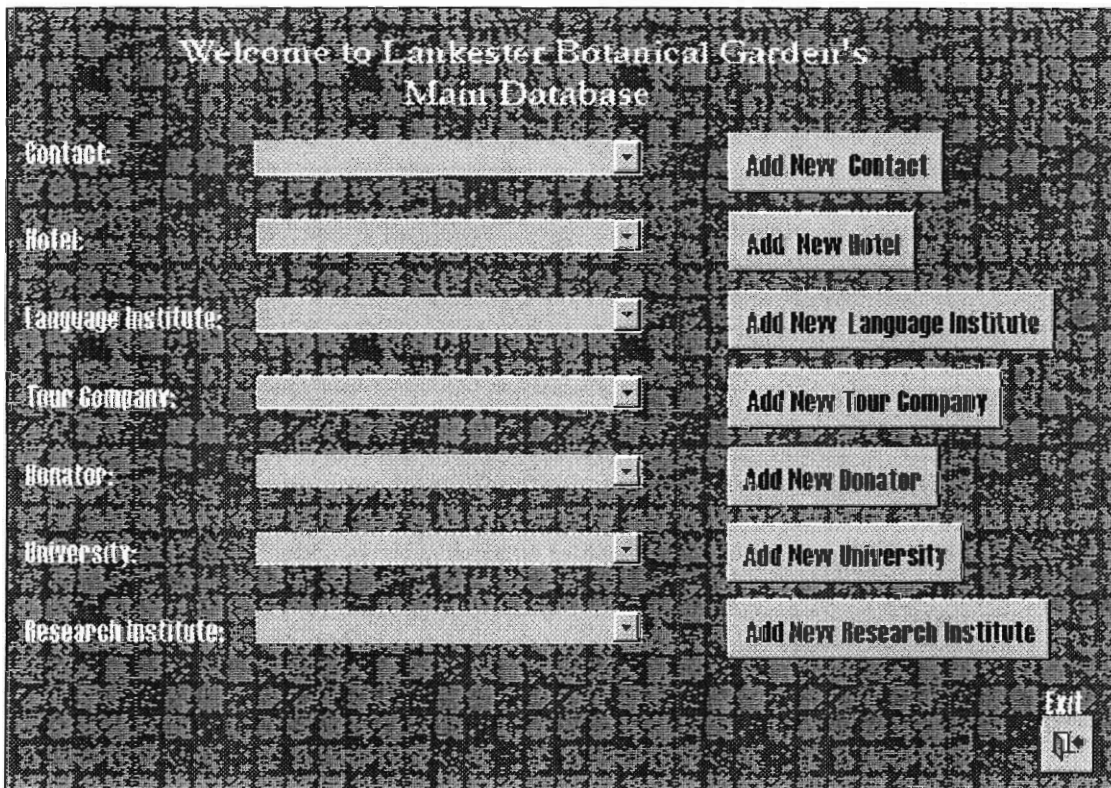
Jardín Botánico Lankester  
Jorge Warner  
Tel: 551-9877

## 26 Appendix S – Database User Manual

### 26.1 Opening the Database

1. Double-click on the database icon. Microsoft Access will open and display the *Lankester Botanical Garden Master Database* window, as shown in Figure 26-1.

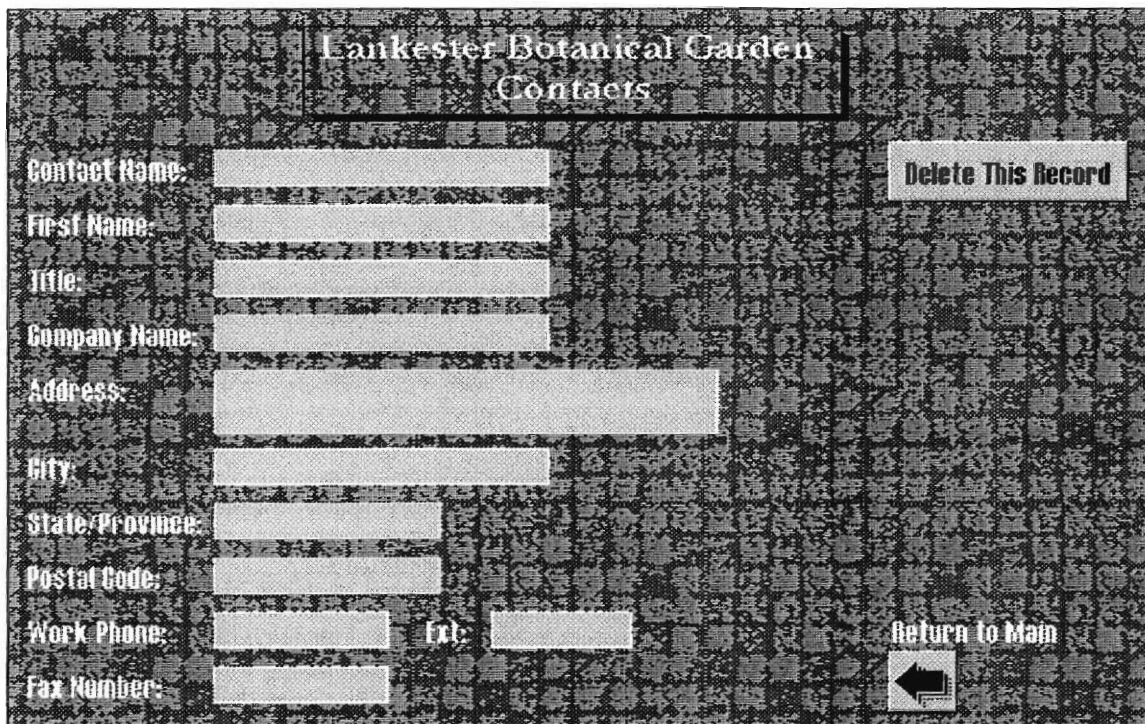
Figure 26-1: The Main Database Page



## 26.2 Adding a New Record

1. Open the database.
2. Click on the button corresponding to the type of record you wish to add. Another window will open displaying an empty record. (See Figure 26-2.)

