UNIVERSITI PUTRA MALAYSIA

COMPARATIVE ADVANTAGE AND COST OF ACHIEVING SELF-SUFFICIENCY FOR VEGETABLES AND FRUITS IN THE SULTANATE OF OMAN

NASSER ALI MUSALLAM BAITSIAID

FP 2003 52
COMPARATIVE ADVANTAGE AND COST OF ACHIEVING SELF-SUFFICIENCY FOR VEGETABLES AND FRUITS IN THE SULTANATE OF OMAN

By

NASSER ALI MUSALLAM BAITSaida

Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia, in Fulfilment of the Requirement for the Degree of Doctor of Philosophy

December 2006
DEDICATED

I dedicated this dissertation to all members of my family, who have supported and encouraged me to do my Ph.D. A special dedication, with the beautiful flowers in this world and warm kisses, goes to my beloved father and mother, who sacrificed a lot to see me and my brothers educated and become successful in our lives. "May Allah forgive me and my parents, grant them mercy as they have raised me since I was youthful, reward their good deeds with bounty, pardon their sins and grant them forgiveness"... Amen.
COMPARATIVE ADVANTAGE AND COST OF ACHIEVING SELF-SUFFICIENCY FOR VEGETABLES AND FRUITS IN THE SULTANATE OF OMAN

By

NASSER ALI MUSALLAM BAITSaida

December 2006

Chairman : Associate Professor Zainal Abidin Mohamed, PhD

Faculty: Agriculture

The Sultanate of Oman has not achieved self sufficiency in the production of vegetables and fruits. This situation is due to the rapid growth in population that leads to a tremendous increase in the demand for these commodities and this deficit can only be sustained by imports. However, an increase in imports requires the use of more foreign exchange, which could otherwise be used for the importation of other important commodities. The expansion of domestic production would entail increasing the use of domestic resources thus raising the competition for the use of these resources. Therefore, the objective of this study is to determine the level of comparative advantage that Oman has for the different types of fruits and vegetables and the cost of producing these crops that will lead towards self-sufficiency in the country.

Secondary data on the production of vegetable (tomatoes, cucumber, pepper, watermelon, melon and cabbage) and fruit crops (dates, lemon and banana) were
collected from various government sources for the years 2000 to 2004. In order to estimate the cost of self-sufficiency this study analysed data on government intervention through the Nominal Protection Rate (NPR) and the Effective Protection Rate (EPR). The level of comparative advantage was analysed by using the domestic resource cost (DRC), resource cost ratio (RCR), net economic benefit (NEB) and social cost benefit (SCB) ratios.

Based on the analysis of this research, the study found out that the country is self-sufficient only in pepper and dates while for the other selected crops the level of self-sufficiency was varied. The cost of achieving self-sufficiency for selected crop was estimated between R.O. 118,517 and R.O. 3,648,636 for the period under consideration. Additionally, government intervention on vegetable and fruit production showed that the average NPR of vegetables production under the import substitution regime ranged between 11% and 39% for vegetables and between 15% and 17% for fruits; whereas the average EPR ranged between 92% and 132% for vegetables and between 47% and 105% for fruits. Moreover, the RCR value of vegetable and fruit production generally showed that the country had a comparative advantage in the production of most of the crops to enable import substitution with the exception of lemon which recorded an RCR value of more than 1. This finding emphasised that through import substitution and an increase in domestic production, the Sultanate of Oman could save or earn foreign exchange.

This study recommends that the government should strongly promote and encourage farmers to expand the production of selected crops to achieve self-sufficiency and maintain the position of comparative advantage for the crops mentioned in this study.
Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Doktor Falsafah

KELEBIHAN BERBANDING DAN KOS UNTUK MENCAPAI TAHAP SARA SAYURAN BUAHAN DI KESULTANAN OMAN

Oleh

NASSER ALI MUSALLAM BAITSAID

Disember 2006

Pengerusi : Professor Madya Zainal Abidin Mohamed, PhD
Fakulti: Pertanian


(RCR), jumlah faedah ekonomi (NEB) dan faedah kos sosial (SCB) turut dianggarkan.

