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## Interdisciplinary

Children's Sport Participation

Linear Assignment Method

Highlights

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Concrete Pavement

Discovering Thoughts, Inventing Future

Volume 13 Issue 3 Version 1.0

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# A Study of the Children's Sport Participation and their Physical Activities

By Dr. Arvind Kumar Tripathi
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*Abstract-* Physical movement might be acknowledged a method of precaution consideration for long term health. As such, opportunities for physical action such or thought to be swayed and activity to advertise physical movement is a fundamental part of long lasting health habits. This relates ought to be contemplating for future look into, as well as for strategy proposals. Systems focusing on young ladies, young people, and youngsters of less knowledgeable and single folks may be especially important for increased games cooperation in children. However, one must be careful in summing up the present comes about to all kids.

*Keywords: physical activity, cooperation, children, adolescence.*

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A STUDY OF THE CHILDRENS SPORT PARTICIPATION AND THEIR PHYSICAL ACTIVITIES

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*Abstract-* Physical movement might be acknowledged a method of precaution consideration for long term health. As such, opportunities for physical action such or thought to be swayed and activity to advertise physical movement is a fundamental part of long lasting health habits. This relates ought to be contemplating for future look into, as well as for strategy proposals. Systems focusing on young ladies, young people, and youngsters of less knowledgeable and single folks may be especially important for increased games cooperation in children. However, one must be careful in summing up the present comes about to all kids.

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## I. Introduction

The health improving lands of physical action are confirmation based and considerably acknowledged. Physical movement is any substantial development that is generated by the withdrawal of skeletal muscle and that considerably expands vigor consumption. (Cabperson CJ 1985) It incorporates dynamic living, animated play, game, physical training and animated transport. Current Department of Health and Children guidelines propose that kids and youth take part day by day in no less than 60 minutes of direct to enthusiastic force physical movement (> 60 min MVPA). This action ought to be developmentally suitable, include a mixture of exercises and be pleasant.

Physical action is essential to youngsters' current and future health, and adherence to the physical movement guidelines produces an extent of immediate and aberrant benefits. It supports in the control of figure weight by expanding vigor use, this is significant in instructing youngsters and youthful individuals how to realize a solid 'energy balance', and abstain from advancing mature person corpulence. It lessens the danger of advancing untimely cardiovascular ailment, sort 2 diabetes, metabolic syndrome and some site specific growths. Weight bearing physical action is imperative in skeletal substance structuring and remodeling. Likewise, physical movement decreases discouragement and restlessness (particularly in timid youngsters), upgrades temperament, self-regard and quality of life.

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Investment in general health upgrading physical action has likewise been considered to decrease standard breaking conduct, and to enhance consideration compass and classroom conduct. It has positive effects on scholarly execution, incorporating accomplishment in math tests and perusing, scholastic evaluations and perceptual abilities. Inclusion in game and physical instruction can assume a significant part in the advancement of a tyke's social life and the improvement of social cooperation abilities. Adolescence gives an extraordinary chance to impudence state of mind and cooperation levels emphatically towards physical action. A kid who rises up out of school with confidence in their physical form and abilities and who has been presented to positive encounters in physical action is less averse to hold fast to an animated lifestyle as they age. Females are less dynamic than guys. Also, the extent of youngsters and youthful individuals who walk or cycle to class, a wellspring of every day physical movement, is declining drastically (Beck LF, Greenspan AI. 2008). Schools are an essential setting for adolescent individuals to partake in, and research, physical movement. !unpleasant physical training programmes, free play action and additional curricular game, schools can give time, offices and direction for kids and youth to securely access physical movement chances and improve fitness and confidence in an environment that is backed by instructors, folks and companions. Schools are likewise a setting for under-spoke to populace sub gatherings to increase access to quality physical movement encounters. Nonetheless, diminishing physical training programmes in schools, force from the school educational program to lessen time used in free play, absence of preparing and senior administration uphold for instructors, especially at the essential level, and the evacuation of devoted green spaces or play zones in schools is a disturbing pattern worldwide (Hardman K. 2007).

A lot of youth physical action happens outside of the school in additional school games clubs. The variables supporting and empowering a positive move from necessary school-based physical action to game past the school doors are defectively comprehended. Numerous national overseeing figures of game furnish drilling sessions to class matured kids in the school setting (especially obvious in elementary schools).This



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has brought about the improvement of modified manifestations of their game which have been fruitful in selecting kids at an adolescent age.

The test of stemming the withdrawal of youthful individuals from organized clubs throughout their young years (especially adolescent young ladies) is overwhelming. For some kids and youth, club contribution will give them an advanced experience to add to their physical instruction experience, for others it might expedite a cessation of game. Cooperation in extra school clubs is an essential system to help youngsters and adolescent individuals accomplish the proposed every day measure of physical movement. Inherent sexual orientation deference's, developmental deference's around kids with the same ordered age and the assortment and nature of game chances that youngsters and youth are laid open to are a portion of the components that make working with kids and youth exceptionally testing. It is paramount that educators, mentors and club volunteers are given fitting underpin to support them improve their pedagogical and instructing abilities so as to meet the requests of blended capability.

A comprehension of the components influencing auspicious inclusion in physical action, physical training and added school club game is fundamental. Physical idleness is a major underlying explanation for expiration, infection and incapacity (Booth FW, Chakravarthy MV 2002).

Here is expanding concern at the quickly diminishing levels of fitness in kids and youth. Preparatory information from a World Health Organization (WHO) study on danger variables identified an inactive lifestyle as one of the ten heading worldwide explanations for expiration and inability, with more than two million passing's every year are attributable to physical dormancy. Kids and youthful individuals need to be urged to decrease the measure of time used in inactive exercises, for example TV and film survey, and playing workstation amusements particularly throughout light hours.

## II. Children's Sport Participation Activities

In Ireland, there has been a constrained measure of physical action information gathered from delegate examples of youngsters and even fewer studies have gathered information where physical movement has been measured with accuracy. Regardless of this absence of faultless information, suspicions that Irish kids are insouciantly dynamic are normal. These are generally dependent upon backhanded proof, for instance, proposals that youngsters are getting fatter. CSPPA utilized different routines -self-report reviews, objective measures of physical movement and qualitative questions -to evaluate support in physical action, physical training and game around 10-18 year olds. This multi-focus study (Dublin City University, University of Limerick and University College Cork), in a joint effort with the Irish Sports Council united adroitness from physical instruction, game and instructing studies and physical movement for health.

The CSPPA study included information accumulation from kids and youth, additionally from people answerable for furnishing chances for investment for this associate, specifically school directors and sport club volunteers. !e investigation of the youngsters and youth involved a review, meeting and gathering of physical health information. To permit immediate examination and furnish catch up information, the CSPPA survey was dependent upon the 2004 ESRI study (Fahey T, Delaney L 2004). A few modifications were made to the survey. Moreover, movement sensors were utilized to furnish more exact gauges of by and large physical action levels, ii) time used in light, direct and fiery exercises and iii) examples of physical movement for the duration of the day. Physical health measures – oxygen consuming fitness, form mass record, waist circuit and guilt force -were gathered on a sub-specimen of members. The feelings, disposition and sees on the variables that members esteemed essential in influencing their contribution in, or evasion of, physical movement, physical instruction or game were gathered through qualitative examination. The qualitative information additionally permitted us to discriminatingly inspect the precision of the overview information. Comes about because of the qualitative information are the subject of a divide report and won't be alluded to in this document. School heads were studied to give information on the tests they confront in the procurement of value physical instruction and additional curricular game. !e relationship between school ethos, school sport and physical action; and how foremost and understudy recognitions of these exercises differed were additionally analyzed.

The CSPPA study expands a global and national group of information researching volunteering yet takes a specific concentrate on the volunteer working in the youngster and youth setting. The present study additionally explored the causes, requirements, and limits, of volunteers working with kids and youth in an Irish game connection. Two online surveys were directed and six center gathering questions were led. Polls were intended to investigate volunteering from the point of view of volunteers and club directors. Center aggregations focusing on the volunteers investigated issues going out from the poll and further inspected programme plan in kids' and youth sport exercises. The study on volunteers is the subject of a differentiate report and won't be remarked on in this record.

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1. Give a national database for the Irish Sports Council and other intrigued open strategy offices of physical action, physical training and game cooperation levels of youngsters and youth in Ireland.
2. Survey files of health and fitness in a sub -specimen of the target populace.
3. Look at the perplexing communications of variables influencing support in physical action, physical training and game.

## III. Limitations

The CSPPA study is a cross-sectional study; it furnishes a depiction of support levels in physical action, game and physical instruction by youngsters and youth. It depends on self report information in the poll to survey levels of physical action support; however legitimacy checks utilizing movement sensors underpinned the correctness of the self-report information. The findings from the CSPPA study are contrasted with the ESRI study keeping in mind the end goal to evaluate change in cooperation levels throughout the most recent five years. For this reason comparable routines and measures were utilized to permit us to survey and analyze patterns that rise up out of both sets of information. Some alert is noted in making run correlations between the 2004 and 2009 information. is because of the members being deferent for instance because of the incorporation of first year people the normal period of the CSPPA study was more youthful than the ESRI study), the schools and areas of the nation from which the scholars were enlisted were deferent and the time of year for information gathering moved from October/November (2004) to March-May (2009).

The CSPPA study analyzes current cooperation in physical action, physical instruction and brandish by youngsters and youth in Ireland. With a specific end goal to grasp the setting in which this interest happens, it is fundamental to analyze how national approach backs investment in these territories. Empowering physical movement, quality physical training and game contribution is a part of numerous parts of government approach for numerous explanations, incorporating health, instruction, monetary and social benefits. The motivation behind this part is to furnish a diagram of arrangement in Ireland as it identifies with physical movement, physical instruction and youth sport, and give a premise for the talks and elucidation of information in consequent sections.

## IV. Physical Training

Physical Education is the main instructive experience where the center is on the figure, physical movement and physical improvement (Mac Donncha C. 2005). Physical Education has numerous objectives; one that has been reliably fortified throughout the most recent decade is its advancement of long lasting exercises for the benefit of open health. The Department of Education and Skills (DES) has authority regarding the usage of this educational module in schools. In Ireland, the Physical Education educational program is dependent upon a comprehensive thought of physical action, one that recognizes the physical, mental, passionate and social extents of human development, and emphasizes the commitment of physical movement to the advancement of singular and gathering great being" Here are various strategy issues fundamental to physical training right now that keep tabs on i) the schema that backs physical instruction all through the school cycle, ii) the physical training educational module, the perfect and the real taught programmes iii) time designation for physical training, iv) qualifications of physical training instructors and non-physical training experts.

## V. The Framework that Supports Physical Education Throughout the School Cycle

Improvements in the physical training system have been various in the course of the most recent decade. The essential physical instruction educational program was overhauled in 1999, and another lesser cycle physical training syllabus was achieved in 2003. Tere are right now two physical instruction courses being developed; a non-examination educational module system for physical training in the senior cycle and a syllabus for examination (Leaving Certificate Physical Education). Since 1998, the examination syllabus for physical training has experienced far reaching audit in an endeavor to meet the test of coordinating down to earth viewpoints, for example diversions or hit the dance floor with the hypothetical underpinnings of physical instruction. Instructive approach now needs to finish up and achieve advancements in senior cycle and Leaving Corticated physical training.

## VI. The Physical Education Curriculum, the Ideal and the Actual Taught Programmes

The physical training curricula comprise of seven strands, specifically games, open air and exploit exercises, aquatics, move, tumbling, recreations and health identified fitness in post-elementary schools. The strands are intended to furnish students with a rich, expansive instructive experience in physical training. Then again, the general nature of physical training is obscure because of the relative lack of examination in both essential and post primary schools in Ireland. !e research that has been embraced proposes gigantic variability in the nature of kids' encounters both




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crosswise over and inside schools. Here was some proof of disparities between the syllabus and what was really taught throughout the physical training class. Physical Education exercises were discovered to involve for the most part a little run of universal group diversions, and exercises, for example move or swimming were either not taught or furnished rarely.

## VII. Time Allocation for Physical Education

The Department of Education and Skills (DES) proposes that essential youngsters might as well appropriate no less than 60 minutes of physical instruction for every week and post-essential 120 minutes.Exploration shows that students infrequently gain this measure of physical training, with a normal post-essential portion of 69 minutes for every week. Young men get marginally a larger number of minutes of physical training than young ladies, and minutes of physical instruction were discovered to abatement as students advanced through the school cycle.

## VIII. Offices and Assets

As of late, time assignment has ended up a greater amount of an issue in physical training as offices. Then again, the fluctuating accessibility of school physical training offices affects the procurement of physical instruction inside schools, and has the possibility to fuel disparities. B-ball courts (or essential tar macadam zones) and grass pitches are extensively accessible. In any case, notwithstanding the suggestion that all schools have admittance to a "suitable indoor space-wears lobby with altering and shower territories" the poor procurement of such indoor offices has been identified. Working class schools may have the ability to ease their office trouble to a degree through raising money or voluntary commitments. Be that as it may, this may not be a choice for schools in hindered territories.

## IX. Additional Curricular and Added School Game

Governments put open monies in game not just to help the advancement of game itself however to attain upgrades to the personal satisfaction of their subjects. Speculation in game by the Irish Government has expanded significantly. In 2008, it is evaluated that the aggregate portion of focal government subsidizes to the game plan of the Department of Tourism, Culture and Sport (DTCS) was roughly €311 million. The greater part of this cash headed off to first class game (stadiums, horse and greyhound dashing store, and upper class players), and a major extent of what was left was used on offices through the games capital programme, and to accepted group games .