Figure 26-1: Example of an Empty Database Record



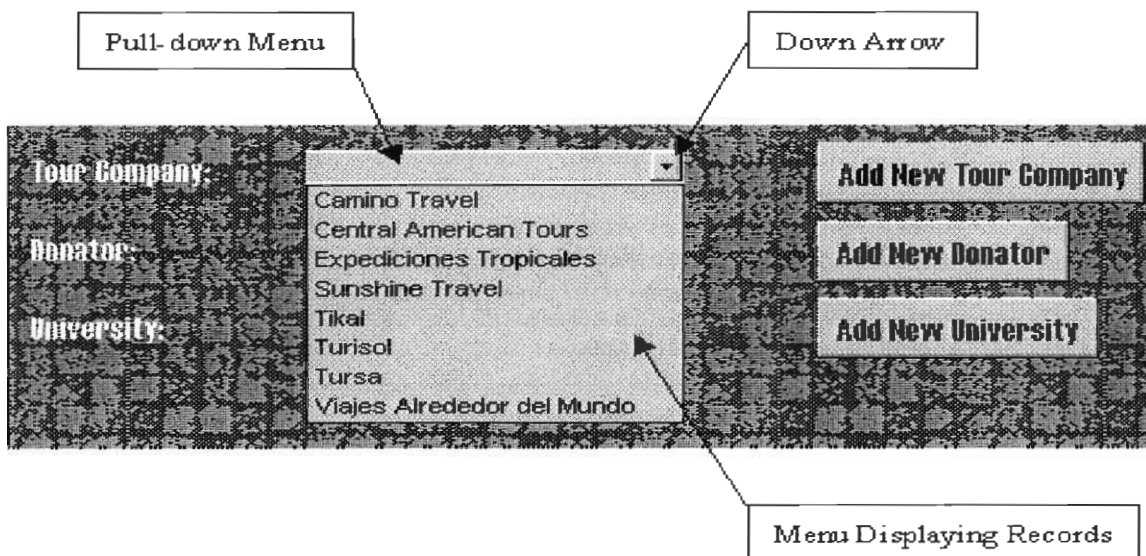
The screenshot shows a web form titled "Lankester Botanical Garden Contacts". The form contains several input fields for contact information: Contact Name, First Name, Title, Company Name, Address, City, State/Province, Postal Code, Work Phone, Ext., and Fax Number. There are two buttons: "Delete This Record" in the top right and "Return to Main" in the bottom right, which includes a left-pointing arrow icon.

3. Fill in the information.
4. Choose one of the following:
  - a. To save the record and return to the Main Page, press the button *Return to Main*.
  - or
  - b. To return to the Main Page without saving the record, press *Delete This Record*.

### 26.3 Opening a Record

1. Open the database.
2. Click on the down arrow next to the pulldown menu of the type of record you wish to view. A menu will appear displaying the records of that type in alphabetical order, as shown in Figure 26-3.

Figure 26-1: Example of a Pull-Down Menu



3. Click on the record you wish to open. If the record is not visible, use the scroll bar on the right to scroll up or down until you see the record you want. Then click on it.
4. Once the record opens, you may view it, edit it, or delete it.
  - a. To edit it, simply click on the field you wish to change, and the type in the new information.
  - b. To delete the record, press *Delete This Record*.
5. To return to Main and save any changes, press *Return to Main*.



## 26.4 Editing the Database Itself

**IMPORTANT NOTE: Do NOT edit the database unless you are familiar with Microsoft Access!**

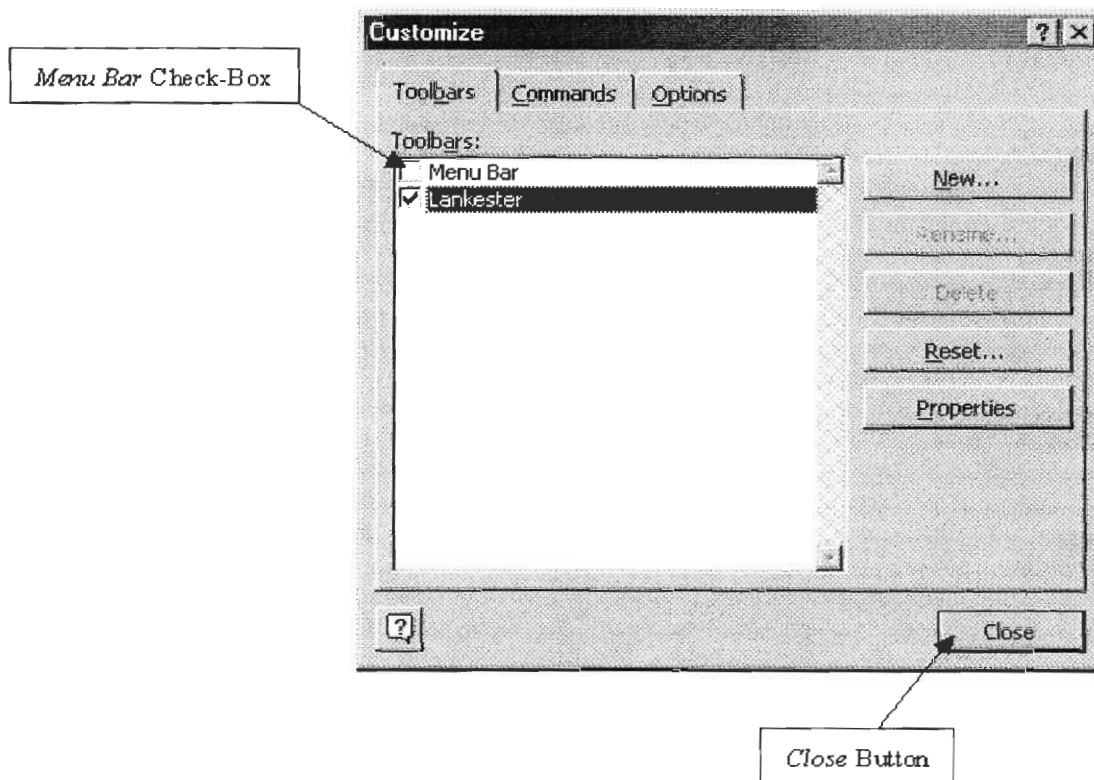
1. Open the database.
2. Right-click on the menu bar at the top. A window will pop-up with one option: *Customize* (See Figure 26-4). Click on *Customize*.

Figure 26-1: Changing the Toolbar



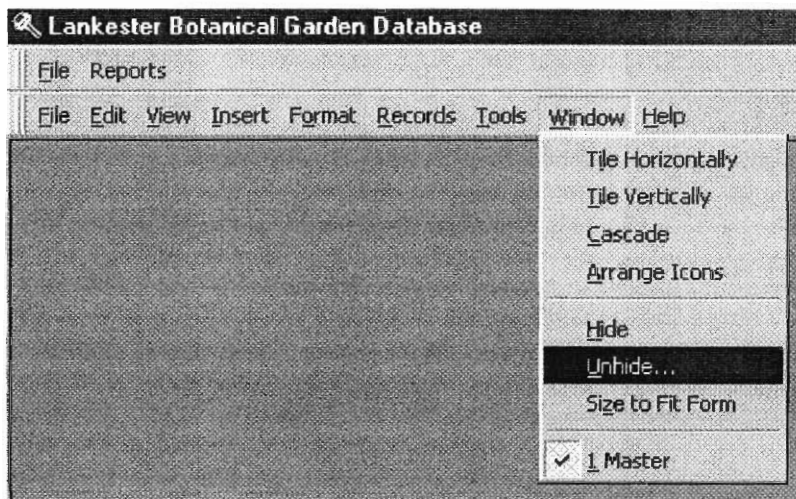
3. Another window will appear (See Figure 26-5). Click on the check-box next to *Menu Bar*. A menu will appear at the top of the main window. Press *Close*.