ACKNOWLEDGEMENTS

In the name of Allah, all praise be to the Almighty, the Most Gracious and Merciful for giving me the strength, health and determination to complete this study. In fact, my deepest gratitude goes to many people and institutions for their kind help and support at various stages of my research work. Honestly, no word can express my most sincere gratitude and appreciation to my chairman supervisor Associate Professor Dr. Zainal Abidin Bin Mohamed for his critical assessment, helpful suggestions, guidance and patience in the writing this thesis. Thanks and appreciation also goes to my committee members, Professor Dr. Mad. Nasir Shamsdin who welcomed and helped me to be a member of this University. Many thanks for his constructive assessments. To my second committee member Associate Professor Dr. Mohd. Mansor Ismail, I extend my sincere gratitude for his valuable discussions, kindness and guidance throughout the duration of my study.

It is my pleasure to express my sincere gratitude and appreciation to my all colleagues in the department for Agribusiness and Information System for their help, encouragement and support.

I am really grateful to the Ministry of Agriculture and Fisheries in Oman, which allowed me to complete my Ph.D programme and providing me with the needed data and information for my research.
I certify that an Examination Committee has met on 22nd December 2006 to conduct the final examination of Nasser Ali Musallam Baitsaid on his Doctor of Philosophy thesis entitled "Comparative Advantage and Cost of Achieving Self-Sufficiency for Vegetables and Fruits in the Sultanate of Oman" in accordance with Universiti Pertanian Malaysia (Higher Degree) Act 1980 and Universiti Pertanian Malaysia (Higher Degree) Regulations 1981. The Committee recommends that the candidate be awarded the relevant degree. Members of Examination Committee are as follow:

**Md. Ariff Bin Hussien, PhD**  
Professor  
Faculty of Agriculture  
Universiti Putra Malaysia  
(Chairman)

**Mohd Ghazali Mohayidin, PhD**  
Professor  
Faculty of Agriculture  
Universiti Putra Malaysia  
(Internal Examiner)

**Norsida Man, PhD**  
Lecturer  
Faculty of Agriculture  
Universiti Putra Malaysia  
(Internal Examiner)

**Dato' Jamaludin Sulaiman, PhD**  
Professor  
Faculty of Economic  
Universiti Sains Malaysia  
(External Examiner)

---

**HASANAH MOHD. GHAZALI, PhD**  
Professor, Deputy Dean  
School of Graduate Studies  
Universiti Putra Malaysia

Date: 22 MARCH 2007
This thesis submitted to the Senate of Universiti Putra Malaysia and has been accepted as fulfilment of the requirement for the degree of Doctor of Philosophy. The members of the Supervisory Committee are as follows:

Zainal Abidin Mohamed, PhD  
Associate Professor  
Faculty of Agriculture,  
Universiti Putra Malaysia  
(Chairman)

Mad Nasir Shamsudin, PhD  
Professor  
Faculty of Agriculture  
Universiti Putra Malaysia  
(Member)

Mohd. Mansor Ismail, PhD  
Associate Professor  
Faculty of Agriculture  
Universiti Putra Malaysia  
(Member)

AINI IDRIS, PhD  
Professor/Dean  
School of Graduate Studies  
Universiti Putra Malaysia  

Date: 12 APR 2007
DECLARATION

I hereby declare that the thesis is based on my original work except for quotations and citations, which have been duly acknowledged. I also declare that it has not been previously or concurrently submitted for any other degree at UPM or other institutions.