The improvement of games and recreational approaches to advertise youth cooperation is regulated by DTCS, with specific authority tumbling to the Irish Sports Council. The DTCS procedure highlights interest, its objective is: To build investment and premium in game, to enhance measures of execution and to improve dons offices at national, territorial and neighborhood level, in this manner helping healthier lifestyles and an enhanced general personal satisfaction, through a Departmental arrangement and asset system in organization with its Agencies, other Government Departments and the National Governing Bodies of Sports.

## X. Review of Literature for the Study

The report found that child and youth participation in sport in Calgary, not only as athletes but also as volunteers and officials, means that children and youth are experiencing and learning the values of citizenship and leadership – as they take on more responsibility for their sporting experiences and for the future administration of sport in their community (Douglas Brown Consulting, 2005).

Coakley (2002) and Donnelly & Coakley (2002) have also carried out broadly based reviews of research evidence regarding the potential of sport programs to contribute to child and youth development and the social inclusion of children and youth.

## XI. Objectives of the Study

- To know the sports activities among the children
- To know the status of sports activities
- To know the facilities and resources of sports activities

## XII. Research Methodology

The CSPPA study used a cross-sectional research design. It provides information from 10- 18 year old children and youth on their physical activity levels, physical education, extracurricular sport participation, and extra-school club participation.

## XIII. Conclusion and Suggestions

Research prescribe that game may give a chance for positive companion collaboration and solid rivalry for and around youth Later research proposes that associate relationships are a nexus part of youthful individuals' encounters in game, and that social acknowledgement and connection are imperative parts in verifying the degree to which kids what's more youth revel in taking an interest in game. As youthful individuals develop, they in an ever widening margin depend on associates for informative data and criticism with respect to physical fitness; along these lines, game as a connection of physical action, serves as a nexus site of youngster and youth improvement.

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## References Références Referencias

1. Beck LF, Greenspan AI. Why don't more children walk to school? J.Saf.Res. 2008; 39(5):449-452.
2. Caspersen CJ, Powell KE, Christensen GM. Physical activity, exercise and physical fitness: Definitions and distinctions for health-related research. Public Health Reports 1985; 100:126-131
3. Department of Health and Children, Health Service Executive. Get Ireland Active: the National Guidelines on Physical Activity for Ireland. 2009; Available at: www. getirelandactive.ie
4. Department of Education and Science. Active Schools Flag. 2009; Available at: www. activeschoolflag.ie.
5. Fahey T, Delaney L, Gannon B. School children and sport in Ireland. Dublin: Economic and Social Research Institute; 2005. (Note: Data collected in 2004, so referenced as 2004 in document for comparative purposes i.e. 5 year timeframe).
6. Mac Donncha C. A Strategy for Physical Education in Ireland: the Purpose and Role of Physical Education. 2005; Available at: www.peai.org/policy/ peproposedstr ategy/
7. Hardman K. Current situation and prospects for physical education in the European Union. 2007; Availableat: http://www.europarl.europa.eu/activity es/committees/studies/ download.do?file=16041.
8. Hardman K. Current situation and prospects for physical education in the European Union. 2007; Available at: http://www.europarl.europa.eu/activi ties/committees/studies/download.do?file=16041.



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# Crimen, Pasión Y Muerte: Una Visión Geográfica De La Experiencia Travesti En Las Cárceles Masculinas De Santiago De Chile

By Martin Ignacio Torres Rodríguez
*Geographer of Universidad de Chile in Chile*

*Resumen-* Este artículose basa en la experiencia de 5 travestis que hayan experimentado vivencias penitenciarias en cárceles masculinas. Generando así una discusión en la corporalidad, buscando analizar la discriminación y espacios marginales.

Se presenta la cárcel como un espacio marginalizado por la sociedad en donde además habitan cuerpos abyectos tanto para la sociedad de afuera como de adentro, generando así espacios interdictos para las travestis las cuales generan una paradoja de deseo al poseer un cuerpo femenino en un reciento masculino.

El artículo aborda la problemática del amor, de los crímenes, la enfermedad y muerte, como también la violencia en los cotidianos travestis visto desde el análisis geográfico de la ciudad y sus símbolos.

*Palabras Claves: travestis, cárceles masculinas, violencia y muerte.*

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CRIMEN, PASIN Y MUERTE UNA VISIN GEOGRFICA DE LA EXPERIENCIA TRAVESTI EN LAS CRCELES MASCULINAS DE SANTIAGO DE CHILE

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# Crimen, Pasión Y Muerte: Una Visión Geográfica De La Experiencia Travesti En Las Cárceles Masculinas De Santiago De Chile

Crime, Passion And Death:
A Vision of the Geographical Experience Transvestite in Male Prisons in Santiago of Chile

Martin Ignacio Torres Rodríguez

*Resumen-* Este artículose basa en la experiencia de 5 travestis que hayan experimentado vivencias penitenciarias en cárceles masculinas. Generando así una discusión en la corporalidad, buscando analizar la discriminación y espacios marginales.

Se presenta la cárcel como un espacio marginalizado por la sociedad en donde además habitan cuerpos abyectos tanto para la sociedad de afuera como de adentro, generando así espacios interdictos para las travestis las cuales generan una paradoja de deseo al poseer un cuerpo femenino en un reciento masculino.

El artículo aborda la problemática del amor, de los crímenes, la enfermedad y muerte, como también la violencia en los cotidianos travestis visto desde el análisis geográfico de la ciudad y sus símbolos.

*Palabras Claves: Travestis, Cárceles masculinas, Violencia y Muerte*

*Abstract-* This article is based on the experience of 5 transvestites who have experienced prison experiences in male prisons. Thus generating a discussion in the embodiment, looking for discussing discrimination and marginal spaces.

The prison is presented as a space marginalized in the society where heinous bodies also inhabit both for the society of outside as inside, thus generating spaces injunctions to the transvestites which generate a paradox of desire to possess a female body in a male compound.

The article discusses the problem of love, of the crimes, the illness and death, as well as the violence in the daily transvestites seen from the geographical analysis of the city and its symbols.

*Keywords: transvestites, male prisons, violence and death.*

## I. Introducción

Este articulo nace de las declaraciones y reflexiones del proyecto de tesis de doctorado sobre experiencias de mujeres transexuales y travestis en cárceles masculinas en la ciudad de Santiago de Chile, basado principalmente en declaraciones preliminares de la investigación de la tesis de doctorado, con el aporte de 5 entrevistadas travestis que han vivido la experiencia carcelaria, también acogiendo algunas reflexiones de la tesis de magister "vivencias de sujetos en procesos transexualizadores y sus relaciones con el espacio urbano de Santiago de Chile" (TORRES, M. 2012), generando así una investigación la cual recoge una problemática geográfica y social urbana, la cual tiene relación con la discriminación vivenciada por personas con cuerpos discordantes a lo binario establecido por nuestras sociedades occidentales heteronormativas.

En este sentido para este articulo se hace una reflexión importante sobre la doble discriminación en cuanto a tener cuerpos castrados y castigados socialmente los cuales además cargan con el estigma y marginalización de vivir o haber vivido en espacios penitenciarios; siendo además el principal objetivo de este trabajo el generar un documento que recoja las experiencias discriminatorias, la condenación por crímenes menores, la prostitución y las experiencias de amor y relaciones de pareja que se dan dentro de estos espacios, colocando en evidencia la visión social de la geografía en cada uno de los temas, generando un texto critico y radical en cuanto a las políticas de estado respecto al trato penitenciario y las políticas carcelarias de pabellones.

El espacio carcelario, es como varios otros espacios institucionales, organizados a partir de una lógica binaria básica de los géneros. Esto significa basado de forma clásica en dos géneros determinados por el sexo genital de las personas, en la visión heteronormativa de la sociedad occidental solo caben dos posibilidades de sexo y de género, así como estas dos deberían de determinar la orientación de los cuerpos, en este sentido la sociedad se ha basado en un poder institucional (FOUCAULT, 1998) para determinar que los sexos son masculinos o femeninos y los géneros hombre o mujer, estipulando de ante mano que el deseo debe estar dado por lo heterosexual.

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En este sentido se ha querido implantar como pensamiento natural que el sexo es binario, vale decir que solo existen dos posibilidades: hombre o mujer. Colocando estas dos opciones como únicas alternativas, y es más siendo estas impuestas desde el momento de nacer, dejando fuera o reasignado/mutilando genitales ambiguos para las categorías medicas del sexo. Esto según Foucault (1998) se enmarca bajo el parámetro de ejercer un poder sobre los cuerpos, los sexos y los deseos de los humanos, para así poder tener un control mayor sobre sus decisiones; a su vez que estas decisiones sean tomadas en pro de un beneficio al sistema capitalista que nos ordena mantener una familia binaria, heteronormativa, productiva y consumidora de bienes. Así lo manifiesta el autor cuando coloca que:

> La verdad del sexo, al menos en cuanto a lo esencial, ha sido presa durante siglos de esa forma discursiva, y no de la de la enseñanza (la educación sexual se limitará a los principios generales y a las reglas de prudencia), ni de la de la iniciación (práctica esencialmente muda, que el acto de despabilar o de desflorar sólo torna risible o violento). En una forma, como se ve, lo más lejana posible de la que rige al "arte erótico". Por la estructura de poder que le es inmanente [...]. (FOUCAULT, 1998. pp. 78).

Es así como para este trabajo nos basaremos en una visión del sexo y el género, como una performance, una elección, una funcionalidad; generando así una discusión fundamentada en Butler (2005, 2006) y Preciado (2002). Ultrapasando incluso las visiones clásicas de lo entendido como transexual, travesti, transgénero, entendiendo que estas definiciones también vienen desde una clasificación binaria y heteronormativa; que busca en su frustración e incapacidad de contener las fugas del sexo y el género, generar así terminologías que puedan volver a enmarcar a los individuos de formas binarias, como volver a revaluarlos catalogándolos y colocándolos nuevamente en otra performance binaria. Siguiendo así lo postulado por Torres (2012) al colocar que:

> Las múltiples prácticas subversivas en torno a la corporalidad, y en si en torno a las diversas corporalidades, son lo que la sociedad más estigmatiza, queriendo generar cuerpos binarios en aspecto y comportamiento y homogéneos en su sentir, olvidando así las infinitas formas corporales y las plurales manifestaciones de la corporalidad. Las posibilidades de combinación entre sexo-género-deseo, son múltiples, no existiendo una categoría fija en donde sea posible encuadrar todas las vivencias humanas. Con todo eso, la pluralidad es siempre disfrazada por la bi-polaridad. (TORRES. M, 2012. Pp: 58)

De esta forma conforme con Butler (2005) lo discursivo basado en el poder heteronormativo, fija a los cuerpos bajo una materialidad genital que no sería tal, ya que los cuerpos y los sexos pueden y son performativos, causando así contradicciones y paradojas para un sistema estipulado en términos binarios, las performances de genero son infinitas como infinitos son los individuos que las generan (Butler 2005, 2006).

En este sentido también se hace una discusión en Preciado (2002) sobre el sexo y género, ya que se entenderá bajos esos parámetros como las funcionalidades del cuerpo generan que estos se trasformen en lo no estipulado. Entendiendo así que lo fálico y lo genital seria meramente inventos, encontrando el placer en todo órgano humano (PRECIADO, 2002). Todas estas posturas sobre el género se ven interrumpidas, según todos los autores citados por las fuerzas de poder sistemático del discurso hegemónico imperante en la sociedad occidental capitalista que nos gobierna.

En una visión de Foucault (2003), los paradigmas sexuales y corporales se basan en un continuo *vigilar* de las normas heteronormativas, y en un constante *castigar* las fugas a este sistema; situación en la cual Wacquant (2004) hace una analogía también basado en los conceptos de Foucault, sobre cómo se lleva a cabo la vigilancia y el castigo dentro de las cárceles, para ello evoca el sistema penitenciario, el cual siempre está regido por cánones y normas, las cuales se interrumpen con el ingreso de cuerpos no binarios, causando sin duda una doble vigilancia y castigo.

En este sentido Foucault (2003) genera una increíble analogía con el concepto de vigilar y castigar de la sociedad con el legendario Panóptico*[1] en donde el autor postula que toda forma de encierro y vigilancia se basa en los parámetros de este encierro, que no solo las cárceles, sino que todo tipo de confinamiento, privación y anulación de la libertad (sea esta tangible o simbólica) se basan en esta estructura jerárquica de vigilar privando de visión, y castigar privando de responder. Así lo coloca cuando expone que:

> El esquema panóptico, sin anularse ni perder ninguna de sus propiedades, está destinado a difundirse en el cuerpo social; su vocación es volverse en él una función generalizada. (FOUCAULT, 2003. Pp. 211).

De esta manera el autor también coloca que este sistema es completamente aplicable para ejercer todo tipo de poder, y que es mas es el mecanismo utilizado en la sociedad de manera incluso simbólica, así lo expresa al colocar que:

[1]Panóptico, es utilizado por Foucault (2003) para hacer una analogía de cómo se dan los hilos del poder basado en el mítico centro penitenciario imaginario del filósofo Jeremy Bentham en 1971.

