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**Impacts of Oil Exploration Activities on Pastoralism in West
Kordofan State, Sudan**

آثار أنشطة استكشاف النفط على الرعوية في ولاية غرب كردفان، السودان

By

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(PhD)

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Dedication

To my Mother.....To my Husband

*To my Kids Fatima.. Konuz..Mohamed.. Tamadur.. Lujan and
My son brother Gasan.. And on the soul of my father and
brother (Mohamed).....*

To my colleges and friends

I dedicate This Work

..... Kawthar

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I would like to send my appreciation and gratitude to all who help me to complete this work.

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Impacts of Oil Exploration Activities on Pastoralism in West Kordofan State, Sudan

ABSTRACT

This study was conducted at Balila area, West Kordofan State, Sudan in (2017 and 2018). The main objective of the study is to investigate the impacts of oil exploration activities on pastoralism in West Kordofan State, Sudan. Three sites within Balila area from Al-Salam were selected; *Balila*, *Elshaq* and *El-Firdus* for the study. The methodology used in the study included botanical measurements for the assessment of rangeland plants, Chemical analysis of ground and surface water and soil in the area. The study included a questionnaire of the population using simple random sampling. Three focus groups were conducted at each of the three sites. This information was used to identify the impacts of oil exploration and production on rangeland plants attributes of the area. Descriptive statistics were used to analyze the data using Excel and SPSS software program. The study showed that the current condition of the rangeland plants attributes of the area is largely affected by the current activities of oil exploration and production. The rangeland plants attributes at Balila area indicated that, plant species percentages were 53.3% in season 2017 and reduced to 25.8% in season 2018. Fourteen species appeared in the rainy seasons of the two seasons 2017 and 2018 respectively (10 annuals and 4 perennials). The herbage biomass production showed 2.045 Ton/ha in 2017. Then it reduced to show 0.7034 Ton/ha in 2018. Water and soil chemical analysis was performed in Sudan Petroleum Corporation (SPCL) laboratories. The soil contains a high amount of (Fe) and Lead (Pb) appeared in the northern part of the area in large quantities. Results revealed that majority of the interviewed inhabitants confirmed adverse effects of oil exploration and production activities on the environment

and consequently on their livelihoods. Perception of respondents towards these negative impacts confirmed: deforestation (89.9%); contamination of both surface and groundwater (61.9%) and increase in morbidity (99.3%) and mortality (87.8%) among livestock. The study concluded that, the oil exploration and production is bound to bring about the suppression of certain plant species in favor of others. Oil has greatly affected the movement pattern of livestock; exposure of pregnant women to high levels of Lead can lead to miscarriage, premature labor and low birth weight.

آثار أنشطة استكشاف النفط على الرعوية في ولاية غرب كردفان، السودان ملخص الاطروحة

أجريت هذه الدراسة في منطقة بليلة ، ولاية غرب كردفان ، السودان في (2017 و 2018). الهدف الرئيسي من الدراسة هو التحقيق في آثار الأنشطة النفطية على الرعوية بولاية غرب كردفان. تم اختيار ثلاثة مواقع للدراسة هي بليلة، الشق، الفردوس. تضمنت المنهجية المستخدمة في الدراسة القياسات النباتية لتقييم نباتات المراعي، والتحليل الكيميائي للمياه الجوفية والسطحية والتربة في المنطقة، وقد اشتملت الإدارة على استبيان للسكان باستخدام عينات عشوائية بسيطة. تم إجراء ثلاث مجموعات تركيز في كل موقع من المواقع الثلاثة. تم استخدام هذه المعلومات لتحديد آثار التنقيب عن النفط وإنتاجه على خصائص نباتات المراعي في المنطقة. تم استخدام الإحصاء الوصفي لتحليل البيانات باستخدام برنامجي Excel و SPSS. أوضحت الدراسة أن الوضع الحالي لصفات نباتات المراعي في المنطقة يتأثر إلى حد كبير بالأنشطة الحالية للتنقيب عن النفط وإنتاجه. وأشارت صفات نباتات المراعي بمنطقة بليلة إلى أن نسب الأنواع النباتية كانت 53.3% في موسم 2017 وانخفضت إلى 25.8% في موسم 2018. ظهرت 14 نوعاً في موسمي الأمطار لموسمي 2017 و 2018 (10 حوليات و 4 معمر). أظهرت إنتاجية الكتلة الحيوية للاعشاب 2.045 طن/هكتار في عام 2017، ثم انخفضت لتظهر 0.7034 طن/هكتار في عام 2018. أجريت التحاليل الكيميائية للتربة والمياه السطحية والجوفية في معامل الهيئة السودانية للنفط، وكانت التربة تحتوي على نسبة عالية من (Fe) والرصاص (Pb) ظهرت في الجزء الشمالي من المنطقة بكميات كبيرة. أظهرت النتائج أن غالبية السكان الذين تمت مقابلتهم أكدوا الآثار السلبية لأنشطة التنقيب عن النفط وإنتاجه على البيئة وبالتالي على سبل العيش. تؤكد تصور المستجيبين لهذه الآثار السلبية: إزالة الغابات (89.9%) ؛ تلوث كل من المياه السطحية والجوفية (61.9%) وزيادة معدلات الإصابة بالأمراض (99.3%) ونفوق الماشية (87.8%). لقد أثر النفط بشكل كبير على نمط حركة. وخلصت الدراسة إلى

أن التنقيب عن النفط وإنتاجه سيؤدي إلى القضاء على أنواع نباتية معينة لصالح أنواع أخرى. يمكن أن يؤدي تعرض النساء الحوامل لمستويات عالية من الرصاص إلى الإجهاض والولادة المبكرة وانخفاض الوزن عند الولادة.

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