NASSER ALI MUSALLAM BAITSAID

Date: 22 December 2006
## TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEDICATION</td>
<td>ii</td>
</tr>
<tr>
<td>ABSTRACT</td>
<td>iii</td>
</tr>
<tr>
<td>ABSTRAK</td>
<td>v</td>
</tr>
<tr>
<td>ACKNOWLEDGEMENTS</td>
<td>vi</td>
</tr>
<tr>
<td>APPROVAL</td>
<td>viii</td>
</tr>
<tr>
<td>DECLARATION</td>
<td>x</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>xiv</td>
</tr>
<tr>
<td>LIST OF FIGURES</td>
<td>xvii</td>
</tr>
<tr>
<td>LIST OF ABBREVIATIONS</td>
<td>xix</td>
</tr>
</tbody>
</table>

### CHAPTER

#### 1 INTRODUCTION

1.1 Background of the Sultanate of Oman 1
1.2 National Economy 3
1.3 Importance of Vegetables and Fruits 5
   1.3.1 World Consumption 6
   1.3.2 Vegetables and Fruits in Sultanate of Oman 7
   1.3.3 Household Expenditure and Consumption 10
   1.3.4 Imports and Exports 13
1.4 Problem Statement 15
1.5 Objectives of the Study 18
1.6 Significance of the Study 19
1.7 Structure of the Thesis 20

#### 2 AGRICULTURAL AND AGRICULTURE POLICY IN THE SULTANATE OF OMAN 22

2.1 Agriculture in the Sultanate of Oman 22
2.2 Vegetables and Fruits 24
2.3 Development Plan Policies and Programmes 27
2.4 Vegetables and Fruits Market 30
2.5 Oman Agricultural Agreements 34

#### 3 LITERATURE REVIEW

3.1 Introduction 36
3.2 Coefficients of Protection and Comparative Advantage 37
3.3 Concept of Coefficients of Protection and Comparative Advantage 43
3.4 Self-Sufficiency 48
3.5 Comparative Advantage 52
   3.5.1 Theory of Comparative Advantage 52
   3.5.2 Measures of Comparative Advantage 59
   3.5.3 Empirical Evidence on Comparative Advantage 63
4 METHODOLOGY

4.1 Introduction
4.2 Opportunity Cost
4.3 Shadow Exchange Rate (SER)
  4.3.1 Border (Social) Price
  4.3.2 Conversion Factor (CF)
4.4 Self-Sufficiency of Vegetables and Fruits
4.5 Measures of Comparative Advantage
  4.5.1 Domestic Resource Cost (DRC)
  4.5.2 Resource Cost Ratio (RCR)
  4.5.3 Net Economic Benefit (NEB)
  4.5.4 Social Cost Benefit (SCB)
  4.5.5 Sensitivity Analysis
4.6 Government Intervention: Measure of Market Distortion
  4.6.1 Nominal Protection Rate (NPR)
  4.6.2 Effective Protection Rate (EPR)
4.7 Data Required and Study Scope
  4.7.1 Cost Allocation of Intermediate and Primary inputs
  4.7.2 Intermediate Inputs
  4.7.3 Primary Inputs

5 RESULTS AND ANALYSIS

5.1 Financial Analysis of Vegetables and Fruit Crops
  5.1.1 Vegetables
  5.1.2 Fruits
5.2 Economic Analysis of Vegetables and Fruits Crop
  5.2.1 Vegetables
  5.2.2 Fruits
5.3 Self-Sufficiency Cost
  5.3.1 Self-Sufficiency Cost of Vegetables
  5.3.2 Self-Sufficiency Cost of Fruits
  5.3.3 Self-Sufficiency of Future Cost of Vegetables and Fruits
5.4 Nominal and Effective Rate of Protection Measures
  5.4.1 Vegetables Protection Measures
  5.4.2 Fruits Protection Measures
5.5 Comparative Advantage Measures
  5.5.1 Vegetables
  5.5.2 Fruits
  5.5.3 Comparative Advantage Ranking
6 SUMMARY AND CONCLUSIONS AND POLICY IMPLICATION

