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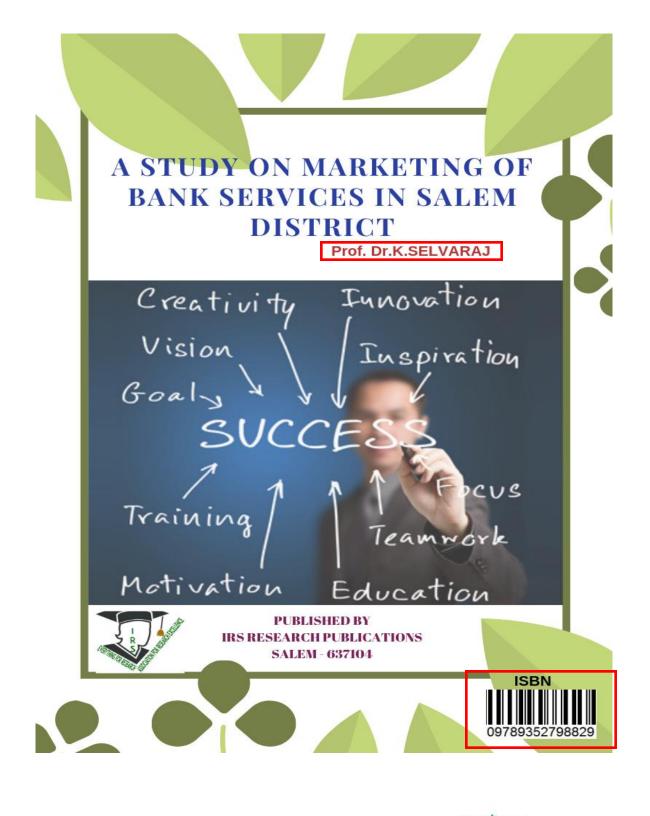
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2	Dr.T.Selvankumar	-	The role of health care in today's economy - A review	International Conference on Emerging Trends in Management ICETM 2018	2321 - 4643	Vel Tech
3	DR.R.Sundaramoorthi	Iyarkai Unavea Iniya Marunthu	_	_	978-93-88697- 01-9	Mangai Veliyeedu, Chennai-18
4	Periyasamy Thiyagarajan, Chinnappan Sudhakar, Thangaswamy Selvankumar	-	Adsorption of Acid Yellow dye from Textile Effluent by Multi-Walled Carbon NanoTubes (MWCNTs)	Proceedings of the National Conference on Innovations in Biotechnology [NCIB 2017] ISBN: 978-93- 86568-22-9	978-93-86568- 22-9	School of Biotechnolo gy, Madurai Kamaraj University

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**Research** Thesis

## A STUDY ON MARKETING OF BANK SERVICES IN SALEM DISTRICT

This thesis submitted to the Periyar University, Salem-11 in partial fulfillment of the requirements for the award of the degree of DOCTOR OF PHILOSOPHY IN COMMERCE is a record of original research work carried out by Dr.K.SELVARAJ during the period 2007-2010 of his study in the Department of Commerce, Kandaswami Kandar's College, Velur, Namakkal

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Research 1	Thesis
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Dr. K. Schnentf



#### STUDY ON MARKETING OF BANKING SERVICES IN SALEM DISTRICT

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Prof. Dr.K.Selvaraj,who has been completed M.Com.,M.Phil.,MBA.,Ph.D., currently he is working as an Associate Professor and Head of the Department of Commerce at Mahendra Arts and Science College.(Autonomous), Kalippatti, Tiruchengode, Namakkal Dt. he has presented for research contribution more than 20 international conference and seminars, also he published 15 journals international research articles in various double blind review. Dr.K.Selvaraj having 20 years of Academic experience and 8 years of research in commerce and management. he has produced 20 M.Phil scholars in his research career this book is the unique pretension for his Doctoral Degree which is Awarded by Periyar University for his Research contribution towards society.

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### THE ROLE OF HEALTH CARE IN TODAY'S ECONOMY - A REVIEW



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#### Abstract

There's a well-understood correlation that as the economy of a country improves, so the health of its citizens improves. What may be less obvious is that the opposite is also true - improving the health of a nation's citizens can directly result in economic growth, because there will be more people able to conduct effective activities in the workforce.

Health presents a challenge for all nations; in a study by the Pew Research Center, a median of 85% of respondents believe it was a problem in their country. Effective public health systems are essential for providing care for the sick, and for instituting measures that promote wellness and prevent disease. Tobacco, for instance, is one of the greatest scourges we face. In working to combat diseases such as lung cancer and heart disease, we have to fight the causes; there's a clear need for educational campaigns and other mechanisms to discourage people from smoking in the first place. If the plan to improve health in a nation is to simply build a few more hospitals, that won't solve the problem.

Keywords: Health, Public health, education, hospitals. etc.