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> Es polivalente en sus aplicaciones; sirve para enmendar a los presos, pero también para curar a los enfermos, para instruir a los escolares, guardar a los locos, vigilar a los obreros, hacer trabajar a los mendigos y a los ociosos. Es un tipo de implantación de los cuerpos en los espacios, de distribución de los individuos unos en relación con los otros, de organización jerárquica, de disposición de los centros y de los canales de poder, de definición de sus instrumentos y de sus modos de intervención, que se puede utilizar en los hospitales, los talleres, las escuelas, las prisiones. Siempre que se trate de una multiplicidad de individuos a los que haya que imponer una tarea o una conducta, podrá ser utilizado el esquema panóptico. (FOUCAULT, 2003. Pp: 209)

En este sentido es que se entenderá tanto a la sociedad como a los espacios confinados, y privados de una supuesta libertad, como lo es la cárcel, basado en un sistema de vigilancia constante, de castigo por conducta y comportamiento. De esta manera también se evaluaran las historias y declaraciones de travestis en vivencias cotidianas de penitenciarios masculinos, entendiendo que las problemáticas de vigilancia y castigo son superiores en ellas que en los demás cuerpos que habitan este espacio de encierro. Colocando así también en el tapete situaciones que sobrepasan los derechos humanos, llegando a colocar en riesgo la vida y salud de todos sus habitantes, en especial de las personas estudiadas. Situación a la que los medios de comunicación no se han quedado al margen en su denuncia.

## II. Crimen

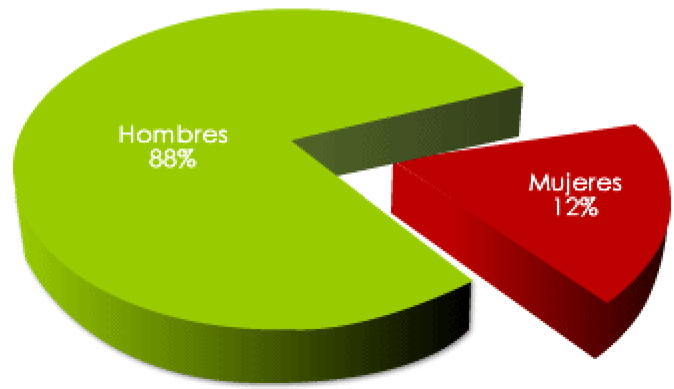
### *a) La población carcelaria*

La población carcelaria ha crecido de forma intensiva en diversos contextos, y en América Latina ese proceso también es común, no siendo este un proceso aislado a nivel mundial, ya que la población en estado de presidio ha aumentado exponencialmente, situación que guarda relación con diversos factores, sean estos políticas de Estado, como también una mayor injerencia delictual.

En este sentido el universo carcelario en Chile es de 96.243, en datos de gendarmería de Chile*[2], del cual el universo masculino es de 84.660, y el femenino es de 11.583; el universo masculino penitenciario de Chile es evidentemente superior al femenino, es así como gendarmería elabora un gráfico que lo demuestra en su totalidad. Ver gráfico N° 1:

[2] Todos los datos serán usados de las actualizaciones de gendarmería de Chile, del 31/12/2012. Sitio online: http://www.gendarmeria.gob.cl/

*Gráfico N° 1 :* población penitenciaria por sexo




*Fuente: Gendarmería de Chile. Datos actualizados del 31/12/2012.*

De esta población total penitenciaria de Chile, según datos de gendarmería, la cantidad de presos en la ciudad de Santiago son de 16.756, de los cuales el universo masculino pertenece a una cifra de 15.187, y el universo femenino penitenciario es de 1.569

La situación penitenciaria ha desplegado diversas crisis en su sistema. Eso implica que en espacios de encarcelamiento, los cuales son cada vez más insuficientes para albergar el número crecientes de personas en estado penitenciario, se den situaciones marginales de hacinamiento, a su vez situaciones que colocan al ser humano en posiciones abyectas, mediocres y en desmedro de sus derechos humanos más básicos. Se podría decir que según la orden del poder, manifestado por Foucault (1998, 2000) las técnicas para generar presión y opresión sobre algunos cuerpos, causando que algunos cuerpos sean sometidos a otros, casi de manera inconsciente, causando vigilantes y vigilados que proporcionan la mantención del orden establecido (FOUCAULT, 2003); es así como el poder lleva a que los cuerpos *importantes* opriman a los cuerpos abyectos, generando una **no** importancia en el hacinamiento, condiciones de vida paupérrimas, poca higiene, vejación social, discriminación, en fin, de los cuerpos no importantes para el sistema heteronormativo (BUTLER, 2005).

De esta forma la cárcel no es un lugar excepto de este orden, es mas es un espacio en donde se manifiesta por excelencia las jerarquías, y también el orden binario. De esta manera se inserta como un problemática los cuerpos no binarios que ingresan en los penitenciarios, como lo son las travestis que están en las cárceles masculinas.

La lógica de organización física del sistema penitenciario es el orden sexual biológico de los cuerpos, basado en la diferencia genital. Así es como las travestis, por poseer un genital masculino, aunque

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tengan una expresión femenina del género, han sido encarceladas en las prisiones masculinas. Situación que primero, es la expresión de un sistema heteronormativo y binario de los sexos, un sistema irrespetuoso de los géneros y su libre expresión. Pero además coloca de manifiesto una problemática en la paradoja que causa la travesti dentro de un reciento masculino, paradoja del deseo, el amor y el abuso.

En este sentido se recogen diversos relatos en noticiarios sobre abusos, y atropellos a los derechos humanos a travestis dentro de la cárcel, es así como se acogen relatos tales como:

> Travestis são leiloados em troca de cigarro, drogas e alimentação dentro do sistema prisional de Mato Grosso. Usados como "moeda" entre os presos, são obrigados a manter relações sexuais sob pena de sofrer agressões e até mesmo serem executados. (ONG: LivreMente, 2012).

Desconocidos intentaron quemar a travesti en su propia celda al lanzarle papeles encendidos desde uno de los patios del recinto penitenciario de Quillota, Quinta Región. (Última Hora, diario online, Chile. 2012)

Este tipo de relatos expone de manera general el ambiente de violencia que se presenta en ambos países referente a los cuerpos femeninos en espacios carcelarios masculinos.

El espacio carcelario ha sido denunciado por organizaciones de derechos humanos, debido a que estos espacios son considerados como profundamente insalubres. La salud es algo poco accesible a varios grupos de bajos estrato social, y en este sentido la población carcelaria es vulnerable de igual manera, es más la vulnerabilidad de la población carcelaria radica en que las condiciones internas de higiene son paupérrimas, en general la salud suele no ser lago importante para aquellos cuerpos como cataloga Butler (2005) no son importantes para la sociedad, situación dada porque los hilos de poder y castigo (FOUCAULT, 1998, 2003) aseguran que aquellos punidos sean completamente marginalizados de los derechos cotidianos de aquellos que viven una vida en el exterior, desmoralizando las necesidades de los presos.

Esta desmoralización de cuerpos en estado de punición, es aún mayor cuando estos cuerpos son doblemente castigados por una condición física no binaria, por conductas sexuales no heterosexuales, es así como las travestis pasan a ser un cuerpo carente de importancia y por ello sin derecho a una salubridad digna. Las travestis por ser generalmente encarceladas en los presidios masculinos poseen un alto grado de vulnerabilidad a diversos tipo de enfermedades, la agresión psicológica, física y también el distanciamiento del tratamiento que les posibilita la mantención de su género femenino produce sin duda tanto desajustes físicos-hormonales como psicológicos, además de mermar la autoestima generando depresiones y estrés.

## III. Imputadas

La problemática penitenciaria no solo pasa por la situación del crecimiento exponencial que manifiesta a nivel mundial, sino que también los motivos por los cuales se es imputado-condenado, en este sentido es difícil de determinar si las condiciones en las cuales han sido imputadas o apresadas las mujeres transexuales y travestis son relacionadas con procesos de discriminación de género. La mayoría de las travestis entrevistadas han sido condenadas o imputadas por crímenes que no han cometido, por crímenes menores, por prostitución y en un bajo rango por crímenes pasionales.

Esta situación coloca en desmedro a las travestis dentro del espacio carcelario, ya que en su mayoría llegan de la calle en estado de prostitución y drogas. Lo cual también coloca a la geografía en el plano social ya que los problemas para encontrar trabajo que tienen la mayor cantidad de travestis y mujeres transexuales genera una explosión en ejercer el comercio sexual, causando la paradoja de que si bien la sociedad no desea darles un empleo tradicional tampoco acepta que estas ejerzan un comercio sexual saludable, empujando a muchas mujeres transexuales y travestis a tener la necesidad de ejercer un comercio sexual callejero e inseguro, del cual además de los peligros propios de la calle esta la situación de punición. Cuando las travestis son apresadas por ejercer la única posibilidad de empleo que la sociedad les ha dejado, se genera un encierro no solo tangible sino que también simbólico ya que despoja de toda posibilidad y dignidad a una persona que ya posee pocas herramientas para establecerse de manera apropiada en la sociedad.

Se recogen algunos relatos de los motivos por los cuales han sido imputadas y cuanto tiempo de condena tienen por sus crímenes

> *Sujeto Nº 4: "Llegue a la Cana*[3] por un hombre, muchas de la chiquillas*[4] llegamos acá por un hombre, y yo la verdad simplemente un día no aguante mas los maltratos, me desquite, pero no podía matarlo, me daba miedo hacerlo, lo tajie*[5], lo llene de tajos, nunca lo apuñale pero él se valió de eso para acusarme de locura y de ladrona, dijo que era una prostituta que recién conocía y que además de robarle lo había herido con un cuchillo. Nadie me defendió nadie declaro en mi favor ni uno de sus conocido dijo que yo había sido su pareja por años. Y en la cárcel*

[3] Cana: en la jerga chilena se refiere de manera abreviada a la cárcel como Cana.

[4] Chiquillas: en la jerga chilena se refiere a niñas. En este caso utilizado para hablar de sus pares travestis.

[5]Tajie: del verbo tajear, se refiere al acto de hacer un tajo, herida con cuchillo por lo general.

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*como te ven travesti, ya asumen que uno es prostituta y problemática, cada día me dan mas condena por supuesto mal comportamiento interno, son los demás los que me maltratan y yo recibo el castigo". *[6]*

En otros cometarios de la misma persona se puede entender como el no reconocimiento es una de las peores formas de ignorar su corporalidad y castigarla por su sexualidad. Las formas en que se toman los crímenes y las influencias que tiene para nuestra cultura occidental heteronormativa tener un cuerpo no binario que delinque genera un doble castigo, una especie de desconfiar de ante mano de aquello que parece salirse de un esquema corporal determinado.

*Sujeto Nº4: "Una de las cosas que mas me dolió fue sentir que después de todos esos años él no me reconoció, me escondió, fue como si no hubiese existido nuestra relación, me oculto delante de toda la gente se avergonzó de mi, eso me dolió que se avergonzara de estar conmigo, y que me tirara como me tiro a esta cárcel, aquí me a pasado de todo, la peores miserias, pero finalmente cada noche pienso en eso, en que tal vez para él, como para muchos siempre fui alguien de quien avergonzarse, alguien a quien veían de manera oculta, que nadie se entere que andan con una travesti".*

Se genera la creencia entre las travestis que muchas veces el crimen real no es lo cometido, sino el cuerpo que portan, el sexo, el deseo, el género que transgrede las normas, por lo general una persona travestis es condenada de ante mano sin antecedentes que lo avalen, la protección social en este caso se ve afectada por factores discriminatorios.

Queda en duda, ¿el crimen es el delito? O ¿el crimen es el cuerpo?

## IV. Pasión

### *a) Amor, deseo y pasión*

El espacio carcelario se vincula con infinitas situaciones, el crimen, la pasión, el amor, la muerte y el deseo. Diversas son las historias de punición por crímenes pasionales. La locura y el desamor son parte cotidiana del espacio carcelario. Algunas mujeres transexuales y travestis han sido condenadas por crímenes mayores, por crímenes denominados por pasión. En sus relatos se puede dejar ver la mayoría en alguna forma han estado cerca de estas situaciones. En una conversación interesante con una travesti condenada por asesinato se puede reflexionar sobre como se generan algunos crímenes pasionales, como la cultura, las creencias y los simbolismos juegan una parte importante en el entendimiento de la relación, el amor y el cuerpo.

*Sujeto Nº 3: "Sabes me he sentido mas amada en la cárcel que afuera, yo la verdad al principio cuando entre sufrí mucho, en parte por las múltiples violaciones, porque me golpeaban mucho pero también por la culpa… yo sentía que amaba a mi pareja, pero el me golpeaba, me trataba pésimo, me escondía de sus amigos, le daba vergüenza estar conmigo, un día supe que me engañaba, lo seguí hasta que lo descubrí, lo apuñale varias veces, no se murió, pero me sentí mal, porque me dolió hacerle daño al hombre que amaba…*

*Autor: pero te declaraste culpable…*

*Sujeto Nº 3: "Si, es que yo quería matarlo, pero, es extraño, entre que lo odiaba y lo amaba. Es difícil de explicar. Ahora sé que no hay amor, que es todo falso, me siento amada acá en la cárcel porque mi pareja de acá me cuida pero sé que aunque diga amarme es mentira"*

*Autor: ¿Entonces no crees en el amor?*

*Sujeto Nº 3: "(risas) El amor no existe para una travesti, eso jamás pasara, un hombre nunca va amar a una travesti. He escuchado historias de cárceles en donde juran amarte, salen de la cárcel y te hacen lo mismo que todos, se avergüenzan te ignoran. Ya no creo…muchas chiquillas me han dicho eso, que no sea tonta, el amor no existe para nosotras"*

En este relato se observan varias situaciones, en parte la desesperanza de una vida en la cual se pueda ser amada y reconocida, la culpa, el desengaño. Pero sobre todas las cosas el sentimiento claro de que dentro de la cárcel las reglas y simbolismos son otros, finalmente en un espacio confinado que es masculino por excelencia se generan patrones y códigos diferenciados, al integrar una imagen femenina en estos espacios se genera la paradoja del deseo, en donde pasa este cuerpo marginalizado en la sociedad de afuera a ser un cuerpo deseable, un cuerpo erótico y femenino dentro de cuerpos masculinos. Da estatus tener una pareja travesti; y como se vera en otros relatos, aquellos que acceden a una travesti es porque tienen el poder de hacerlo.