6.1 Summary 216
6.2 Conclusion and Policy Implication 220
6.3 Further Study 227

REFERENCES 228
APPENDICES 236
BIODATA OF THE AUTHOR 345
## LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1: The Development of Total Gross of Domestic Production of The Sultanate of Oman from 1999 to 2003.</td>
<td>4</td>
</tr>
<tr>
<td>1.2: Estimates of Cultivated Area (Acre) and Production (000's Ton) of Agriculture Sub-sector.</td>
<td>9</td>
</tr>
<tr>
<td>1.3: The Development on Total Cultivated Areas and Production of Vegetables and Fruits from 1985-2002.</td>
<td>10</td>
</tr>
<tr>
<td>1.4: Average Monthly Consumption for Omani and Foreign Households between 1999 to 2000 in the Sultanate of Oman.</td>
<td>12</td>
</tr>
<tr>
<td>1.5: The Value of Consumer Food Basket for Omani and Foreign Household in the Sultanate of Oman between 1999 and 2000.</td>
<td>12</td>
</tr>
<tr>
<td>2.1: The Classification of Farm Size (Acre) According to Holding Numbers.</td>
<td>25</td>
</tr>
<tr>
<td>2.2: The Total Number and Area (Acre) of Holding by Type of Activity.</td>
<td>25</td>
</tr>
<tr>
<td>2.4: The Development of Agriculture and Gross of Domestic Production (GDP) From 1970 to 2003.</td>
<td>33</td>
</tr>
<tr>
<td>2.5: The Agricultural Agreement between the Sultanate of Oman and WTO.</td>
<td>35</td>
</tr>
<tr>
<td>4.2: Cost Allocation between Tradable and Non- Tradable Components.</td>
<td>105</td>
</tr>
<tr>
<td>5.1: Financial Cost of Tomatoes Production at Farm level.</td>
<td>108</td>
</tr>
</tbody>
</table>
5.2: Financial Cost of Cucumber Production at Farm level.  
5.3: Financial Cost of Pepper Production at Farm level.  
5.4: Financial Cost of Watermelon Production at Farm level.  
5.5: Financial Cost of Melon Production at Farm level.  
5.6: Financial Cost of Cabbage Production at Farm level.  
5.7: Financial Cost of Dates Production at Farm level.  
5.8: Financial Cost of Lemon Production at Farm level.  
5.9: Financial Cost of Banana Production at Farm level.  
5.10: Economic Cost of Tomatoes Production at Farm level.  
5.11: Economic Cost of Cucumber Production at Farm level.  
5.12: Economic Cost of Pepper Production at Farm level.  
5.13: Economic Cost of Watermelon Production at Farm level.  
5.14: Economic Cost of Melon Production at Farm level.  
5.15: Economic Cost of Cabbage Production at Farm level.  
5.16: Economic Cost of Dates Production at Farm level.  
5.17: Economic Cost of Lemon Production at Farm level.  
5.18: Economic Cost of Banana Production at Farm level.  
5.19: The Cost of Achieving Self-Sufficiency for the Selected Vegetables  
5.21: Derivation of Border Price for Tomatoes (R.O. /kg).
<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.22</td>
<td>Nominal Protection Rate of Tomatoes between 2000-2004.</td>
<td>168</td>
</tr>
<tr>
<td>5.23</td>
<td>Effective Protection Rate of Tomatoes between 2000-2004.</td>
<td>168</td>
</tr>
<tr>
<td>5.24</td>
<td>Derivation of Border Price for Cucumber (R.O. /kg).</td>
<td>170</td>
</tr>
<tr>
<td>5.25</td>
<td>Nominal Protection Rate (NPR) of Cucumber between 2000-2004.</td>
<td>171</td>
</tr>
<tr>
<td>5.26</td>
<td>Effective Protection Rate of Cucumber 2000-2004.</td>
<td>171</td>
</tr>
<tr>
<td>5.27</td>
<td>Derivation of Border Price for Paper (R.O. /kg).</td>
<td>173</td>
</tr>
<tr>
<td>5.28</td>
<td>Nominal Protection Rate (NPR) of Pepper between 2000-2004.</td>
<td>174</td>
</tr>
<tr>
<td>5.29</td>
<td>Effective Protection Rate of Pepper between 2000-2004.</td>
<td>175</td>
</tr>
<tr>
<td>5.30</td>
<td>Derivation of Border Price for Watermelon (R.O. /kg).</td>
<td>177</td>
</tr>
<tr>
<td>5.31</td>
<td>Nominal Protection Rate (NPR)of Watermelon between 2000-2004</td>
<td>178</td>
</tr>
<tr>
<td>5.32</td>
<td>Effective Protection Rate of Watermelon between 2000-2004.</td>
<td>178</td>
</tr>
<tr>
<td>5.33</td>
<td>Derivation of Border Price for Melon (R.O. /kg).</td>
<td>181</td>
</tr>
<tr>
<td>5.34</td>
<td>Nominal Protection Rate (NPR) of Melon between 2000-2004.</td>
<td>182</td>
</tr>
<tr>
<td>5.35</td>
<td>Effective Protection Rate of Melon between 2000-2004.</td>
<td>182</td>
</tr>
<tr>
<td>5.36</td>
<td>Derivation of Border Price for Cabbage (R.O. /kg).</td>
<td>184</td>
</tr>
<tr>
<td>5.37</td>
<td>Nominal Protection Rate (NPR) of Cabbage between 2000-2004.</td>
<td>185</td>
</tr>
<tr>
<td>5.38</td>
<td>Effective Protection Rate of Cabbage between 2000-2004.</td>
<td>185</td>
</tr>
<tr>
<td>5.39</td>
<td>Derivation of Border Price for Dates (R.O. /kg).</td>
<td>187</td>
</tr>
<tr>
<td>5.40</td>
<td>Nominal Protection Rate (NPR) of Dates between 2000-2004.</td>
<td>188</td>
</tr>
<tr>
<td>5.41</td>
<td>Effective Protection Rate of Dates between 2000-2004.</td>
<td>188</td>
</tr>
</tbody>
</table>