### Introduction

#### **Health Care**

As a first approximation, health care is often divided into two categories; preventative and curative. Whilst undoubtedly overlapping in some respects, there are pure cases. For example taking an aspirin for a headache is a purely curative type of treatment whilst a purely preventative treatment is something like a vaccine. Both of these can be set in the context of a demand for health. Curative medicine contributes directly to one's health state and hence can be seen as being motivated by the demand for health. On the other hand, preventative medicine is protection against future possible illnesses. By purchasing it, one affects the probability of becoming ill in the future and hence it is the future demand for health from which a demand for preventative medicine is derived.

In the purest case, a demand for curative health care arises when an agent wishes to demand more health immediately. Most often this arises in the face of a 'shock' to one's health state, i.e. if it is diminished for some reason (for example by contracting an illness). A central constraint faced by an agent in obtaining more health is the health technology described in the previous section.

After one's health state has fallen there are two possible effects to be accounted for. First, it may not be technologically possible to restore one's health to previous levels since the required technological means are unavailable. This arises for example if one has a limb amputated. However, in many instances one's day to day functioning might be restored despite certain injuries having been experienced. Hence, whilst one's state of health is in a strict sense irreversible it does not follow that one's functionings are permanently impaired. Second, even if this were not the case, the individual concerned may not choose to gain utility via an increase in health but rather chooses to substitute towards other goods and services because of the change in relative prices.

In many health care systems, the role of tastes is muted by the fact that insurance schemes are in force. These alter the price of health care to the consumer and in some cases provide health care

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# இயற்கை உணவே இனிய மருந்து

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The Twentith Century Has Seen Our Country Progress In Various Fields And Become A Country That Benefits From Profitable Businesses. Never Theless, Despite The Astonoshing Benifits Of Science ,It Seems Painful For Today's Pepople To Be Over Whelmed By Such Inconveniences.

There Is No Denying That The Time When People Ate Food As Medicine To Be Eaten As Food. This Book Is A Wonderful Guide To Explain The Evils Of People .Who Are Looking For Artificial Foods Instead Of Natural Ones Due To The Craze For Civilization.

Written By

Dr.RAMA.SUNDARAMOORTHY

PRINCIPAL MAHENDRA ARTS & SCIENCE COLLEGE (Autonomous) Kalippatti (PO) - 637 501, Namakkal (DT

### Full Length Research Article - 6

MBT- 02

# Adsorption of Acid Yellow dye from Textile Effluent by Multi-Walled Carbon NanoTubes (MWCNTs)

## Periyasamy Thiyagarajan, Chinnappan Sudhakar, Thangaswamy Selvankumar\*

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#### Abstract

**Background:** Textile industries release excess dye as waste through their effluent. Azo dyes are the most common dyes used in textile industries, having highly toxic to environment, agricultural land and humans. They are highly resistant to biodegradation; whereas carbon nanotubes have multiple potentials to absorb coloured substances without any surface charges.

Objectives: The study was aimed to evaluate the dye absorption efficacy of Multi Walled Carbon Nanotubes (MWCNT) under controlled environment.

Methods: Adsorbent MWCNT was synthesized and characterized by Scanning Electron Microscopy (SEM), Raman spectroscopy, and Fourier-transform infrared spectroscopy (FTIR) methods. The absorption ability of the above adsorbents was evaluated using Acid Yellow dye from textile effluent. The effects of initial pH, contact time and MWCNT concentration on dye adsorbtion were investigated through this study.

**Results:** At pH 2.0-4.0 optimum adsorption of the dye was achieved by MWCNT adsorbents. Equilibrium contact times of 3 and 4 h were achieved by MWCNT adsorbents, without processing. Most effectively, 67.9 % of dye content was removed by MWCNT at 4h of exposure.

**Conclusion:** The best conditions for removal of acid yellow dye from textile effluent were established with respect to pH and contact time of the adsorbent. Hence, activated carbon nanotubes and multiwalled carbon nanotubes are suitable adsorbents for removal of textile dyes.

Keywords: Acid Yellow; MWCNT; Raman Spectrophotometer; Adsorption study.

#### 1. Introduction

Most of the industries such as textile, paper, leather, cosmetics, pharmaceutics, and food industries, and some other industries using dyes for colouring their final products (Alencar *et al.*, 2012; Rajoriya *et al.*, 2010), and subsequently discharge large amounts of azo and synthetic dye-containing effluents. The existence of dye containing waters may unfavourably affect the aquatic environment by impede light penetration and preclude photosynthesis of marine (aquatic) flora (Cardoso *et al.*, 2011). Nevertheless, the intricate aromatic molecular structures of dyes make them more stable and very complicated to biodegrade. Hence, effluents

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the environment (Cardoso et al., 2011; Dotto et al., 2012; Ai and Jiang, 2012). There are several methods to remove dyes, such as physical, chemical and biological processes, to treat wastewaters including organic pollutant and dye. Examples of these processes including coagulation/flocculation, ozone treatment, chemical oxidation, membrane filtration, ion exchange, photo catalytic degradation, and adsorption. Although chemical and biological approaches are effective in removing dyes, they require special equipment and are usually energy intensive; additionally, these processes often generate large amounts of by-products (Xu et al., 2012).

containing dyes require treatment before being released into



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