El desamor no es una lineal constante en las vivencias travestis, lo cual no hace mas que reafirmar que las experiencias humanas no son lineales en su conducta y sucesos, y que por mas que la cultura occidental heteronormativa quiera catalogar a los cuerpos que se salen de sus márgenes binarias como una masa igualitaria con conducta y deseos similares, la experiencia humana hace hincapié en que la transexualidad y lo travestis siguen siendo al igual que todo acto humano, un proceso único.

[6] Extracto de entrevista. Todos los extractos de entrevistas utilizados en este artículo son de entrevistas preliminares del proyecto de tesis de doctorado, utilizando 5 travestis entrevistadas que han experimentado las vivencias penitenciarias.



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*Sujeto Nº 1: "Yo me he tenido defender diversas veces, pero estoy acá finalmente por ejercer la prostitución, me han traído muchas veces, de esta vez no se si saldré. Acá es complicado, cuando me violan delante incluso de los gendarmes no dicen nada, como he siendo siempre prostituta piensan que no me duele, o que incluso me gusta"*

Se tiende a pesar en la ciudad heteronormativa que las travestis incluso son afortunadas de estar en cárceles masculinas, no se piensa en ellas como un ser humano sino que se sobre erotiza y caricaturiza la imagen travesti. Y también en este último caso se puede entender como se generan situaciones que conllevan a crímenes pasionales, el pasar cotidianamente por abusos y mal tratos genera una violencia constante en las vivencias.

En otro aspecto, la cárcel también es un espacio en donde las relaciones humanas y afectivas generan vínculos tanto eróticos como abusivos, y en espacios confinados lo erótico y el amor se confunden, se transforman, existiendo así distintos códigos para lo erótico dentro y fuera de la prisión. Situaciones no aceptadas fuera pueden ser bien vistas dentro de la cárcel. Al igual que las condiciones cambian en la medida que las posibilidades también mudan, tal es el caso expuesto.

*Sujeto Nº 2: "Después de tantas cosas al final pagaron por mi y ahora estoy con alguien, ya llevamos años juntos acá en la cárcel. Acá todos me desean, cuando me paseo por los pabellones sé que todos quisieran tener el poder de tenerme. Me siento atractiva, eso me hace bien. Es raro pero me he sentido mejor adentro que afuera"*

Muchas veces esa sensación de aceptación y de ser deseadas, ser un cuerpo erótico, el cual puede generar deseo, amor y pasión, es algo que han buscado siempre las travestis, generando así una sensación de amor.

También los cuerpos y sus sexualidades se ven impregnadas con los simbolismos, las lecturas tanto tangibles como intangibles que la ciudad presenta. Dejando ver, de forma muchas veces subconsciente, que la ciudad es prohibitiva para algunos cuerpos y abierta para otros. Aquellos cuerpos binariamente aceptados, con conductas heteronormativas, son recibidos por esta ciudad excluyente, la cual condena de forma simbólica aquellos cuerpos no binarios, colocando barreras en su libre tránsito por la ciudad.

En este sentido no solo los cuerpos no binarios o catalogados bajos rótulos de género y sexo como hombres o mujeres, serian los condenados, también se condenan cuerpos no aceptados bajo los cánones occidentales de la belleza. Es así como dentro de las cárceles masculinas los conceptos de belleza y cuerpo erótico cambia, siendo un espacio confinado y por excelencia masculino, la inserción de un cuerpo con una performance de género femenina genera sin duda una paradoja en el deseo.

Para entender como los cuerpos que trasgreden la ciudad heteronormativa, pueden manifestar su erotismo y corporalidad de manera óptima es importante entender cómo y bajo que parámetros son condenados algunos cuerpos y otros no. Comprendiendo así como el discurso hegemónico ha invisibilizado a los cuerpos que no cumplen esta norma, mediante la repetición de hegemonías, de cánones y por supuesto de condenación; para lograr la perfección del sistema, éste genera mecanismo de vigilancia, y de auto condenación, el sistema vigila las conductas asumidas como correcta e incorrectas, lo cual sin duda afecta el erotismo y las prácticas sexuales de cada individuo.

La travesti rompe con el esquema sexo-genero-deseo. Generando un imaginario de como son aquellas vivencias eróticas, es mas generando imaginarios de como las vivencias eróticas de personas que practican una sexualidad con otros cuerpos travestis; no solo se condena al cuerpo de la travesti, sino que también a aquel que se vincula con ella.

Estos temores a lo erótico suele tener como fundamento lo genital, tanto para la persona travesti como para aquel que se vincula con ella. Esto porque científicamente (medicamente), socialmente e históricamente el sexo ha sido entendido como algo determinado con lo que nacemos, la cual puede ser femenina, masculina o intersexual, pero de forma confrontacional y contestaría, Butler (2005) expone que la genitalidad está dada por la función, ¿Se puede realmente decir que un pene es un pene si no cumple la función que se le ha estipulado?, se supone el sexo como tal, entendido en la sociedad normativa, es anterior al género y este debería de estar definido por el sexo otorgado, sin embargo, según lo explica Butler (2005) el sexo es una construcción lingüística al igual que el género, catalogando así también al sexo según su funcionalidad más que en su morfología, así lo expone cuando coloca que:

> Si el género es la construcción social del sexo y solo es posible tener acceso a este "sexo" mediante su construcción, luego aparentemente lo que ocurre es, no solo que el sexo es absorbido por el género, sino que el "sexo" llega a ser semejante a una ficción, tal vez una fantasía, retroactivamente instalada en un sitio prelingüístico al cual no hay acceso directo. (Butler, 2005. p.23).

Esta situación cambia en la cárcel, el temido falo de la travesti en la sociedad pasa a segundo plano en la cárcel, por lo tanto los temores heteronormativos se diluyen en la corporalidad y la performance femenina de la travesti, generando así un nuevo estatus para este cuerpo anteriormente marginalizado.

## V. Vendidas

A nivel mundial se ha repudiado las políticas de Estado referente a las cárceles, y también la políticas de pabellones para las travestis en las cárceles masculinas, si bien en algunas partes del mundo existen pabellones separados para travestis en Chile según gendarmería aún está en proceso, las políticas de pabellones son separar por crimen cometido, o más bien por crimen acusado; situación que está cambiando en cuanto al ingreso de travestis y transexuales a la cárcel. El manejo del deseo y el abuso dentro de las cárceles masculinas son situaciones que en general gendarmería trata de omitir, colocando la temática travesti (y en general lo sexual) dentro de la cárcel como un tabú. Las políticas de pabellones diferenciados para travestis en Chile están en proceso de ser aprobadas, pero aún no han sido implementadas, generando así un avance en el papel, pero no en lo cotidiano.

La cárcel masculina es el destino para las travestis que han cometido un delito; así lo considera el sistema penal, sin importar lo que puede provocar un cuerpo femenino (factores de deseo) en un lugar de encierro, ejerciendo así juego de poder en donde la violencia sexual se transforma en un modo de disciplina y formas de control personal, y en cierta forma también una manera de recordar las consecuencias de fugarse del género.

En si la vivencia carcelaria, en especial para las travestis, genera concordancias de abuso, violencia y muerte en el universos carcelarios.

> *Sujeto N° 1: " una de las cosas más difíciles fue tener que hacer pipí*[7] y otras cosas a la vista de todos, siempre eso dio pie para que los abusos fueran cotidianos, lo peor de todo es que siempre hay alguien vigilando, nunca tuve privacidad, pero aunque alguien mirara nunca había protección…nadie nunca dijo nada cuando abusaban de mí en los baños, era mugroso, todo me da asco de recordar esa época, el suelo en el que me abusaron diversas veces siempre tenía excremento…es denigrante, todo lo que sufrí, incluso me da vergüenza comentarlo".*

Otro problema que enfrentan las travestis dentro del espacio carcelario es la constante preocupación por ser vendidas o intercambiadas por objetos o tratos internos entre los presos. Muchas de ellas refieren el miedo de ser intercambiadas a alguien que las maltrate, y a su vez afirman la suerte que han tenido al estar en manos de un preso que las ha tratado bien.

> *Sujeto Nº 2: "Siempre quise que me comprara él, es que él es como el jefe de los presos (risas), cuando me compro mi vida cambio, yo le hago sus cosas, su aseo, soy de él, pero desde que estoy siendo su pareja nunca nadie mas me a golpeado".*

En este sentido muchos presos compran una travesti no solo por los favores sexuales sino que también por tener a alguien que le sirva, que sea su empleada, es una manera extraña de ver lo erótico y el amor, se generan vínculo de protección y a su vez de sumisión.

Uno de los problemas mayores de esta situación es el ser constantemente vendida e intercambiada, es la sensación de ser objeto, y en algunos caso preferirlo de esta forma ya que se genera un protección deseada en un entorno hostil como lo es la prisión. Pero algunas de ellas no tienen la misma visión protectora de la venta que se genera en las cárceles.

> *Sujeto Nº 5: "Fui intercambiadas muchas veces, me vendieron al mejor postor cuantas veces se pudo, la verdad mi experiencia en la cárcel no fue buena. Quien me compraba se trasformaba en mi dueño, y yo no era como una empleada era mas bien una esclava, me vendía por preciosbajísimos, me intercambiaban hasta por cigarros y despuésvolvía al mismo cuando este tenía para comprarme de nuevo. Fue horrible, sentir que no era de nadie y de todos, siempre se podía pagar un favor conmigo y eso me hizo sentir indigna".*

También es relevante mencionar que la diferencia de relatos puede deberse a que la travesti Nº 2 permanece en la cárcel y la travesti Nº 5 salió de prisión hace algunos años. Esta situación puede generar temores en mencionar los verdaderos problemas que existen dentro de la cárcel. Por lo general las travestis que permanecen en las cárceles suelen hablar de ser bien tratadas mientras que aquellas que ya cumplieron condena comienzan a expresar las realidades y vejaciones que han sufrido dentro del espacio penitenciario.

## VI. Muerte

*a) Un problema social y de salubridad*

El espacio carcelario es de interés geográfico y social, debido a su carácter punitivo, segregado y marginado de la sociedad, representando todo aquello que la sociedad pretende esconder. La temática de la cárcel es de por si un problema social geográfico y humano, sin embargo cuando a este espacio segregado se le vincula con otras situaciones segregadas dentro de la misma cárcel, nos encontramos ante una situación que trasciende a la geografía, hablamos entonces de derechos humanos. Esta investigación se basa en la enorme necesidad de estudiar espacios segregados y personas marginadas de la sociedad.

[7]Pipi: en jerga chilena se refiere a la orina.

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Históricamente en occidente la población travesti ha sido marginalizada y discriminada por la cultura heteronormativa, binaria, machista, basada en principios evolutivos de familias patriarcales. La población travesti ha sido habitualmente discriminada y estigmatizada, siendo catalogada durante siglos como una enfermedad, una desviación, o colocada como marginal a la "buena sociedad"; prueba de esto es que la travestilidad, en conjunto con la transexualidad, continúan estando en los manuales de la psiquiatría y de las enfermedades como los postulados por el MDE-IV*[8], el cual cataloga a las travestis, como una enfermedad mental ingresándolas a los registros del CIE*[9] en la década de los '80, siendo anteriormente a esto simplemente un tema tabú, del cual poco o nada se conocía.

Esta situación cultural hace que un grupo de personas que no calzan en los binarismos estipulados sean duramente recriminadas y punidas socialmente mediante discriminación verbal, física y simbólica. Las formas de discriminación dentro de la ciudad están dadas de diversas formas por la sociedad, una de ellas es mediante los simbolismos culturales que se instalan en el inconsciente colectivo de las personas (DUNCAN, 1990) siendo estos manifestados en los espacios urbanos generando así espacios con determinadas cargas simbólicas, espacios de libertad, y espacios que de alguna manera se han colocado como interdictos (SILVA, 2009) para la sociedad, los espacios interdictos dentro de la urbe son aquellos que según Silva (2009) de manera simbólica representan una prohibición o una hostilidad en la estadía, de esta manera mediante imposiciones no tangibles se generan espacios no transitados y no habitados. Manifestándose de esta manera los hilos del poder heteronormativo que según Foucault (1998) se han naturalizado como conductas supuestamente normales dentro de una sociedad, desmoralizando otras conductas sexuales que no sean las heterosexuales, y quitando valor a cuerpos que no son binariamente entendidos como hombreso mujeres, generando así cuerpos que socialmente dejan de importar, y son abyectos a la sociedad (BUTLER, 2005).

Es en este sentido que la problemática de salud en personas travestis en estado de cárcel, se vuelve relevante para la geografía, determinando así, cuales son aquellas situaciones que afectan a una determinada población. En este sentido la discriminación simbólica que se vice dentro de la ciudad para las travestis es similar en las cárceles, muchas de ellas como se ha visto en los relatos son condenadas e imputadas bajo situaciones catalogadas como marginales y duramente condenas por una condición sexual y corporal. A su vez se identifica que en algunas ocasiones el espacio carcelario puede ser mas acogedor que la misma ciudad, ya que las vivencias son similares e incluso en ocasiones se puede subir de estatus si se es travesti en la cárcel.