Figure 26-2: Un-hiding the Default Menu



- Click on the *Window* Menu and select *Unhide* (See Figure 26-6)

Figure 26-3: How to Unhide the Database Window



- In the resulting window, double-click on *Lankester Database : Database* (See Figure 26-7).

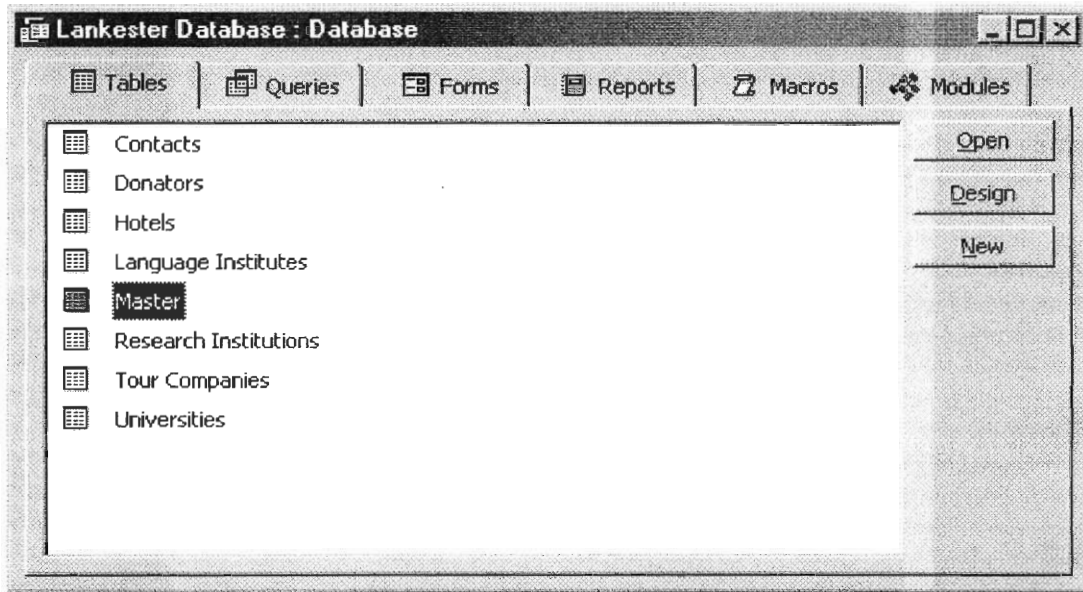
Figure 26-4: The Unhide Window





6. The database window will appear (See Figure 26-8). You can now edit the database.

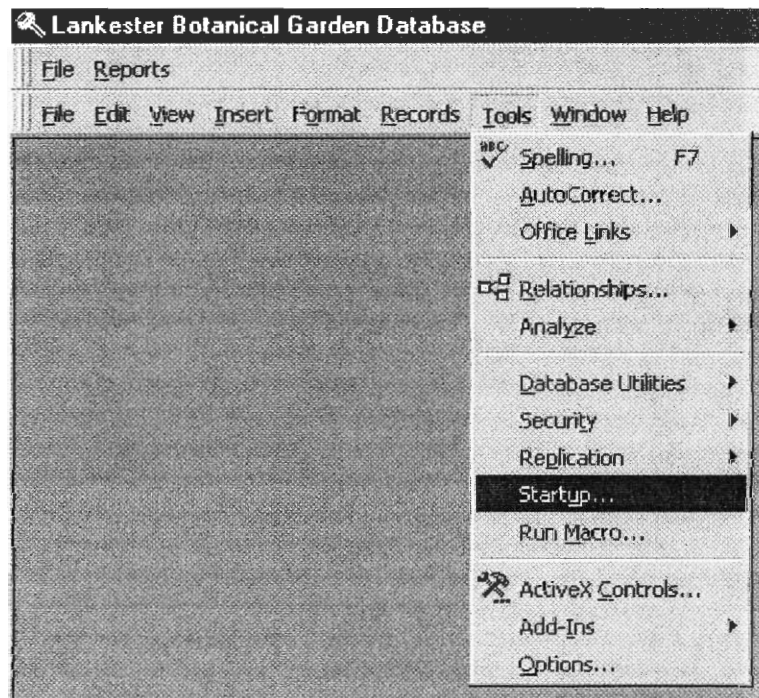
Figure 26-5: The Database Window



**NOTE:** *The next four steps explain how to set up the startup options so that you do not have to do the above 7 steps every time you start the database. Follow the next four steps only if you plan on editing the database over a long period of time.*

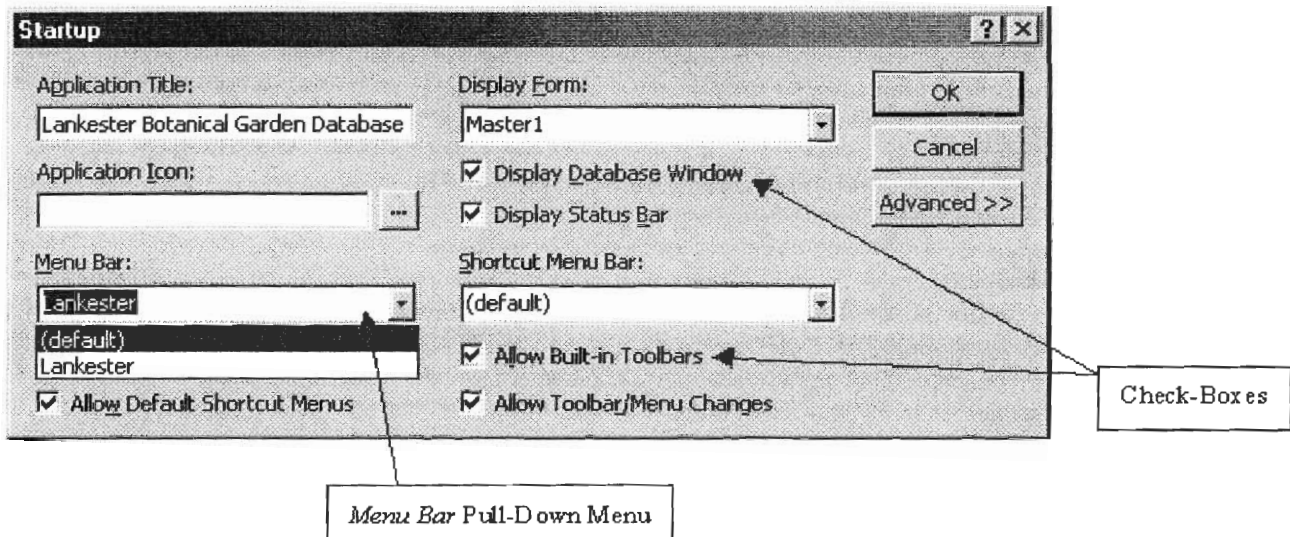
7. Click on the *Tools* menu and select *Startup...* (See Figure 26-9).