5.43: Nominal Protection Rate (NPR) of Lemon between 2000-2004.

5.44: Effective Protection Rate of Lemon between 2000-2004.

5.45: Derivation of Border Price for Banana (R.O. /kg).

5.46: Nominal Protection Rate (NPR) of Banana between 2000-2004.

5.47: Effective Protection Rate of Banana between 2000-2004.

5.48 Comparative Advantage (RCR, DRC, NEB and SCB) of vegetables Crop Production between 2000 and 2004 under Import Substitution Regime.

5.49 Comparative Advantage (RCR, DRC, NEB and SCB) of Fruits Crop Production between 2000 and 2004 under Import Substitution Regime.


5.51 The Effect of Sensitivity Analysis on Average Degree of Comparative Advantage of Lemon under Import Substitution Regime between 2000-2004.

5.52: Ranking Comparative Advantage for Vegetables.

5.53: Ranking Comparative Advantage for Fruits.
# LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>A Map Describing the Location of the Sultanate of Oman.</td>
<td>1</td>
</tr>
<tr>
<td>1.2</td>
<td>Total World Production and Consumption of Vegetables and Fruits in Metric Tonnes (MT).</td>
<td>7</td>
</tr>
<tr>
<td>1.3</td>
<td>The Total Exports and Imports of Vegetables and Fruits (Quantity and Value) in The Sultanate of Oman between 1995 and 2003.</td>
<td>14</td>
</tr>
<tr>
<td>3.1</td>
<td>Schematic Representation of Coefficients of Protection and Coefficients of Comparative Advantage.</td>
<td>38</td>
</tr>
<tr>
<td>4.1</td>
<td>Production Possibility Frontier (PPF).</td>
<td>73</td>
</tr>
</tbody>
</table>
LIST OF ABBREVIATIONS