El atropello a los derechos humanos, la violencia sufrida por la comunidad estudiada, los abusos y violaciones que las personas travestis sufren en la cárcel masculina; en cuanto a la problemática de salud, el contagio de diversas enfermedades, la vulnerabilidad infecto-contagiosa de infecciones de trasmisión sexual, la vulnerabilidad al VIH/SIDA, otras infecciones comunes en la cárcel como lo es la tuberculosis, enfermedades contagiadas producto de los abusos sexuales que sufren las travestis dentro de los penitenciarios masculinos. Problemas derivados de la negación de hormonas, y mantención del aspecto femenino dentro del espacio carcelario, la negación a atenciones derivadas de cirugías ya hechas antes de entrar en prisión, la falta de conocimiento por parte de los funcionarios carcelarios que desconozcan el tema travesti y trans en general, causando así negligencia medicas a la hora de ocurrir alguna situación de enfermedad. Y también problemas de salud derivados de depresiones, auto agresión física, producto de estrés carcelario, ansiedad y dolor mental por abusos y atropellos a la libre identidad de género.

El contagio en las cárceles masculinas de diversas enfermedades es una realidad, la cual por ser un medio en donde se encuentran diversas personas hacinadas, es el medio propicio para la proliferación de infecciones. Si bien dentro de los espacios carcelarios existen diversas enfermedades contagiosas, el objetivo de este artículo es dar énfasis en aquellas enfermedades de trasmisión sexual.

Esta situación guarda una estrecha relación con los abusos y las condiciones higiénicas tanto dentro de estos espacios carcelarios como en los mismos abusos. Es fundamental anticipar que relatos vertidos en este artículo serán acotados, las entrevistas poseen un material fuerte y difícil de tratar, es por ello que se protege mucho la identidad de las entrevistadas y también no se exponen aquellos relatos que son excesivamente fuertes, se subentiende de antemano las terribles cotidianidades que fueron vivenciadas en aquellos espacios.

> *Sujeto N°1: "cuando pase por todo eso nunca pensé en lo que vendría después, jamás pensé que tendría que pasar por esto…cuando descubrí que tenía VIH, ya me habían violado tantas veces en la cárcel, había ejercido tantas veces la prostitución, que la verdad saber cómo lo había contraído era imposible…*
> *Ahora además de todo la sociedad también me discrimina por esto, es finalmente como un castigo, me he llegado a cuestionar si en realidad Dios me castiga por ser*

[8] MDE-IV: Manual de Diagnóstico y Estadística de enfermedades mentales.
[9] CIE: Clasificación Internacional de Enfermedades.



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*travesti…ahora que estoy enferma, ya nadie me toma en cuenta…a la mayoría le da miedo mi situación…"*

La triple discriminación que viven algunas de las entrevistas, surge en relación a tener un cuerpo que no es acorde con las estipulaciones heteronormativas y binarias de las culturas occidentales, posteriormente por vivir con VIH, por ejercer el comercio sexual, y además en este caso por ser personas que han estado en condiciones carcelarias durante años.

Uno de los temores de las travestis es morir solas, discriminadas y abandonas, ser completamente un ser humano al margen de la sociedad.

*b) La condena*

*Sujeto N° 4: "nunca voy a olvidar cuando llegue, y no tenía nada, pedí una frazada para cubrirme, nunca olvidare que estaba hedionda, fétida a un aroma desconocido, era entre mugre, pichi*[10], caca, vomito, era todo junto. Lo peor es que cuando el frio te golpea ya no piensas en nada, solo quieres abrigarte".*

La crudeza de algunas vivencias en la cárcel en la experiencia travesti genera la búsqueda constante para geografía social el dar solución a cotidianidades que llevan al ser humano a degradarse, finalmente las entrevistadas coinciden en tener una vida con condiciones paupérrimas, y haber vivenciado situaciones extremas de vejaciones sociales. En este sentido el castigo no siempre esta relacionado con el tiempo de presidio.

La condena lamentablemente no es el tiempo que se pasa en la cárcel, la condena social es la mas fuerte que viven estas personas, muchas veces estar dentro o fuera no implica un cambio, la cárcel puede ser visible o simbólica, las paredes y rejas tienen el poder de ser intangibles para cuerpos constantemente vigilados por la sociedad heteronormativa.

En este sentido el poder del castigo es doble, por ende la punición no solo es privar de la libertad social, sino que el encierro es también corporal y privativo de lo sexual, dejando la libre expresión de género confiscada, ya que una travesti tiene que ser presa dentro de un recinto masculino, por ende asumir esa conducta y esa vestimenta; haciendo que el vigilar sea una conducta que traspasa las barreras y rejas de la cárcel generando una punición social que está inmersa dentro de un imaginario colectivo, el mecanismo del sistema es que cada uno se convierte en vigilante del otro y de sí mismo (FOUCAULT, 2003), para así mantener las márgenes de un sistema capitalista basado en la producción y reproducción de un discurso hegemónico.

Esta condena simbólica esta en el cotidiano travesti,cuando ellasexpresan que todo parece un castigo.

[10] Pichi: en jerga chilena se refiere a la orina.

*Sujeto Nº 1: "Se que me voy a morir, sé que todos se vana morir, pero en mi caso, siento que me voy a morir condenada, no importa si salí de prisión, tengo una enfermedad que me marco, soy travesti y la gente me mira raro, se ríen de mi, imagínate cuando saben que tengo SIDA, se asustan se alejan, todo eso me lo dejo la cárcel. Mi familia me dio la espalda cuando decidí ser travesti, mis amigos cuando caí presa se alejaron de mi, ahora solo me queda esto, gente que de vez en cuando se preocupa de mi situación y hace alguna entrevista…pero realmente no creo que pase nada, no hay mucho que pueda pasar, la verdad supongo que con el tiempo me acostumbre a la soledad. Pero igual tengo miedo"*

En otros relatos se puede reflexionar de como algunas travestis sienten temor por lo que han visto en sus amistades.

*Sujeto Nº 2 "He tenido suerte, muchas de mis amigas, mis amigas travestis, han muerto por ser travestis, siento que he tenido esa suerte, he visto como han muerto en la calle, también sé que no es una realidad alejada de mi, puede pasarme acá dentro de la cárcel, o el día que salga, en la vida de nosotras la muerte siempre esta presente".*

Una de las mayores problemáticas sociales de las travestis es sentir esta condena, el sentirse igualmente encerradas estando fuera de la cárcel. La enfermedad de algunas genera una sensación de castigo por su elección de género, la soledad en su cotidiano y la violencia vivida en los diferentes aspectos.

Finalmente es el temor a lo inevitable: la muerte.

## VII. Conclusiones

La problemática travesti en las cárceles masculinas causa innumerables situaciones catalogables como vejaciones sociales, además de ocasionar problemas de salud y calidad de vida. Esta realidad es sin duda dolorosa, un problema social del cual la geografía social y del género deben hacer un hincapié para tratar de otorgar una solución a estas cotidianidades humanas que sin duda son injusticias sociales.

Las declaraciones expuestas demuestran que las vivencias que han tenido las travestis en los espacios carcelarios masculinos son el reflejo de una cultura heteronormativa, basada en cánones binarios, con un sistema patriarcal, el cual ha avalado machismos y abusos de diversas formas.

En general los espacios carcelarios tienen condiciones paupérrimas, esto para todos sus

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habitantes, sin duda que las cárceles en la medida en que tengan tal cantidad de habitantes, el cual va en aumento, se van a generar este tipo de problemas sociales, en la medida en que las políticas de pabellones y sistema binario de división de sexos no mude, esta situación seguirá siendo una problemática mayor para aquellas y aquellos que no calcen en cánones físicos y normativos.

Entendiendo así que la experiencia carcelaria de las personas travestis en los presidios masculinos son relatos vivenciales que deben ser rescatados por el área intelectual, dando voz una sociedad enmudecida durante siglos es que se ha otorgado un material en donde se expone la visión de amor, pasión y deseo, en donde se vincula con el crimen y el cuerpo, llegando así a la muerte de travestis en las cárceles masculinas, y es mas en las calles de la ciudad. Generando la interrogante para geografía social, de como hacer espacios mas igualitarios, políticas mas justas, y sociedad comprometidas con lo humano.

## Bibliografía


1. BUTLER, Judith. "El género en disputa": El feminismo y la subversión de la identidad. Barcelona. Editorial: Paidós. Edición 2006
2. _______. "Cuerpos que importan": Sobre los limites materiales y discursivos del "sexo". Buenos Aires. Editorial Paidós. Edición 2005
3. _______. "Deshacer el género". Barcelona. Editorial: Paidós. Edición 2007
4. DUNCAN James. The city as text: the politics of lanscape interpretation in the Kandyan kingdom. Cambridge. Cambridge University Press. 1990. p. 244.
5. FOUCAULT, Michel. Edición: 2000. "Los Anormales". Argentina. Editora siglo XXI, 1975.
6. _______. Edición: 1992. "Microfísica del poder". Argentina. Editora siglo XXI, 1979.
7. _______. Edición: 2004. "Seguridad, territorio y población". 1978
8. _______. Edición: 1998. "Historia de la sexualidad: Volumen 1: La voluntad de saber". Argentina. Editora siglo XXI, 1976
9. _______. Edición: 1998. "Historia da sexualidade: Volume 2: O uso dos Prazeres". Rio de Janeiro.
10. _______. Edición: 1987. "Historia de la sexualidad: Volumen 3: La inquietud de sí". Argentina. Editora siglo XXI, 1984
11. _______. Edición: 2003. "Vigilar y castigar". Argentina. Editora siglo XXI, primera edición: 1975.
12. LAQUEUR, Thomas. "La construcción del sexo, cuerpo y genero desde los griegos hasta Freud". Rio de Janeiro, editora: RelumeDumará. 1994.
13. MASSEY, D. "Masculinity, dualisms and highttechonology". New York, Routledge. 1995.
14. _______. "Space/Power, identity/difference: tensions in the city". New York, Routledge. 1996.
15. _______. "Pelo espaço. Uma nova política de espacialidade". São Paulo: Ática, 2005.
16. ONG: LivreMente. 4 de marzo del 2012, a las 08:30. ONG denuncia:"leilão" de travestis em penitenciária de MT. Online, sitio en internet: http://www.sonoticias.com.br/noticias/7/146594/ong-denuncia-leilao-de-travestis-em-penitenciaria-de-mt. 2012.
17. ORNAT, Marcio. J. "Território da prostituição e instituição do ser travesti em Ponta Grosa – PR". Dissertação de mestrado presentada para Universidade Estadual de Ponta Grossa – PR. Ponta Grossa, Brasil. 2008.
18. _______. "Território e prostituição travesti: uma proposta de discussão". Ponta Grossa, Brasil. 2008.
19. _______. "Entre territórios e redes geográficas: considerações sobre a prostituição travesti no Brasil meridional". Ponta Grossa, Brasil. 2009.
20. _______. , Silva. J y Junior. A. "espaço, gênero e masculinidades plurais" Ponta Grossa, Brasil. 2011.
21. PRECIADO, Beatriz. "ManifiestoContrasexual". Barcelona. Editorial Anagrama. 2002
22. ROSE, Gillian. "Situando conhecimentos, posicionalidade, reflexibilidade e outras táticas". Referência no Original, ROSE, Gillian. Situating knowledges, positionality, reflexivities and other tactics. Progress in Human Geography, 21,3. 1997.
23. SÁ, Celso. P. Rio de Janeiro, Brasil. "A construção do objetivo de pesquisa em representações sociais". 1998.
24. SILVA, Joseli Maria. "Geografias Subversivas": Discursos sobre espaço, gênero e sexualidades. Ponta Grossa, Paraná. Brasil. 2009.
25. _______y Silva, Augusto. C. P. "Espaço, gênero e poder": Conectando fronteiras. Ponta Grossa, Paraná. Brasil. 2011.
26. _______. "A cidade dos corpos transgressores da heteronormatividade". Ponta Grossa, Brasil. 2008.
27. _______. "Geografia e gênero no Brasil: uma analise da feminização do campo cientifico". Ponta Grossa, Brasil. 2009.
28. TORRES. R. Martin. "Vivencias de sujetos en procesos transexualizadores y sus relaciones con el espacio urbano de Santiago de Chile". UNESP. Tesis presentada para obtención de título de magister. Presidente Prudente – SP, Brasil. 2012.
29. Ultima Hora, diario online Chileno. Noticia del 1 de noviembre del 2012. Sitio online: http://www.chile.com/secciones/ver_seccion.php?id=29595. 2012.
30. VALENTINE, Gil "Teorizando e pesquisando a interseccionalidade: um desafio para a geografia feminista" Referência: VALENTINE, Gil. Theorizing and Researching Intersectionality: A Challenge for Feminist Geography. The Professional Geographer,


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and Researching Intersectionality: A Challenge for Feminist Geography. The Professional Geographer, 59(1) 2007, p. 10–21.
31. WACQUANT, Loic. "Las Cárceles de la miseria". Argentina 2° edición. Editorial: Manantial; Buenos Aires – Argentina. 2004.