Figure 26-6: How to Change the Startup Options



8. In the resulting menu (See Figure 26-10), click the down arrow next to the *Menu Bar* pull-down menu. Click on *(default)*.

Figure 26-7: The Startup Options Window



9. Next, check the two check-boxes *Display Database Window* and *Allow Built-in Toolbars*. Then click *OK*.
10. It is now possible to edit the database immediately on start-up.

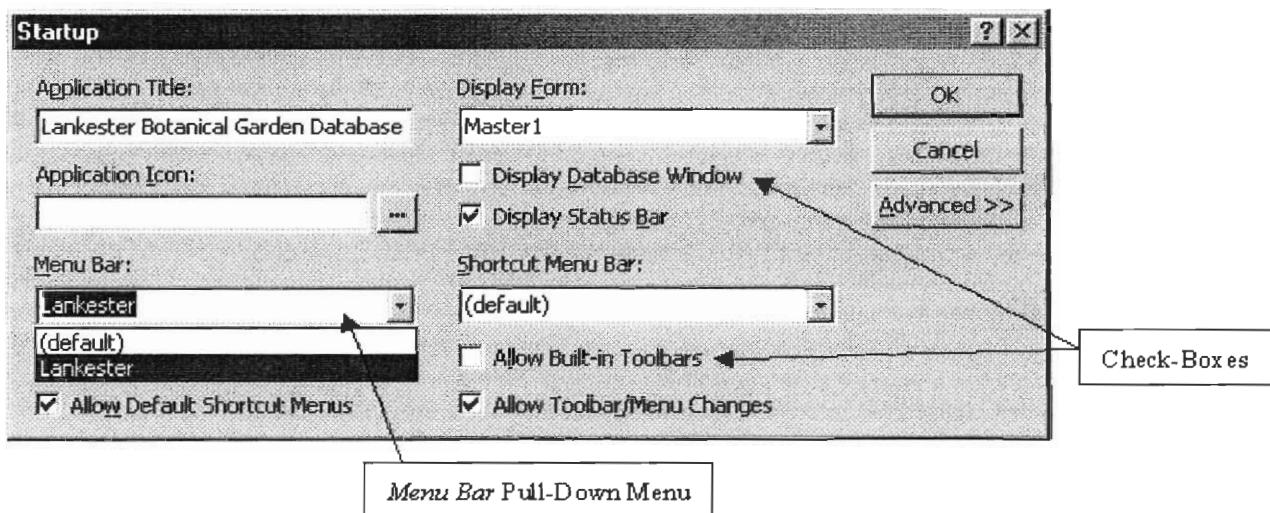
**It is strongly recommended that after finished editing you protect the database by following the steps in the next section (26.5). Not doing so can compromise the integrity of the database.**

### 26.5 Protecting the Database's Integrity

**NOTE:** *These steps are only necessary if you have followed steps 7 – 10 in the previous section (20.4). If you have done so, it is strongly recommended that you follow the next steps to protect the database.*

1. Click on the *Tools* menu and select *Startup...* (See Figure 26-9).
2. In the resulting window, click on the down arrow next to the *Menu Bar* pull-down menu (See Figure 26-11).

Figure 26-1: Establishing the Database Integrity

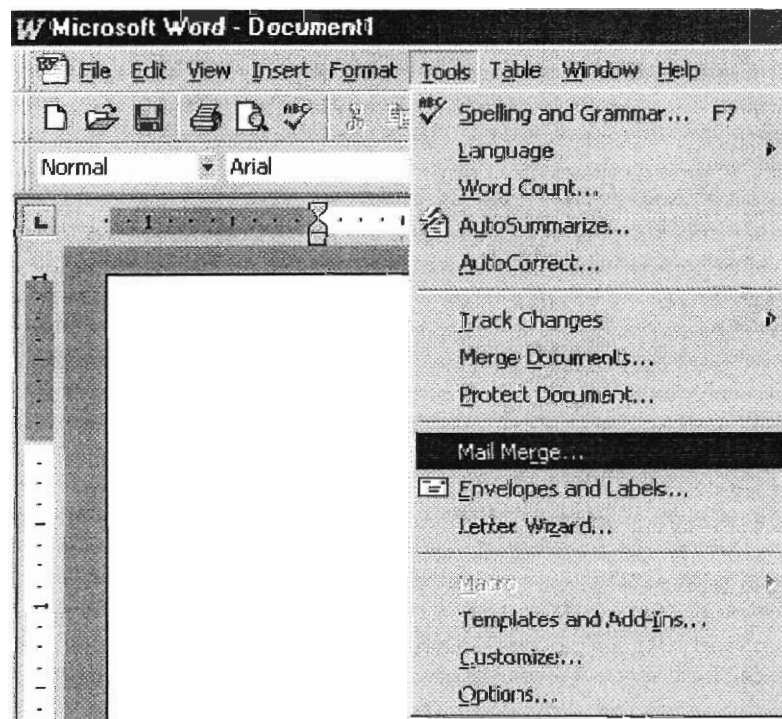


3. Now, un-check the *Display Database Window* and *Allow Built-in Toolbars* check-boxes. Click *OK*.
4. Close the database and re-open it to finish establishing the database's integrity.

