

Dedication

I humbly thank Allah Almighty and the co-operative people who supported me to achieve this thesis.

This thesis is dedicated to the four pillars of my life: my Mother, Father, sisters and husband who have always helped and encouraged me to complete this work,

It is, also dedicated to Dr. Farouq Abdelsalam Mohamed for his supports and advice.

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Abstract

This study discuss plastic waste management issues in portsudan as well as plastic waste collection, storage, transport and final disposal methods. A focus on environmental impact resulting from the accumulation of plastic waste was presented by reviewing plastic waste management in developed as well as developing countries starting from generation to final disposal.

Objectives of the Study

- (I) Effectively manage the plastic waste and minimize the volume.
- (II) Identify ways and methods for collection, sorting and recycling of plastic waste.
- (III) Recommend on what to be done for supporting the growth of plastic waste recycling.

The information/data were made available through , interviews, meetings and visits to various sites, in addition to the official information and documents collected from reliable sources, mainly the Red Sea State cleaning corporation and KSA factory located at the new industrial(South-East Portsudan).the data were sorted, coded, presented, the tabulated using the computer system (Excel)

The obtained results showed clear deficiency in the management of plastic waste will create environmental problems that must be addressed by identifying and introducing recycling as one of the best practical cleaner production tool to achieve sustainable development. We found out that, the best, effective, and economic way of managing portsudan`s plastic wastes is the mechanical recycling, that depends mainly on collection, segregation, cleaning and processing.

الخلاصة

هذه الدراسة تناقش ادارة النفايات البلاستيكية في بورتسودان وبما في ذلك طرق جمع النفايات البلاستيكية وفرزها ونقلها والتخلص النهائي منها. وقد تم التركيز على التأثير البيئي الناتج عن تراكم النفايات البلاستيكية من خلال مراجعة إدارة نفايات البلاستيك في البلدان المتقدمة والنامية بدءاً من الجمعحتي التخلص النهائي.

الغرض من الدراسة :

أولاً: ادارة النفايات البلاستيكية بفعالية وتقليل الحجم.

ثانياً : تحديد طرق جمعها وفرزها وإعادة تدويرها.

ثالثاً: التوصية بشأن ما يجب القيام به لدعم نمو إعادة تدوير النفايات البلاستيكية.

تم الحصول علي المعلومات و البيانات من خلال المقابلات والاجتماعات والزيارات إلى مواقع مختلفة ، بالإضافة إلى المعلومات والوثائق الرسمية التي تم جمعها من مصادر موثوقة ، ولا سيما هيئة نظافة ولاية البحر الأحمر ومصنع KSA الواقع في المدينة الصناعية الجديدة (الجنوب الشرقي لمدينة بورتسودان). وقد تم جمع البيانات ثم فرزها وترميزها وجدولتها وعرضها باستخدام نظام الكمبيوتر (Excel).

وقد أظهرت النتائج التي تم الحصول عليها عن وجود قصور واضح في إدارة النفايات البلاستيكية الذي يؤدي الي مشاكل بيئية يلزم معالجتها من خلال ادخال إعادة التدوير كأحد أفضل أدوات الإنتاج النظيفة لتحقيق التنمية المستدامة. وقد اتضح لنا ان أفضل طريقة فعالة واقتصادية لإعادة تدوير النفايات البلاستيكية لمدينة بورتسودان هي إعادة التدوير الميكانيكية

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Abbreviations

CAGR	A compound annual growth rate
BPA	Bisphenol A
DSD	Dual System Deutschland
DPG	Deutsche Pfand system GmbH
EEA	European Environment Agency
EPS	Expanded polystyrene
EPR	Organizations extended producer responsibility
FTI	For packnings-och TidningsInsamlingen
HDPE	High-density polyethylene
LDPE	Low-density polyethylene
MSW	Municipal solid waste
PVC	Polyvinyl chloride
POPs	Persistent organic pollutants
PDF	Probability distribution functions
PET	Polyethylene terephthalate PSPolystyrene
PP	Polypropylene
PTFE	Polytetrafluoroethylene or Teflon
RSCC	Red Sea State cleaning corporation
SPI	Society of the Plastics Industry
TSW	Total solid waste
TCDD	2,3,7,8-tetrachloro-p-dibenzo-dioxin