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# Application of the Analytic Hierarchy Process (AHP) for Prioritize of Concrete Pavement

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*GJHSS-H Classification:* *FOR Code: 169999*

APPLICATION OF THE ANALYTIC HIERARCHY PROCESS AHP FOR PRIORITIZE OF CONCRETE PAVEMENT

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# Application of the Analytic Hierarchy Process (AHP) for Prioritize of Concrete Pavement

S. A. Nourozi [α] & A. R. Shariati [σ]

*Abstract-* The analytic hierarchy process (AHP) is a structured technique for dealing with complex decisions that was developed by Thomas L. Saaty in the 1980 year. It provides a comprehensive and rational framework for structuring a decision problem, for representing and quantifying its elements, for relating those elements to overall goals, and for evaluating alternative solutions. The base of this model is comparing variables by pair wise by Matrix relationship. In this way, pair wise of the effective variables on the concrete Pavement were considered and based on relative weights the output was extent. In the present research, combination of Indexing system Method with Analytical Hierarchy Process has been applied to assess the prioritize of concrete Pavement. By this process, classification and qualification of the numerous types of concrete Pavement would be accessible The findings of the research show that the Continuous Reinforced Concrete Pavement (CRCP) with (0/051) point promotes in first rank among 4 studied Pavements and thus it is the most appropriate Pavement , in contrast Jointed Plain Concrete Pavement (JPCP) with (0/15) point goes down to the last rank. Prestressed Concrete Pavement (PCP) and Jointed Reinforced Concrete Pavement (JRCP) with (0/015,0/017) points are located in next ranks

*Keywords: pavement: AHP, prioritize, CRCP, JPCP, PCP, JRCP.*

## I. Introduction

Concrete Pavement will be divided into four categories which include Continuous Reinforced Concrete Pavement (CRCP) ,Jointed Plain Concrete Pavement (JPCP), Prestressed Concrete Pavement (PCP) and Jointed Reinforced Concrete Pavement (JRCP). The Analytic Hierarchical Process is a structured technique for dealing with complex cisions. Rather than prescribing a correct decision, the AHP helps decision makers to find a solution that best suits their goal and their understanding ofthe problem. It is a process of organizing decisions that people are already dealing with, but trying to do in their heads. The AHP was developed by Thomas L. Saaty in the 1970s and has been extensively studied and refined since then. It provides a comprehensive and rational framework for structuring a decision problem, for representing and quantifying its elements, for relating those elements to overall goals, and for evaluating alternative solutions. Users of the AHP first decompose their decision problem into a hierarchy of more easily comprehended sub-problems, each of which can be analyzed independently. The elements of the hierarchy can relate to any aspect of the decision problem tangible or intangible, carefully measured or roughly estimated, wellor poorly-understood anything at all that applies to the decision at hand. Once the hierarchy is built, the decision makers systematically evaluate its various elements by comparing them to one another two at a time, with respect to their impact on an element above them in the hierarchy. In making the comparisons, the decision makers can use concrete data about the elements, or they can use their judgments about the elements' relative meaning and importance. It is the essence of the AHP that human judgments, and not just the underlying information, can be used in performing the evaluations. The AHP converts these evaluations to numerical values that can be processed and compared over the entire range of the problem. A numerical weight or priority is derived for each element of the hierarchy, allowing diverse and often incommensurable elements to be compared to one another in a rational and consistent way. This capability distinguishes the AHP from other decision making echniques. In the final step of the process, numerical priorities are calculated for each of the decision alternatives. These numbers represent the alternatives' relative ability to achieve the decision goal. Thus, they allow a straightforward consideration of the various courses of action. There are many examples of applications of fuzzy TOPSIS in literature (For instance: The evaluation of service quality[37]; Inter company comparison [13]; The applications inaggregate production planning [8], Facility location selection [12] and large scale nonlinear programming [17]. The modifications proposed in this paper can be implemented in all real world applications of Fuzzy TOPSIS.., Krishnamurthy et.al (1995, 1996) used RS and GIS techniques to find a suitable position for artificial recharge of ground water in India. Also, they investigated the effects of geomorphologic and geological factors on the behavior of ground water and stated that there is a special unevenness in each area for recharge of ground water. Saraf and Choudhury (1998) used remote sensing capabilities in extracting different layers like land usage, geomorphology, vegetation, and their integration in GIS environment to determine the most suitable area for artificial recharge of

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recharge of water tables by the watershed management is the main management technique. The purpose of this study is Application of The Analytic Hierarchy Process (AHP) for prioritize of concrete Pavement.

## II. Methods and Materials

### a) *Research Methodology*

Discovering the main components and indicators of environmental sustainability in a comprehensive and organized way for evaluation and assessing sustainability in urban areas is multi-criteria techniques in the structure of integrated satiability assessment. Such technique helps the users to understand the results of integrated assessment like evaluating policy aims and applying these results in a system and proposed decision making for sustainable development. There are various tools in the field of multi-criteria decision making models which could help planners and policy makers to solve decision difficulties with respect to different and contradict opinions. These models are TOPSIS, SAW, LINMAP, AHP, ANP, ELECTRE, Linear Assignment, PROMETHEE I & II, Compromise Programming and other methods. In the present paper AHP was applied which is a concordance subset. Coordinate subset is the third subset of compensatory models in MADM which their output would be a set of ranks so that provide necessary coordination in a most proper way. This subset includes ELECTRE and linear assignment methods. The data and information of the research were collected by reviewing different documental proofs in the related offices. Also a field survey was conducted to gather main research data and information by completing questionnaires. Then this data analysis with AHP technique.

### b) *Theoretical Basis*

Analytic hierarchy process (AHP), as a very popular multiple criteria decision making (MCDM) tool, has been considerably criticized for its possible rank reversal phenomenon, which means changes of the relative rankings of the other alternatives after an alternative is added or deleted. If the weights or the number of criteria are also changed, then rankings might be reversed. Such a phenomenon was first noticed and pointed out by Belton and Gear [3], which leads to a long-lasting debate about the validity of AHP [6,8,17,26,32,34,35,38,39], especially about the legitimacy of rank reversal [7,15,23,21,25,29]. In order to avoid the rank reversal, Belton and Gear [3] suggested normalizing the eigenvector weights of alternatives using their maximum rather than their sum, which was usually called B–G modified AHP. Saaty and Vargas [25] provided a counterexample to show that B– G modified AHP was also subject to rank reversal. Belton and Gear [4] argued that their procedure was misunderstood and insisted that their approach would not result in any rank reversal if criteria weights were changed accordingly. Schoner and Wedley [28] presented a referenced AHP to avoid rank reversal phenomenon, which requires the modification of criteria weights when an alternative is added or deleted. Schoner et al. [30] also suggested a method of normalization to the minimum and a linking pin AHP (see also [31]), in which one of the alternatives under each criterion is chosen as the link for criteria comparisons and the values in the linking cells are assigned a value of one, with proportional values in the other cells. Barzilai and Golany [1] showed that no normalization could prevent rank reversal and suggested a multiplicative aggregation rule, which replaces normalized weight vectors with weight–ratio matrices, to avoid rank reversal. Lootsma [14] and Barzilai and Lootsma [2] suggested a multiplicative AHP for rank preservation. Vargas [36] provided a practical counterexample to show the invalidity of the multiplicative AHP. Triantaphyllou [33] offered two new cases to demonstrate that the rank reversals do not occur with the multiplicative AHP, but do occur with the AHP and some of its additive variants. Leung and Cao [10] showed that Sinarchy, a particular form of analytic network process (ANP), could prevent rank reversal. As an integrative view, the AHP now supports four modes, called Absolute, Distributive, Ideal and Supermatrix modes, respectively, for scaling weights to rank alternatives [15,20,22,27]. In the absolute mode, alternatives are rated one at a time and there is no rank reversal when new alternatives are added or removed. The distributive mode normalizes alternative weights under each criterion so that they sum to one, which does not preserve rank. The ideal mode preserves rank by dividing the weight of each alternative only by the weight of the best alternative under each criterion. The supermatrix mode allows one to consider dependencies between different levels of a feedback network. More recently, Ramanathan [18] suggested a DEAHP, which is claimed to have no rank reversal phenomenon. But in fact, it still suffers from rank reversal. Wang and Elhag suggested an approach in which the local priorities remained unchanged. So, the ranking among the alternatives would be preserved.

## III. Applying AHP Technique for Prioritize of Concrete Pavement

### a) *Build the hierarchy*

In the first action, the hierarchical structure of the investigated subject mariot we traced (Figure 1). In this figure we have a 3 level hierarchy includes the objective, criteria and options we face. Turning to a subject or issue the hierarchical structure is the most important part of the hierarchical analytic can be considered, because in this episode with the complex issues and difficult process of hierarchical analysis to

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make it plain that the mind and human nature to match. In other words, the process of hierarchical analytic of complex issues through its analysis to the minor elements that are linked together to form a hierarchy and communicate the main objective of the issue with the lowest hierarchical level is specified in the form of easier comes in.

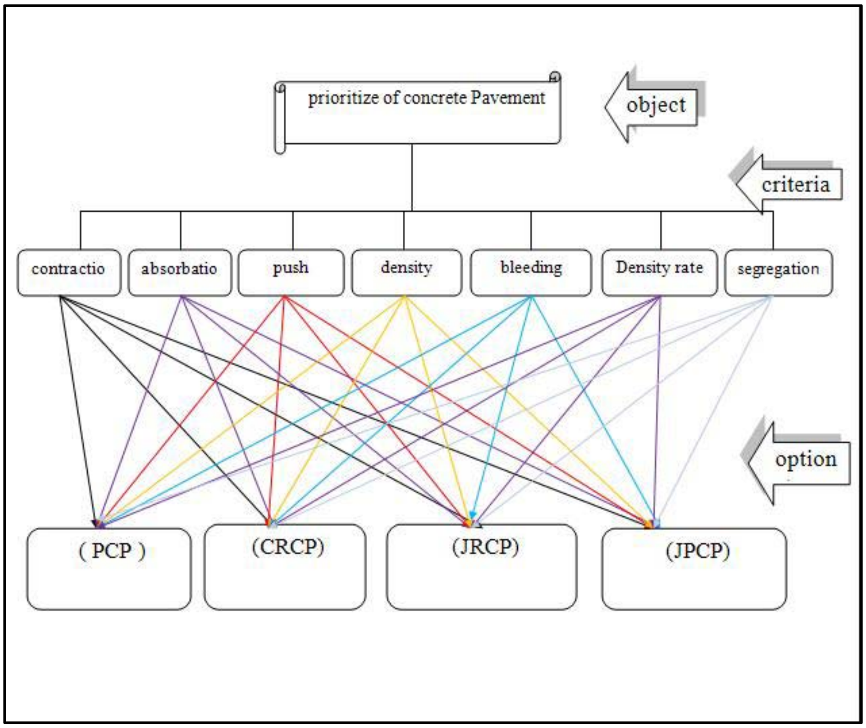


*Figure 1 :* the process of hierarchical analytic, making concrete superstructure hierarchy to select the best

*b) The following criteria and explaining the importance of the factor criteria:*

To determine the coefficient of importance (weight) the following criteria and criteria for comparing two to two. For example, for the purpose of the issue is that the criteria for access to locate are aware of the importance of more residential density or criteria? The basis of judging the comparative quantification of this table (table 1) below that is based on it and according to the criteria for excellence to evaluate the severity of i relative to the criteria for aij, j. All the criteria are compared with each other mutually. In the process of analysis of the highest weight of the layer hierarchy is the effect that the highest awarded in the determination of the purpose. In other words, the information unit and weight criteria also had the highest based on the role it plays within the layers (Lopez and higher, 1991).

*Table 1 :* weighting the factors based on preference in paired comparison (Ghodsi Poor, 2009, 14)

| Numerical values | Preferences (judging verbal) |
|---|---|
| 9 | Extremely preferred |
| 7 | Very strongly preferred |
| 5 | Strongly preferred |
| 3 | Moderately referred |
| 1 | Equally preferred |
| 2‹4‹6‹8 | Intervals between strong preferences |

After the formation of paired comparison matrix, relative weights of criteria can be calculated. There are different methods to calculated the relative weight based on paired comparison matrix. The most important ones are the "least squares method, least squares logarithmic method, special vector method and approximate method". The special vector method is the most accurate one. In this method, Wi is determine in the equation 12:

:20 $A\times W=\lambda maxW$

In this equation, λ and W are special amount and special vector of paired matrix respectively. If dimensions of matrix were larger, calculation would be too time-consuming. So, to calculated λ the amount of Dtrmynal λIA-matrix will be equaled to zero. Considering the greatest value of λ in equation (13), the amount of wi is calculated. (2001,315:Saaty).



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$$A - \lambda_{max}.I = 0$$

c) *Preparation of matarishai and narmalizah analyzed-invoices*

Through the method of forming of weight to factors in the prevention of drug addiction and they set based on the importance of comparison-and narmalizah with matrix, rank 9 for parameters and options for 36-order form. In the next step, please refer any one of the values of matrix comparison-together and each element in the comparison matrix-was divided up into its own column comparison-narmalizah matrices (1 relationship). Then the mean of the elements in each row of the matrix has been calculated in narmalizah the result will be the creation of weight vector (about 2).

$$r_{ij} = \frac{a_{ij}}{\sum_{i=1}^{m} a_{ij}}$$

$$W_i = \frac{\sum_{i=1}^{n} r_{ij}}{n}$$

d) *The final rate-determining factors (priority and priority):*

For this Act of the maratbi dynasty which led to the composition of the principle vector of priority taking into consideration all of the judgment of the maratbi dynasty at all levels, shall be used (moriniujimanz et al., 2005; bertolini and bragilia, 2006). In other words, the final score of each set of coefficients of the sum combination prevention options and determine the parameters to be fitted (3 relationship).

$$V_H = \sum_{k=1}^{n} W_k\,(g_{ij})$$

e) *Calculation of adjustment and unadjustment*

To calculate the rate adjustment, first must (A) compare the matrix-vector multiplication on the weight (W) to obtain an estimation of λmaxw . in the other hand A × W =max W. With the Division of the value of λ maxw in w calculated on the quantity of ymax. Then the amount of "relationship indicator (4) will be calculated, (ghodsi, 2008)

$$I.I. = \frac{\lambda \max - n}{n-1}$$

"unjustment Rate is also calculated by this relation

$$I.R. = \frac{I.I.}{I.I.R.}$$

Quantity of I.I.R extracted from this table

*Table 2 :* Quantity of I.I.R

| n | 1 | 2 | 3 | 4 | 5 | 6 | 7 | ... |
|---|---|---|---|---|---|---|---|---|
| I.I.R | 0 | 0 | 0/58 | 0/9 | 1/12 | 1/24 | 1/32 | ... |

## IV. Discuss

The analytical hierarchy procedure (AHP) is proposed by Saaty[19]. AHP was originally applied to uncertain decision problems with multiple criteria, and has been widely used in solving problems of ranking, selection, evaluation, optimization, and prediction decisions. The AHP method is expressed by a unidirectional hierarchical relationship among decision levels. The top element of the hierarchy is the overall goal for the decision model. The hierarchy decomposes to a more specific criterion in which a level of manageable decision criteria is met [12]. Under each criteria, sub-criteria elements related to the criterion can be constructed. The AHP separates complex decision problems into elements within a simplified hierarchical system[13]. The AHP usually consists of three stages of problem solving: decomposition, comparative judgment, and synthesis of priority. The decomposition stage aims at the construction of a hierarchical network to represent a decision problem, with the top level representing overall objectives and the lower levels representing criteria, subcriteria and alternatives. With comparative judgments, expert users are requested to set up a comparison matrix at each hierarchy by comparing pairs of criteria or sub-criteria. Finally, in the synthesis of priority stage, each comparison matrix is then solved by an eigenvector [17] method for determining the criteria importance and alternative performance. The purpose of the AHP enquiry in this paper was to construct a hierarchical evaluation system based on the resource attributes and entity reputation. The results of AHP method for prioritize of concrete Pavement showed in tables (3) to (13) and figures (2) to (4).