## 27 Appendix T – How to Create a Form Letter

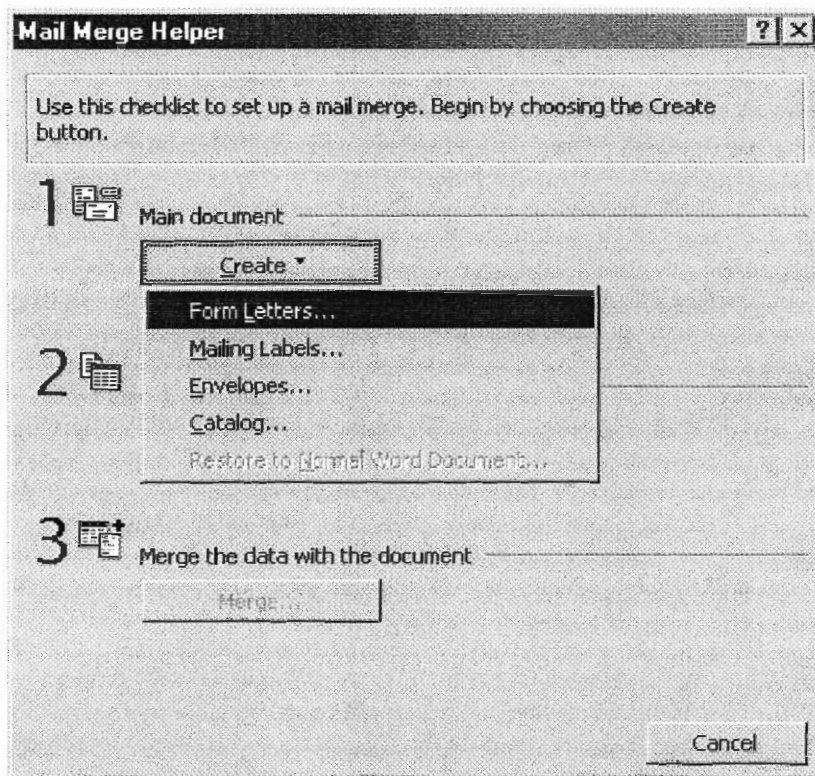
1. Open Microsoft Word.
2. Click on the *Tools* menu, then select *Mail Merge* from the resulting drop-down menu (See Figure 27-1).

Figure 27-1: How to Select a Mail Merge



3. A window will appear, as shown in Figure 27-2. Click on *Create*. Select *Form Letter* from the drop-down menu. Then choose one of the following:
  - a. If the document is already written and open, select *Active Document*.
  - or
  - b. If the document has not yet been created, select *New Main Document*.

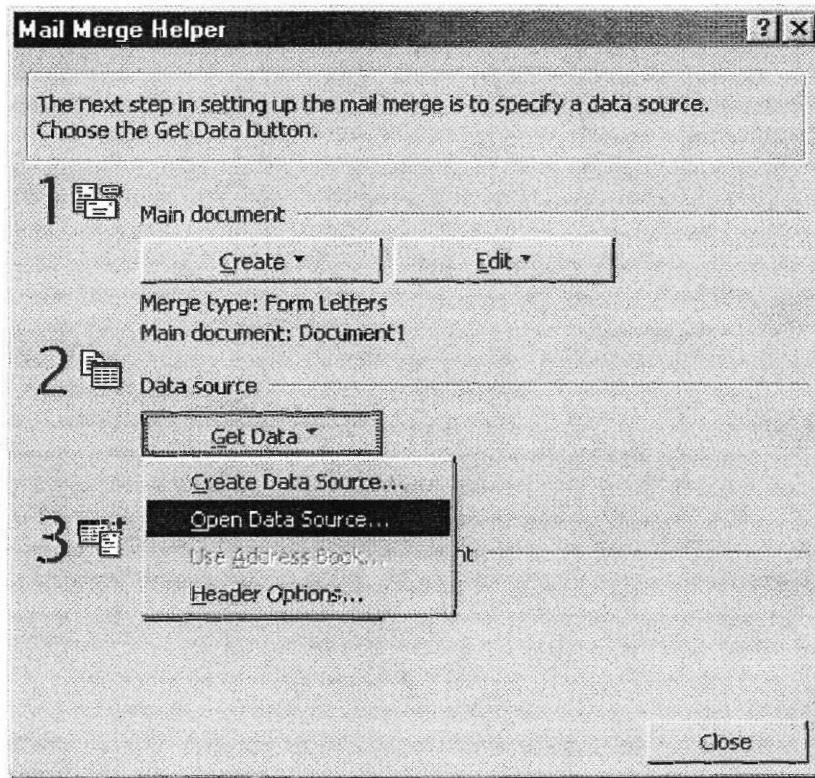
Figure 27-2: Creating a Form Letter





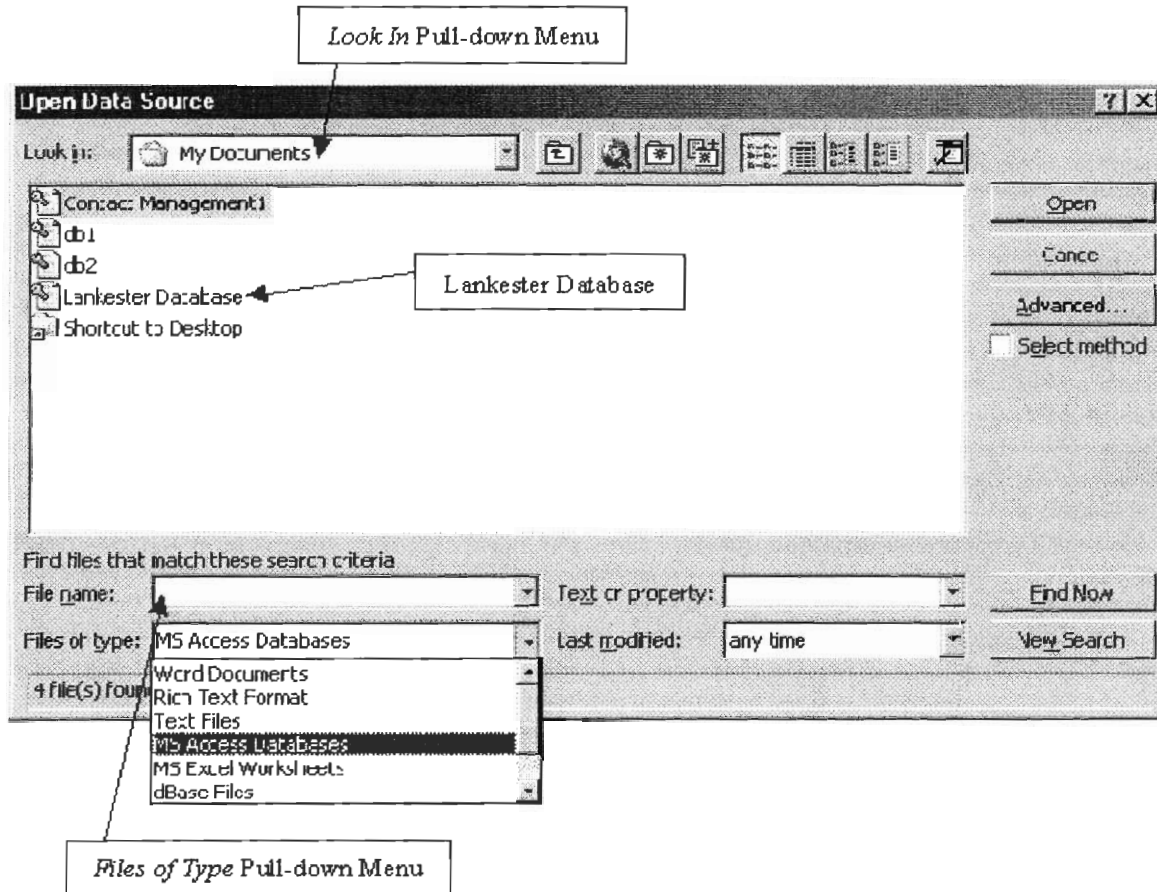
4. Now select *Get Data*, and select *Open Data Source* from the resulting drop-down menu (See Figure 27-3).