R O  Rial Omani
GDP  Gross Domestic Product
GNI  Gross National Income
MT  Metric Tonnes
Ton  Tonne
Ha/ha  Hectare
HEIS  Household Expenditure and Income Survey
JICA  Japan International Cooperation Agency
GCC  Gulf Cooperation Council
GAFTA  Great Arabic Free Trade Area
WTO  World Trade Organization
FAO  Food and Agriculture Organisation
PAMAP  Public Authority for Marketing Agricultural Produce
NTB  Non-Tariff Barriers
NPC  Nominal Protection Coefficients
NPR  Nominal Protection Rate
EPC  Effective Protection Coefficients
EPR  Effective Protection Rate
ESC  Effective Subsidy Coefficients
PSE  Producer Subsidy Equivalents
CSE  Consumer Subsidy Equivalent
DRC  Domestic Resource Cost
NEB/NSP  Net Economic Benefit / Net Social Profitability
RCR  Resource Cost Ratio
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>HYV</td>
<td>High Yielding Variety</td>
</tr>
<tr>
<td>LDC</td>
<td>Less Developed Countries</td>
</tr>
<tr>
<td>UR</td>
<td>Uruguay</td>
</tr>
<tr>
<td>GATT</td>
<td>General Agreement Tariff and Trade</td>
</tr>
<tr>
<td>URAA</td>
<td>Uruguay Agreement Act</td>
</tr>
<tr>
<td>AMS</td>
<td>Aggregate Measurement of Support</td>
</tr>
<tr>
<td>TFPG</td>
<td>Total Factor Productivity Growth</td>
</tr>
<tr>
<td>SCB</td>
<td>Social Cost-Benefit</td>
</tr>
<tr>
<td>PAM</td>
<td>Policy Analysis Matrix</td>
</tr>
<tr>
<td>SER</td>
<td>Shadow Exchange Rate</td>
</tr>
<tr>
<td>PPF</td>
<td>Production Possibility Frontier</td>
</tr>
<tr>
<td>OER</td>
<td>Official Exchange Rate</td>
</tr>
<tr>
<td>FOP</td>
<td>Free On Board</td>
</tr>
<tr>
<td>CIF</td>
<td>Cost, Insurance and Freight</td>
</tr>
<tr>
<td>CF</td>
<td>Conversion Factor</td>
</tr>
<tr>
<td>AP</td>
<td>Accounting Price</td>
</tr>
<tr>
<td>MP</td>
<td>Market Price</td>
</tr>
</tbody>
</table>
CHAPTER 1
INTRODUCTION

1.1 Background of the Sultanate of Oman

The Sultanate of Oman occupies the Southeastern corner of the Arabian Peninsula and is located between 16 40" and 26 20" North and Longitudes 51 50" and 59 40" East. The total land area is approximately 309,500 km². It shares borders with Yemen, Saudi Arabia and United Arab Emirates. The coastline is about 1,700km, which extends from the Strait of Hormuz (which is a vital Strait that a majority of the world’s oil passes through) in the north, to the borders of the Republic of Yemen in the south and faces three seas, which are the Arabian Gulf, Gulf of Oman and the Arabian Sea.

Figure 1.1: A Map Describes the Location of the Sultanate of Oman

Source: Ministry of National Economy
Oman has a varied topography and climate, which differs from one area to another. In summer it is hot and humid in the coastal areas but it is hot and dry in the interior. However, the higher mountain areas enjoy a moderate climate throughout the year. Rainfall is generally light and irregular but occasional heavy rains and thunderstorms can cause severe flooding. In the south, the Dhofar region has a moderate climate and the pattern of rainfall is more predictable with heavy monsoon rains occurring regularly between May and September. Average temperatures for the north of Oman are 32-48 °C from May to September; 26-36 °C from October to April. Due to the monsoon season, from June to September, the Dhofar region in the south of the country maintains a fairly steady year-round temperature of around 30-35 °C. After the rains, Dhofar is transformed into a lush landscape of green fields and verdant vegetation. Average rainfall in the Muscat Region is 75mm. In the Jebel al Akhdar region, average rainfall ranges 250mm to 400mm. During the monsoon season in Dhofar an average rainfall of between 100-400mm is recorded.