*Table 3 :* Paired comparison table to the criteria according to the purpose

| Related to Concrete Pavement | push | density | Density rate | segregation | contraction | absorbation | bleeding | Wij |
|---|---|---|---|---|---|---|---|---|
| push | 1 | 3 | 5 | 6 | 7 | 8 | 9 | 0.3972 |
| density | 0.33 | 1 | 3 | 5 | 6 | 7 | 8 | 0.2410 |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Density rate | 0.2 | 0.33 | 1 | 3 | 5 | 6 | 7 | 0.1507 |
| segregation | 0.16 | 0.2 | 0.33 | 1 | 3 | 5 | 6 | 0.0957 |
| contraction | 0.14 | 0.16 | 0.2 | 0.33 | 1 | 3 | 5 | 0.0593 |
| absorbation | 0.12 | 0.14 | 0.16 | 0.2 | 0.33 | 1 | 3 | 0.0347 |
| bleeding | 0.11 | 0.12 | 0.14 | 0.16 | 0.2 | 0.33 | 1 | 0.02132 |
| sum | 2.06 | 4.95 | 9.83 | 15.69 | 22.53 | 30.33 | 39 | 1 |
| Inconsistency rate: 0/040 (due to being less than 0/1 compatibility matrix indices are acceptable) | | | | | | | | |

*Table 4 :* Paired comparison table to the options according to the push

| Related to push | CRCP | JRCP | PCP | JPCP | Wij | normalization | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| CRCP | 1 | 5 | 7 | 9 | 0.603 | | 0.687 | 0.788 | 0.530 | 0.409 |
| JRCP | 0.20 | 1 | 5 | 7 | 0.248 | | 0.137 | 0.157 | 0.378 | 0.318 |
| PCP | 0.14 | 0.20 | 1 | 5 | 0.108 | | 0.098 | 0.031 | 0.075 | 0.227 |
| JPCP | 0.11 | 0.14 | 0.20 | 1.00 | 0.039 | | 0.076 | 0.022 | 0.015 | 0.045 |
| sum | 1.45 | 6.34 | 13.20 | 22.00 | 1 | | 1 | 1 | 1 | 1 |
| Inconsistency rate: 0/043 (due to being less than 0/1 compatibility matrix indices are acceptable) | | | | | | | | | | |

*Table 5 :* Paired comparison table to the options according to density

| density | JRCP | JPCP | PCP | CRCP | Wij | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| JRCP | 1 | 3 | 5 | 7 | 5570. | | 0.597 | 0.662 | 0.441 | 0.318 |
| JPCP | 0.33 | 1 | 5 | 7 | 630.2 | | 0.199 | 0.221 | 0.441 | 0.318 |
| PCP | 0.20 | 0.33 | 1 | 7 | 210.1 | normalization | 0.119 | 0.074 | 0.088 | 0.318 |
| CRCP | 0.14 | 0.20 | 0.33 | 1 | 560.0 | | 0.085 | 0.044 | 0.029 | 0.045 |
| sum | 1.68 | 4.53 | 11.33 | 22.00 | 1 | | 1 | 1 | 1 | 1 |
| Inconsistency rate: 0/01 (due to being less than 0/1 compatibility matrix indices are acceptable) | | | | | | | | | | |



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*Table 6 :* Paired comparison table to the options according to density rate

| Density rate | CRCP | PCP | JRCP | JPCP | Wij | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| CRCP | 1 | 2 | 7 | 9 | 0.564 | | 0.570 | 0.549 | 0.667 | 0.474 |
| PCP | 0.50 | 1 | 2 | 7 | 0.279 | | 0.285 | 0.275 | 0.190 | 0.368 |
| JRCP | 0.14 | 0.50 | 1 | 2 | 0.104 | | 0.081 | 0.137 | 0.095 | 0.105 |
| JPCP | 0.11 | 0.14 | 0.50 | 1 | 0.050 | normalization | 0.063 | 0.039 | 0.048 | 0.053 |
| sum | 1.75 | 3.64 | 10.50 | 19.00 | 1 | | 1 | 1 | 1 | 1 |
| Inconsistency rate: 0/049 (due to being less than 0/1 compatibility matrix indices are acceptable) | | | | | | | | | | |

*Table 7 :* Paired comparison table to the options according to segregation

| segregation | CRCP | PCP | JRCP | JPCP | Wij | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| CRCP | 1 | 2 | 3 | 5 | 0.482 | | 0.492 | 0.522 | 0.462 | 0.455 |
| PCP | 0.50 | 1 | 2 | 3 | 0.271 | | 0.246 | 0.261 | 0.308 | 0.273 |
| JRCP | 0.33 | 0.50 | 1 | 2 | 0.157 | normalization | 0.164 | 0.130 | 0.154 | 0.182 |
| JPCP | 0.20 | 0.33 | 0.50 | 1 | 0.088 | | 0.098 | 0.087 | 0.077 | 0.091 |
| sum | 2.03 | 3.83 | 6.50 | 11.00 | 1.00 | | 1 | 1 | 1 | 1 |
| Inconsistency rate: 0/063 (due to being less than 0/1 compatibility matrix indices are acceptable) | | | | | | | | | | |
| | | | | | | | | | | |

*Table 8 :* Paired comparison table to the options according to contraction

| contraction | CRCP | PCP | JRCP | JPCP | Wij | normalization | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| CRCP | 1 | 7 | 8 | 9 | 0.60 | | 0.725 | 0.847 | 0.496 | 0.360 |
| PCP | 0.14 | 1 | 7 | 8 | 0.24 | | 0.104 | 0.121 | 0.434 | 0.320 |
| JRCP | 0.13 | 0.14 | 1 | 7 | 0.12 | | 0.091 | 0.017 | 0.062 | 0.280 |



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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| JPCP | 0.11 | 0.13 | 0.14 | 1 | 0.036 | | 0.081 | 0.015 | 0.009 | 0.040 |
| جمع | 1.38 | 8.27 | 16.14 | 25.00 | 1.00 | | 1 | 1 | 1 | 1 |
| Inconsistency rate: 0/086 (due to being less than 0/1 compatibility matrix indices are acceptable) | | | | | | | | | | |

*Table 9 :* Paired comparison table to the options according to absorbation

| absorbation | JPCP | JRCP | PCP | CRCP | Wij | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| JPCP | 1 | 2 | 7 | 9 | 0.56 | | 0.570 | 0.549 | 0.667 | 0.474 |
| JRCP | 0.50 | 1 | 2 | 7 | 0.27 | | 0.285 | 0.275 | 0.190 | 0.368 |
| PCP | 0.14 | 0.50 | 1 | 2 | 0.10 | normalization | 0.081 | 0.137 | 0.095 | 0.105 |
| CRCP | 0.11 | 0.14 | 0.50 | 1 | 0.005 | | 0.063 | 0.039 | 0.048 | 0.053 |
| sum | 1.75 | 3.64 | 10.50 | 19.00 | 1 | | 1 | 1 | 1 | 1 |
| Inconsistency rate: 0/075 (due to being less than 0/1 compatibility matrix indices are acceptable) | | | | | | | | | | |

*Table 10 :* Paired comparison table to the options according to bleeding

| bleeding | CRCP | PCP | JRCP | JPCP | Wij | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| CRCP | 1 | 5 | 7 | 9 | 0.603 | | 0.687 | 0.788 | 0.530 | 0.409 |
| PCP | 0.20 | 1 | 5 | 7 | 0.248 | | 0.137 | 0.157 | 0.378 | 0.318 |
| JRCP | 0.14 | 0.20 | 1 | 5 | 0.108 | normalization | 0.098 | 0.031 | 0.075 | 0.227 |
| JPCP | 0.11 | 0.14 | 0.20 | 1.00 | 0.039 | | 0.076 | 0.022 | 0.015 | 0.045 |
| sum | 1.45 | 6.34 | 13.20 | 22.00 | 1 | | 1 | 1 | 1 | 1 |
| Inconsistency rate: 0/073 (due to being less than 0/1 compatibility matrix indices are acceptable) | | | | | | | | | | |

*Table 11 :* The weight matrix of options according to the criteriatable

| criteria / options | push ( Wij) | density ( Wij) | Density rate ( Wij) | segregation ( Wij) | contraction ( Wij) | absorbation ( Wij) | bleeding ( Wij) |
|---|---|---|---|---|---|---|---|



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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CRCP | 0/603 | 0/056 | 0/564 | 0/482 | 0/606 | 0/050 | 0/603 |
| JRCP | 0/248 | 0/557 | 0/104 | 0/157 | 0/112 | 0/279 | 0/108 |
| JPCP | 0/039 | 0/263 | 0/050 | 0/088 | 0/036 | 0/564 | 0/039 |
| PCP | 0/108 | 0/121 | 0/279 | 0/271 | 0/244 | 0/104 | 0/248 |

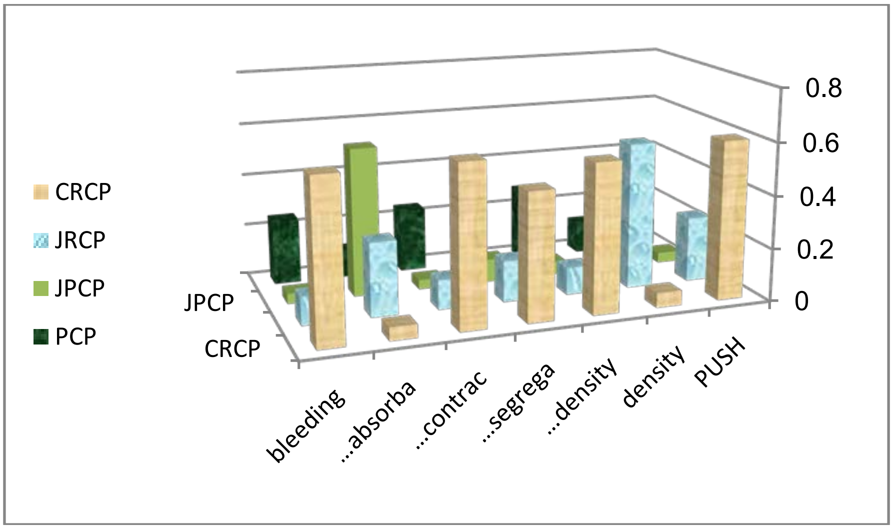


*Figure 2 :* The weight matrix of option according to criteriat

*Table 12 :* The weight matrix of criteria according to option

| Criteria \ object | Wij |
|---|---|
| push | 0.397 |
| density | 0.241 |
| Density rate | 0.15 |
| segregation | 0.095 |
| contraction | 0.059 |
| absorbation | 0.034 |
| bleeding | 0.021 |

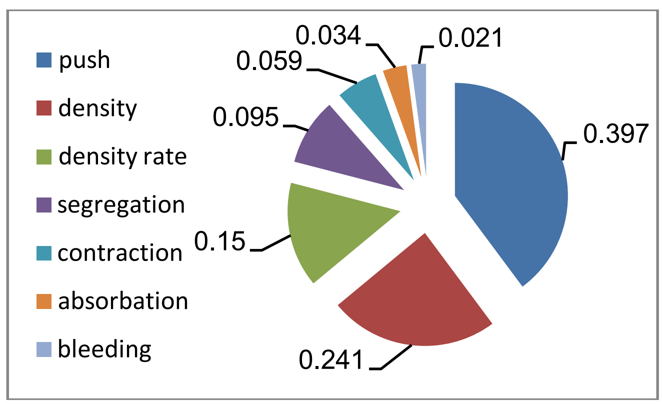


*Figure 3 :* The weight matrix of criteria according to option

*Table 13 :* Points and Ranks

| Pavement type | CRCP | JRCP | PCP | JPCP |
|---|---|---|---|---|
| point | 0/051 | 0/038 | 0/017 | 0/015 |
| rank | first | second | third | fourth |