Figure 27-3: Opening the Data Source



5. Another window will open, from which you can select the data source. Click on the down arrow of the *Files of Type* pull-down menu in the lower left corner of the window. Select *MS Access Databases* (See Figure 27-4).

**Figure 27-4: Selecting the Data Source**



6. The Lankester Database should be in the folder C:\My Documents\. If the file *Lankester Database* is visible in the main window, double-click on it. If it is not visible:
  - a. If the *Look In* pull-down menu does not say *My Documents*, click on the down arrow next the pull-down menu. Select *C:*.
  - b. Now, double-click on the *My Documents* folder in the main window.
  - c. Double-click on the file *Lankester Database*.

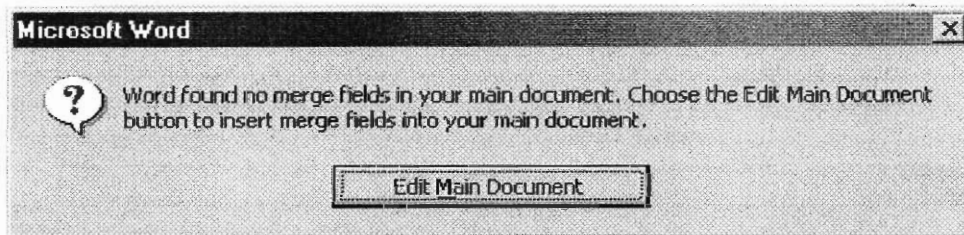
7. A small window will appear displaying all the tables to choose from (See Figure 27-5). Double-click on the type you wish to create the mail merge from.

**Figure 27-5: Database Tables to Create a Mail Merge From**



8. Another window will appear (See Figure 27-6). Click *Edit Main Document*.

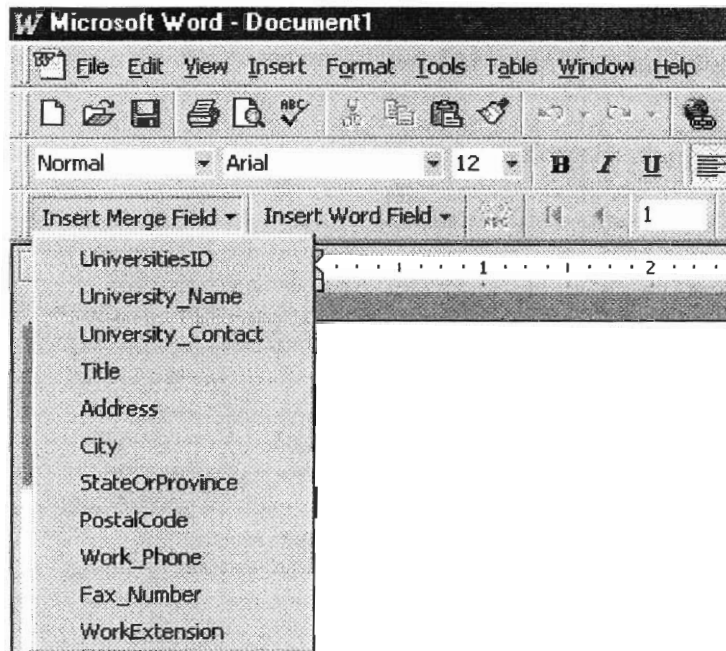
**Figure 27-6: Choose *Edit Main Document***





9. On the left side of the window, near the top, is the button *Insert Merge Field*. Click on that button. A menu will drop down displaying all the fields in the type you chose in Step 7 (See Figure 27-7). By clicking on one of those fields, it is inserted into the document. Later, these fields will be filled in automatically by Microsoft Word with the correct information. Insert all the fields you wish into the document. You may use the same field more than once.

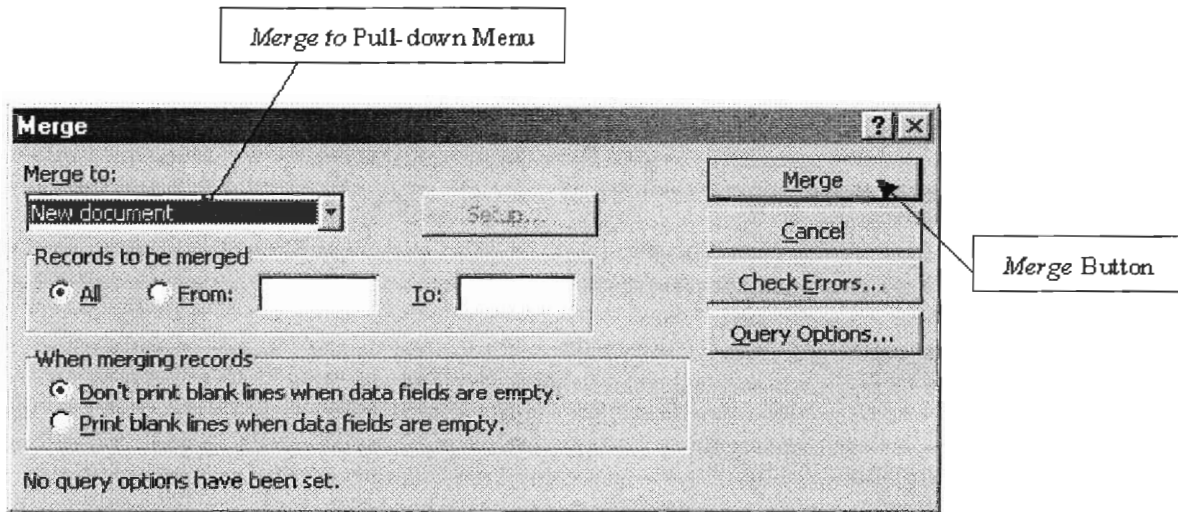
Figure 27-7: Inserting Fields into the Document



10. Once you have inserted all the fields and are ready to print the document, click on the *Tools* menu and select *Mail Merge*.

11. In the resulting window, click on the button *Merge*. In the *Merge Into* pull-down menu, make sure *New Document* is selected (See Figure 27-8). Then click *Merge*.