The Omani society consists of four basic categories of population; the fishermen of the coastal areas which lives on fishing, seafaring and trading; the farmers of the coastal plains (Batinah and Salalah) and those of the interior; the herders of Dhofar and Musandam mountains and the Bedouins of the interior desert areas. The latest census carried out in December 2003 showed that the total population of Oman was 2,340,815 compared with 2,018,074 in December (Ministry of National Economy, 2004).
1.2 National Economy

Since the discovery of oil in 1967 Oman has had an oil-based economy, but it is subjected to the unpredictable change of the world price of crude oil. This was illustrated in 1986 when there was a sudden and violent slump in the international crude oil prices, necessitating an 11.3% devaluation in the value of the Rial Omani (R.O.), from R.O. 0.3454 to 0.3845 per USD. This unpredictability also created difficulties for forward budgeting. Although the world price of crude oil has made a considerable recovery since 1986, however, during the latter half of the 1980s it has ranged between USD 12 (1986) and USD 16 (1989), which was below the figure of USD 18 per a barrel, a comfortable value for the Omani economy. Recently, the Omani economy has developed positively due to the increase in the world price of oil, where the average price has remained at USD 23, USD24.29 and USD27.84 per a barrel for 2001, 2002 and 2003 respectively (Ministry of National Economy 2004). Consequently, the GDP increased from R.O. 7,670.42 (USD 19,943.1) in 2001 to R.O. 8,342.81 (USD 21,697.82) in 2003 (see Table 1.1).

Table 1.1 also illustrates that there was a decline in the contribution of the agricultural sector to the GDP, estimated at 1.8%, 1.3%, 1.39%, 1.35% and 1.27% in 1999, 2000, 2001, 2002 and 2003 respectively.
Table 1.1: The Development of Total Gross of Domestic Production (Petroleum and Non-Petroleum Activities) in Rial Omani of Sultanate of Oman from 1999 to 2003

<table>
<thead>
<tr>
<th>Economic Activity</th>
<th>1999 (%)</th>
<th>2000 (%)</th>
<th>2001 (%)</th>
<th>2002 (%)</th>
<th>2003 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1- Total Petroleum Activities</td>
<td>39.20</td>
<td>48.70</td>
<td>42.56</td>
<td>41.87</td>
<td>41.19</td>
</tr>
<tr>
<td></td>
<td>2,365.80</td>
<td>3,717.70</td>
<td>3,264.40</td>
<td>3,269.12</td>
<td>3,436.56</td>
</tr>
<tr>
<td>2- Total Non Petroleum Activities</td>
<td>62.70</td>
<td>53.40</td>
<td>59.38</td>
<td>60.26</td>
<td>60.81</td>
</tr>
<tr>
<td></td>
<td>3,789.70</td>
<td>4,079.40</td>
<td>4,555.05</td>
<td>4,704.47</td>
<td>5,073.28</td>
</tr>
<tr>
<td>2.1 Agriculture &amp; Fishing</td>
<td>2.60</td>
<td>2.00</td>
<td>2.05</td>
<td>2.03</td>
<td>1.95</td>
</tr>
<tr>
<td>A - Agriculture</td>
<td>1.80</td>
<td>1.30</td>
<td>1.39</td>
<td>1.35</td>
<td>1.27</td>
</tr>
<tr>
<td>B - Fishing</td>
<td>0.90</td>
<td>0.60</td>
<td>0.67</td>
<td>0.68</td>
<td>0.68</td>
</tr>
<tr>
<td>2.2 Industry Activities</td>
<td>8.10</td>
<td>8.60</td>
<td>11.71</td>
<td>11.15</td>
<td>12.06</td>
</tr>
<tr>
<td>2.3 Services Activities</td>
<td>52.00</td>
<td>42.90</td>
<td>45.62</td>
<td>47.08</td>
<td>46.80</td>
</tr>
<tr>
<td>GDP at Producers Prices</td>
<td>98.70</td>
<td>99.40</td>
<td>99.24</td>
<td>99.23</td>
<td>99.22</td>
</tr>
<tr>
<td>Plus: Import Taxes</td>
<td>1.30</td>
<td>0.60</td>
<td>0.76</td>
<td>0.77</td>
<td>0.78</td>
</tr>
<tr>
<td>GDP at Market Prices</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>