

DEDICATION

To my parents, brothers and sisters

With great love

M. Sharif

ACKNOWLEDGEMENTS

Firstly, great thanks to Allah, the almightily for giving me health and strength to carry out this study.

I would like to express my deep gratitude and sincere thanks to my supervisor Dr. Haghamad Abdelaziz for his professional guidance, valuable advice, sincere interest and supervision during the period of the study.

My appreciation extends to Dr. Abda Abdalla Imam for her valuable comments.

My sincere gratitude to all members of the Department of Agricultural Economics, Faculty of Agricultural studies, Sudan University of Science and Technology. Also thanks are extended to the universities and organizations in the study area.

My appreciation extended to all colleagues and friends at Shambat campus for their hospitality during my stay especially

Mr. Mohammed Mubarak for printing the thesis.

Finally, special thanks and gratitude to my mother, father, brothers, sisters and my wife for their kindness, moral support, motivations and help in many ways.

ABSTRACT

The objective of this study was to examine the main factors affecting price determination behavior of sesame crop in the mechanized rain-fed sector in Gedarif area.

The study was based on monthly whole sale prices of sesame in Gedarif market during the period from January 1999 to December 2008.

The temporal analysis was used to examine the fluctuations in monthly prices and seasonal patterns.

The temporal analysis showed that the prices were instable as revealed by the results of the coefficients of variation and fluctuation percentage. The grand seasonal indices indicated that the trend in seasonal prices was pronounced but unstable, this was indicated by standard deviations. The lowest prices of sesame prevailed during the

harvest seasons and the higher prices prevailed during the post harvest seasons.

The study recommended the following:

- 1) To improve market information system (volume of supply, demand and prices). There must be adequate information both at producers and wholesalers levels.
- 2) The government should reconsider suitable resources against the oligopolistic group to maintain perfect competition to protect producers.
- 3) To expand storage facilities and distribute them over wide areas to minimize losses.

الملخص

تهدف هذه الدراسة إلى اختبار العوامل المؤثرة في سلوك تحديد أسعار السمسم في القطاع المطري الآلي في منطقة القضارف. اعتمدت الدراسة على أسعار الجملة الشهرية لمحصول السمسم في سوق القضارف خلال الفترة من يناير 1999م إلى ديسمبر 2008م. استخدمت طريقة التحليل الزمني- لاختبار التذبذبات في الأسعار الشهرية ولمؤشر الموسمية.

أظهر التحليل الزمني- أن هنالك تذبذب في الأسعار والذي قيس بواسطة نتائج معامل الاختلاف ونسبة التذبذب. أظهرت مؤشرات الموسمية أن الاتجاه العام لموسمية الأسعار واضح ولكن غير- مستقر ولا يمكن توقعه وضح ذلك من خلال الانحرافات المعيارية. الأسعار الدنيا لمحصول السمسم تسود في مواسم الحصاد وترتفع بعد شهور الحصاد. أوصت الدراسة بالآتي:-

- 1- تحسين نظام معلومات السوق (حجم العرض والطلب والأسعار). يجب أن تكون هناك معلومات كافية في السوق في كل من المنتجين ومستويات البيع بالجملة.
- 2- على الحكومة أن تعيد النظر في الموارد المناسبة ضد جماعة احتكار القلة للحفاظ على المنافسة الكاملة لحماية المنتجين.
- 3- توسيع مرافق التخزين وتوزيعها على مناطق واسعة للحد من الخسائر ولتقليل تقلبات الأسعار.

List of Contents

	Page
Dedication	i
Acknowledgments	ii
English abstract	iii
Arabic abstract	v
List of contents	vi
List of tables	ix
List of figures	x
List of appendices	xi
Chapter One	1
1.1 Introduction	1
1.2 Problem statement of the study	5
1.3 Objectives of the study	6
1.4 Hypotheses of the study	6
1.5 The research methodology	6
1.5.1 Data collection	6
1.5.2 Analytical techniques	7
1.6 Organization of the study	7
Chapter two	8
Literature review and previous studies	8
2.1 The behavior of farm prices	8
2.2 Forces influencing farm prices	8
2.3 Farm and food price trends	10
2.4 Commodity price fluctuations	12
2.5 Price Analysis: Concepts and tools	13
2.5.1 Time dimensions	13
2.5.2 Trend	13
2.5.3 Cyclical	16
2.5.4 Seasonal	17
2.6 Price discovery	18
2.6.1 Price discovery as interaction of supply and demand	19
2.7 Pricing efficiency	19
2.7.1 Concepts of pricing efficiency	19

2.7.1.1 Pricing efficiency at the firm level	19
2.7.1.2 Pricing efficiency for the system	20
2.7.2 Countervailing developments against pricing	21
inefficiency	
2.8 Classification of markets	21
2.9 Price determination under pure competition	23
2.10 Price determination under monopoly	24
2.11 Price behavior with monopolistic competition and	27
oligopoly	
2.12 Temporal price analysis	30
Chapter Three	32
Methods of analysis	32
3.1 Temporal analysis	32
3.1.1 Inter-year fluctuations of the monthly prices	32
3.1.2 Decomposition of time series prices	33
3.1.3 The seasonal components	37
3.1.3.1 The grand seasonal index	37
3.1.3.2 Efficiency and identification of temporal	
price patterns	37
Chapter Four	39
Temporal analysis results	39
4.1 Fluctuations	39
4.2 Decomposition of time series	42
Chapter Five	56
Summary, conclusions and recommendations	56
5.1 Summary	56
5.2 Conclusions	58
5.3 Recommendations	58
References	59
Appendices	61

List of tables

Table	Page
Table (1.1): Area, production and yield of sesame in Sudan (1996-2007)	4
Table (4.1): Fluctuations in Gedarif monthly nominal prices of sesame (1999-2008)	44
Table (4.2): Grand Seasonal Index in Gedarif (1999-2008)	52
Table (4.3): Analysis of seasonal indices for sesame in Gedarif (1999-2008)	55

List of figures

Figure	Page
Figure (4.1): Monthly nominal prices of sesame in Gedarif market (1999 - 2008)	40
Figure (4.2): Deflated prices of sesame in Gedaref market (1999 - 2008)	41
Figure (4.3a): Trend and monthly nominal prices of sesame in Gedarif market (1999 - 2008)	45
Figure (4.3b): Monthly nominal prices of sesame and CMA ¹² in Gedarif market (1999 - 2008)	46
Figure (4.4a): Trend line of sesame prices in Gedarif market (1999 - 2008)	47
Figure (4.4b): Seasonal index of sesame monthly prices in Gedarif market (1999 - 2008)	48
Figure (4.4c): Cyclical index of sesame monthly prices in Gedarif market (1999 - 2008)	49
Figure (4.4d): Irregular index of sesame monthly prices in Gedarif market (1999 - 2008)	50
Figure (4.5): Grand seasonal index for sesame in Gedaif market	53

List of appendices

Appendix	Page
Appendix (1): Nominal and deflated prices of sesame in Gadarif (SDG/Kanter)	61
Appendix (2): Temporal analysis for nominal sesame prices in Gadarif market (1999-2008)	66
Appendix (3): Monthly average prices of sesame (SDG/Kantar) in Gedarif market during the period (1999 – 2008)	69