**Figure 27-8: Merging the Database Fields into the Document**

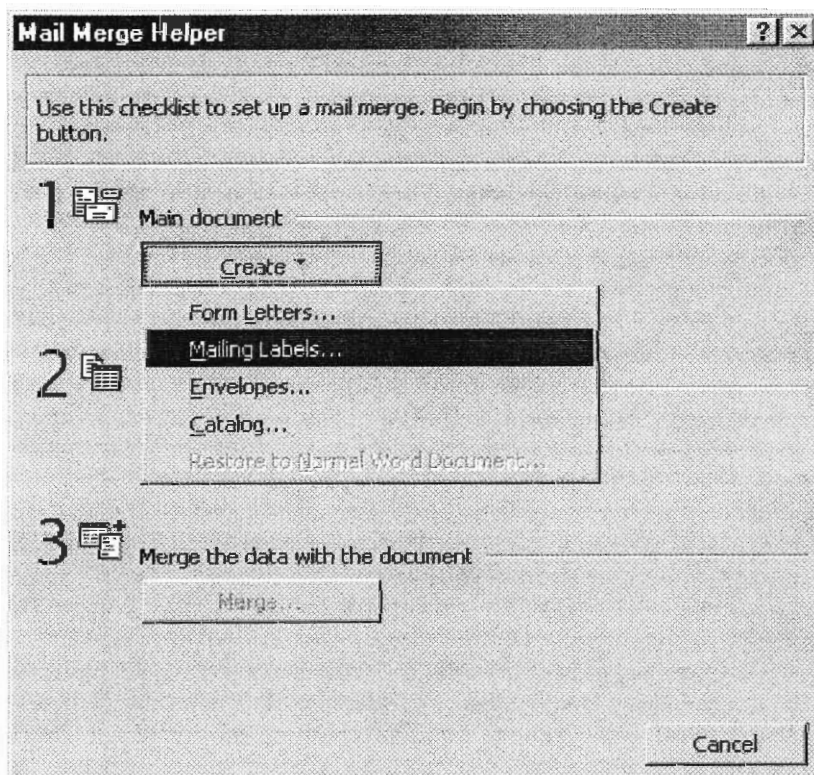


12. The database records will now be merged with the document you created and you may print the document.

## 28 Appendix U – How to Create Mailing Labels

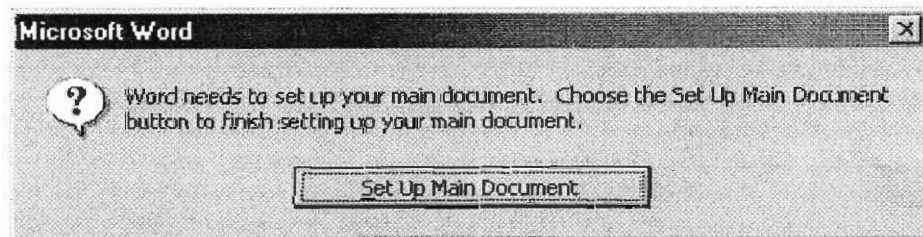
1. Open Microsoft Word.
2. Click on the *Tools* menu, then select *Mail Merge* from the resulting drop-down menu (See Figure 26-1).
3. A window will appear, as shown in Figure 28-1. Click on *Create*. Select *Mailing Labels* from the drop-down menu. Then select *Active Document* in the resulting window.

Figure 28-1: Selecting Mailing Labels



4. Now select *Get Data*, and select *Open Data Source* from the resulting drop-down menu (See Figure 27-3).
5. Another window will open, from which you can select the data source. Click on the down arrow of the *Files of Type* pull-down menu in the lower left corner of the window. Select *MS Access Databases* (See Figure 27-4).
6. The Lankester Database should be in the folder *C:\My Documents\*. If the file *Lankester Database* is visible in the main window, double-click on it. If it is not visible:
  - d. If the *Look In* pull-down menu does not say *My Documents*, click on the down arrow next the pull-down menu. Select *C:*.
  - e. Now, double-click on the *My Documents* folder in the main window.
  - f. Double-click on the file *Lankester Database*.
7. A small window will appear displaying all the tables to choose from (See Figure 27-5). Double-click on the type you wish to create the mail merge from.
8. Another window will appear (See Figure 28-2). Click *Set Up Main Document*.

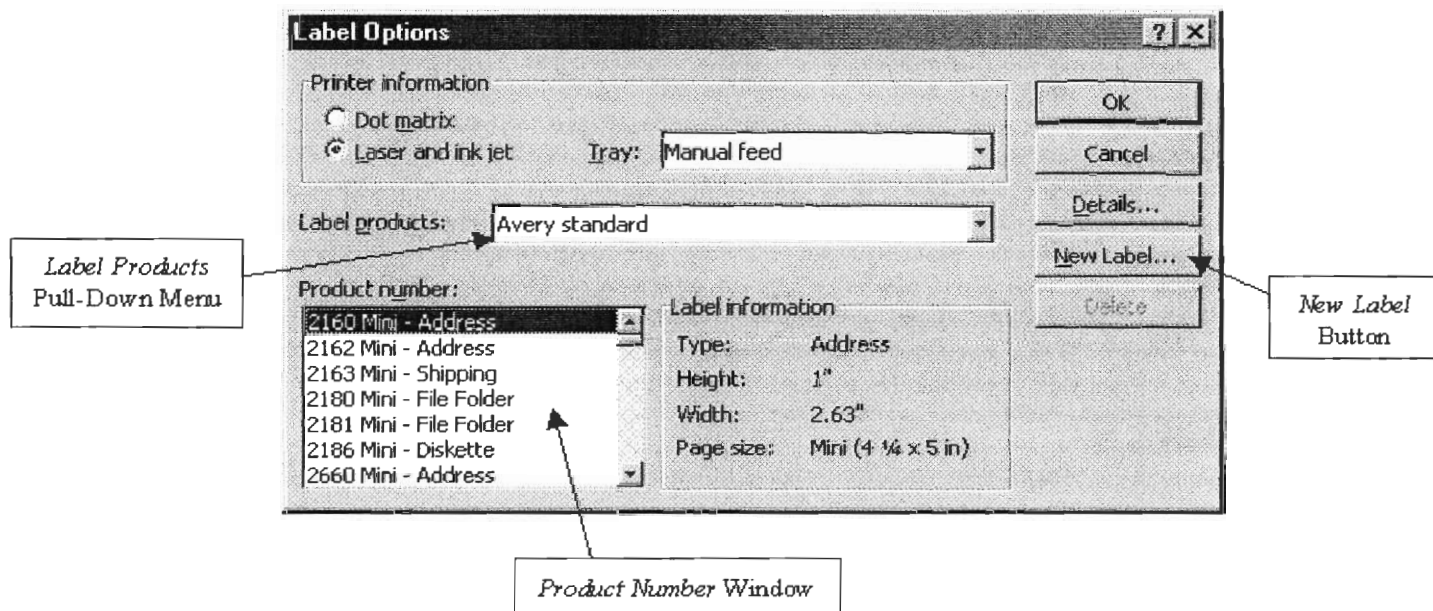
**Figure 28-2: Click *Set Up Main Document***



- In the window that appears (See Figure 28-3), there are several very important options. You must know what type of labels you have to print on. In the *Label products* pull-down menu, select the type of label you have. In the *Product number* window, select the product number of the label you have. Then press *OK*.

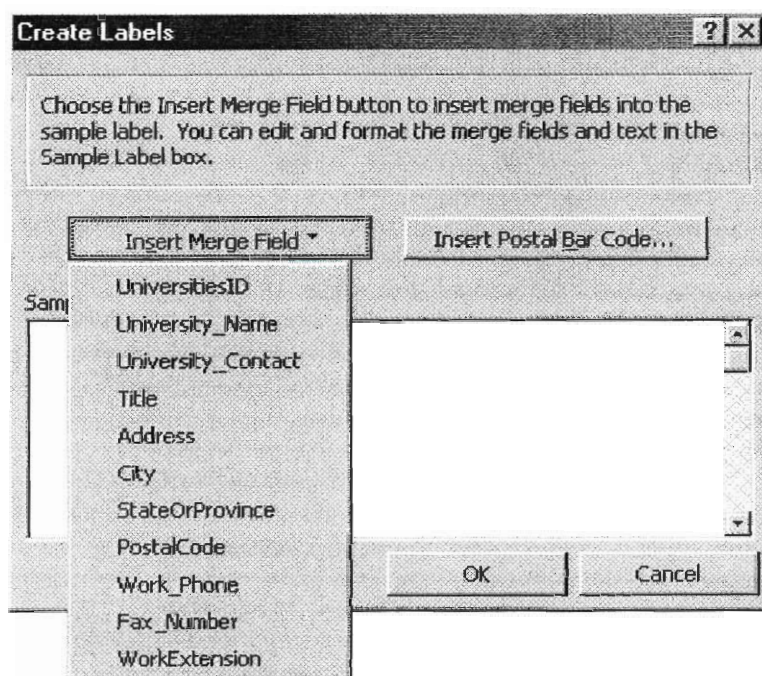
**NOTE:** If the type of label you have is not shown, click the *New Label* button and enter the correct information into all the fields.

Figure 28-3: The Labeling Options Window



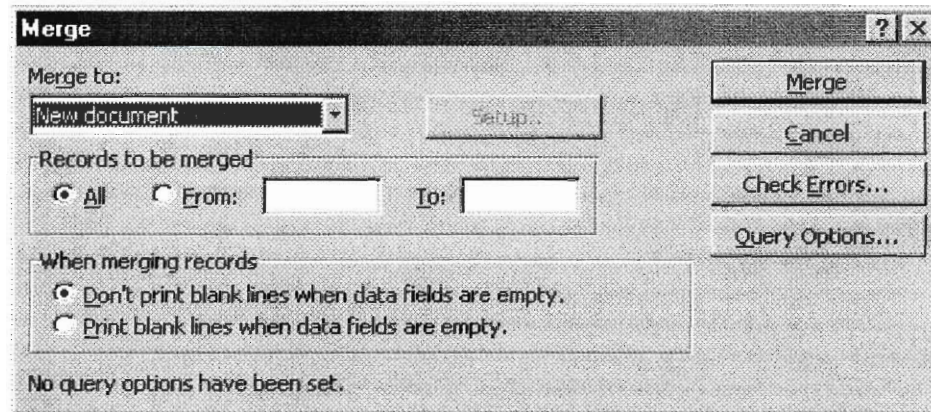
10. The resulting window is where you select which fields the mailing labels will contain (See Figure 28-4). Click on the *Insert Merge Field* button. From the drop-down menu, select the fields you wish to include in the mailing labels. The window below allows you to arrange the fields in whatever manner is most appropriate. When you have finished inserting and arranging the fields, click the *OK* button.

Figure 28-4: Selecting Mailing Label Fields



11. The *Mail Merge Helper* window will now be visible. Click the *Merge* button.
12. In the resulting window (See Figure 28-5), make sure that *New Document* is selected in the *Merge To* pull-down menu. Then click *Merge*.

**Figure 28-5: Merging the Database Records into the Mailing Labels**



13. The mailing labels will be merged and will appear in a new document. They are now ready to print. Make sure the labels are inserted correctly into the printer before you print.



## 29 Glossary

**Agaves** – Any of several plants of the agave family, as the century plant: some agaves yields a fiber used for rope.

**Bract** – A specialized leaf-like plant part, sometimes large and showy. It is usually situated at the base of a flower or inflorescence.

**Bromeliads** – Terrestrial and, especially epiphytic herbs, including tank epiphytes and atmospheric plants, from tropical and subtropical America. Many are Crassulacean Acid Metabolism (CAM) plants. The flowers often have showy bracts and are bird or insect pollinated.

**Cacti** – Any desert plants of the cactus family, native to the New World, with fleshy stems, reduced or spine-like leaves, and often showy flowers.

**Crassulaceae** – Most are leaf-succulent perennial CAM plants; widespread mostly in warm dry temperate regions. Of little economic importance other than as ornamentals.

**Epiphyte** – A plant that grows upon another plant non-parasitically or sometimes upon other objects, such as a building. It derives its moisture and nutrients from the air and rain, and sometimes from debris accumulation around them. They are mostly found in temperate zones and in the tropics.

**Euphorbias** – Trees, shrubs and herbs, mostly tropical, with unisexual flowers and usually with latex.

**Genera** – Plural of genus. A scientific term used by taxonomists to classify living things; falls in between family and species.

**Germplasm** – The substance of reproductive cells that contains chromosomes.

**Inflorescence** – A specialized part of the shoot carrying one or several flowers and clearly differentiated from the foliage of the plant.

**Heliconia** – Any of a genus (Heliconia) of tropical plants of the banana family, having tall, erect leaves and spikes of flowers enclosed in brilliantly colored bracts.

**Premontane forest** – Relating to biographical zone of relatively moist cool upland slopes below the timber line and composed primarily of large coniferous trees.



**Rosette plant** – A plant in which the leaves radiate out at about soil level and which has a more or less leafless flowering stem.

**Rupicolous** – Living or growing on or among rocks.

**Secondary rain forest** – A forest growing in an area that has been cleared or otherwise disturbed. The biology is comprised mostly of pioneer species.

**Succulent** – A succulent plant; a Sadum or cactus.

**Tropical forest** – A category of vegetation comprising a variety of formations including rain forest, seasonal forest and monsoon forest, and thorn forest.

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