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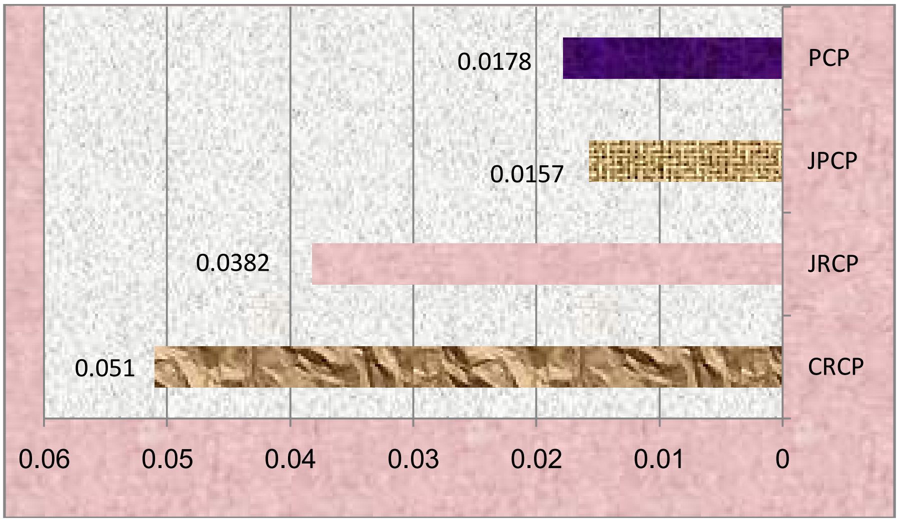


*Figure 4 :* Points and Ranks

## V. Conclusion

Decision making problem is the process of finding the best option from all of the feasible alternatives. In almost all such problems the multiplicity of criteria for judging the alternatives is pervasive. That is, for many such problems, the decision maker wants to solve a multiple criteria decision making (MCDM) problem. A survey of the MCDM methods has been presented by Hwang and Yoon [11]. The analytic hierarchy process (AHP) is one of the extensively used multi-criteria decision-making methods One of the main advantages of this method is the relative ease with which it handles multiple criteria. In addition to this, AHP is easier to understand and it can effectively handle both qualitative and quantitative data. The use of AHP does not involve cumbersome mathematics. AHP involves the principles of decomposition, pairwise comparisons, and priority vector generation and synthesis. Though the purpose of AHP is to capture the expert's knowledge, the conventional AHP still cannot reflect the human thinking style. Therefore, fuzzy AHP, a fuzzy extension of AHP, was developed to solve the hierarchical fuzzy problems. In the fuzzy-AHP procedure, the pairwise comparisons in the judgment matrix are fuzzy numbers that are modified by the designer's emphasis . The findings of the research show that the Continuous Reinforced Concrete Pavement (CRCP) with (0/051) point promotes in first rank among 4 studied Pavements and thus it is the most appropriate Pavement , in contrast Jointed Plain Concrete Pavement (JPCP) with (0/15) point goes down to the last rank. Prestressed Concrete Pavement (PCP) and Jointed Reinforced Concrete Pavement (JRCP) with (0/015,0/017) points are located in next ranks.

## References Références Referencias


1. J. Barzilai, W. Cook, B. Golany, Consistent weights for judgment matrices of the relative importance of alternatives. Operations Research Letters 6, 131-134, 1987.
2. J. Barzilai, F.A. Lootsma, Power relations and group aggregation in the multiplicative AHP and SMART. Journal of Multi-Criteria Decision Analysis 6, 155-165, 1997.
3. Belton, T. Gear, on a shortcoming of Saaty's method of analytic hierarchies. Omega 11, 228-230, 1983.
4. V. Belton, T. Gear, The legitimacy of rank reversal - a comment. Omega 1, 143-144, 1985.
5. L.M. Meade and A. Presley,"R&D Project selection using the analytic network process", IEEE Transaction on Engineering Management ,49(1), 59-66,2002
6. J. Dyer, A clarification of 'Remarks on the Analytic Hierarchy Process'. Management Science 36, 274-275, 1990.
7. E. Forman, AHP is intended for more than expected value calculationS. Decision Sciences 36, 671–673, 1990.
8. P. Harker, L. Vargas, The theory of ratio scale estimation: Saaty's analytic hierarchy process. Management Science 33 , 1383-1403,1987.
9. H.Fazlollahtabar and I. Mahdavi,"User/tutor optimal learning path in e-learning using comprehensive neuro-fuzzy approach", Elsevier,Educational Research Review 4,142-155,2009
10. L. Leung, D. Cao, on the efficacy of modeling multi-attribute decision problems using AHP and Sinarchy. European Journal of Operational Research 132, 39-49, 2001.




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11. Hwang, C.L., Yoon, K., ‘‘Multiple Attributes Decision Making Methods and Applications’’, Springer, Berlin Heidelberg, 1981
12. Mianabadi, H, Afshar, A, (2008).”Multi attribute Decision Making to rank urban water supply Scheme” water and watershed journal, v19, n66, pp 34 – 45
13. Limon,G.A,Martinez, Y, (2006), Multi0criteria modeling of irrigation water Marked at basin level : aspsnish Case Study, Eropiangeornal of operational of Research , V173,PP 313-336
14. F. Lootsma, Scale sensitivity in the multiplicative AHP and SMART. Journal of Multi-Criteria Decision Analysis 2, 87-110, 1993.
15. I. Millet, T. Saaty, On the relativity of relative measures – accommodating both rank preservation and rank reversals in the AHP. European Journal of Operational Research 121, 205–212,2000.
16. Dey, P.K., Ramcharan, E.K., (2000), Analytic hierarchy process helps select site for limestone quarry expansion in Barbados. Journal of Environmental Management
17. Wang, R.C., Liang, T.F., ‘‘Application of fuzzy multi-objective linear programming to aggregate production planning’’, Computers & Industrial Engineering, 2004, 46, pp. 17–
18. R. Ramanathan, Data envelopment analysis for weight derivation and aggregation in the analytic hierarchy process. Computers and Operations Research 33, 1289-1307, 2006.
19. T.L. Saaty, “The Analytical Hierarchy Process, Planning, Priority, Resource Allocation”. RWS Publications, USA, 1980.
20. T. Saaty, Axiomatic foundation of the analytic hierarchy process. Management Science 32 , 841-855, 1986.
21. T. Saaty, Decision making, new information, ranking and structure.Mathematical Modelling 8, 125–132, 1987.
22. T. Saaty, Highlights and critical points in the theory and applicationof the Analytic Hierarchy Process. European Journal, 426-447, 1994.
23. T. Saaty, Rank generation, preservation, and reversal in the analytichierarchy decision process. Decision Sciences 18, 157–177, 1987.
24. T. Saaty, M. Takizawa, Dependence and independence: from linear hierarchies to nonlinear networks. European Journal, 229-237, 1986.
25. T. Saaty, L. Vargas, The legitimacy of rank reversal. Omega 12 (5), 513–516, 1984.
26. T. Saaty, L. Vargas, R. Wendell, Assessing attribute weights by ratios. Omega 11, 9-13, 1983.
27. T. Saaty, L. Vargas, Experiments on rank preservation and reversal in relative measurement. Mathematical and Computer Modelling 17, 13-18, 1993.
28. B. Schoner, W. Wedley, Ambiguous criteria weights in AHP: consequences and solutions. Decision Sciences 20, 462–475, 1989.
29. B. Schoner, W. Wedley, E.U. Choo, A rejoinder to Forman on AHP, with emphasis on the requirements of composite ratio scales.Decision Sciences 23 , 509–517, 1992.
30. B. Schoner, W. Wedley, E.U. Choo, A unified approach to AHP with linking pins. European Journal of Operational Research, 384-392,1993.
31. B. Schoner, W. Wedley, E.U. Choo, A comment on Rank disagreement: a comparison of multicriteria methodologies. Journal of Multi-Criteria Decision Analysis 6, 197-200, 1997.
32. T. Stewart, A critical survey on the status of multiple criteria decision making theory and practice. Omega 20, 569–586, 1992.
33. E. Triantaphyllou, Two new cases of rank reversal s when the AHP and some of its additive variants are used that do not occur with the multiplicative AHP. Journal of Multi-Criteria Decision Analysis 10, 11-25, 2001.
34. M. Troutt, Rank reversal and the dependence of priorities on the underlying MAV function. Omega 16, 365–367, 1988.
35. L. Vargas, Reply to Schenkerman's avoiding rank reversal in AHP decision support models. European Journal of Operational, 420–425, 1994.
36. Mianabadi,H,Afshar,A,(2007), “Fuzzy group Decision Making and its Application in water Resource Planning and Management” Oral Presentation Iran Water Resource Management Conference, January 12-13,Isfahan.Iran
37. Mousavi, S.F; Chitsazan, M; Mirzaei, Y; Shaan, M; B Mohammadi, H.R, 2010, ‘‘Integrating remote sensing and GIS to find potential suitable areas for ground water’’: Kamestan Anticline area, Conference articles and Geomantic exhibition
38. S. Watson, A. Freeling, Assessing attribute weights. Omega 10, 582– 583, 1982.
39. S. Watson, A. Freeling, Comment on: assessing attribute weights by ratios. Omega 11, 13, 1983.

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# Study of Locating Fire Stations using Linear Assignment Method : Case Study Maku City

By S. A. Nourozi & A. R. Shariati
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*Abstract-* Today, excess density of population in city and it is increasing growth in bulk is led to demand and attention to urban development. Demand for urban development is one of the most important issues against human in future. Therefore, to solve this problem and obstacles, safety system of city should be developed along this to cover whole city. The most important problem about the services of fire stations is the inappropriate distribution of stations and restricted function area of present stations. So, qualities and quantities distribution of stations is investigated scientifically and professionally. Using traditional methods planning fire stations for services mean wasting papers and time, but today, using GIS serves as a tool to create proper and effective database.

*Keywords: linear assignment method, location, fire stations, Maku.*

*GJHSS-H Classification: FOR Code: 160599*

STUDY OF LOCATING FIRE STATIONS USING LINEAR ASSIGNMENT METHOD CASE STUDY MAKU CITY

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# Study of Locating Fire Stations using Linear Assignment Method : Case Study Maku City

S. A. Nourozi [α] & A. R. Shariati [σ]

*Abstract-* Today, excess density of population in city and it is increasing growth in bulk is led to demand and attention to urban development. Demand for urban development is one of the most important issues against human in future. Therefore, to solve this problem and obstacles, safety system of city should be developed along this to cover whole city. The most important problem about the services of fire stations is the inappropriate distribution of stations and restricted function area of present stations. So, qualities and quantities distribution of stations is investigated scientifically and professionally. Using traditional methods planning fire stations for services mean wasting papers and time, but today, using GIS serves as a tool to create proper and effective database. In recent decades, several researchers attempt to use Multi Criteria Decision Making (MCDM) in complex and complicated decisions. The results and findings show that area (3) is located in the first rank and it is the most suitable area for establish of Fire stations, area (4) in the last rank and area (2, 5, 1,) in other ranks respectively.

*Keywords: linear assignment method, location, fire stations, Maku.*

## I. Introduction

Pay attention to the public transportation, cycling and Pedestrian oriented development (POD) and car-free streets can increase the quality of urban spaces and create more secure pedestrians with Psychological comfort for human. Old urban fabric with hidden physical, historical, and cultural values has been the best evidence of urban identity and meanwhile, the life and growth of this fabric has prevented the internal erosion of the city and has limited its unlimited expansion. The city communication network plays its lifeline role and it is considered as one of the important fundamental and determinant lines in urban development plans. The importance of networks in urban design is such that they cannot be considered separated from each other, because all of the activities of the inhabitants of a city including commercial, cultural and administrative activities depend on communication networks [7]. On the other hand, the formation of a city fabric is directly related to the city's street network so that each of these fabric types is affected by formation of the streets within the city. Star (radial) annular (circular), raster, and linear fabrics are of this type. What are important from the perspective of transportation and traffic in various fabrics, are the characteristics of movement, access and efficiency of various transportation systems, safety, and costs associated with these systems [2].

Locating, including spatial analysis, which is abundant in the impact of reducing the cost of creating and setting up various activities. That's why one of the most important stages of the project and the Executive transition effects. one of the anxieties of urban planners in urban spaces and service spaces located design appropriate and desirable. the equipment and facilities of the Foundation of urban informal settlements and lack of defects formed they cause problems for citizens. Validity and importance of each city, depending on the services and facilities. As providing this service will be better lives in the more comfortable and the cost of living for citizens will be less. If this is the appropriate location services and is enough of aqtasdi costs and reduce appreciably when residents will be able to settle this matter from another expert and scientific research that should be carried out by the various support organizations and organs. Today, find the appropriate location or locations to create a specific geographic area of activity is an important component of project steps, particularly in the macro level and national Executive is considered. The final locations have all required terms and conditions and the lack of gratification check these terms and conditions prior to the implementation of such projects will be looking for plenty of undesirable results. One of the basic tasks of urban management or in a very clear and significant city, organized a comprehensive service management system. Hence the most important tasks of the city are significant to the topic assigned services. In order to achieve the efficient management and how to assign a user category has always been urban space can be raised to different user until the late Renaissance period and the beginning of the industrial world's population growth and ataqlab to the city and population trend of late urbanization has been the result of solving the problems of the city and planning has been easy for them. with the beginning of the industrial revolution and the migration of villagers to the cities city population cities faster Copyright problems and has been to the cities has increased . The city's population, according to

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United Nations estimates these world of 2.3 billion in 1990 to 4.7 billion in 2020 will increase that 90 percent of the growth in developing countries will happen (UN, 1993, Table A. 2). Unfortunately, a third world country on a low income and who are not entitled to the growth and development of preparation necessary for dealing with the issues arising from the accelerating urban growth are not administrators and dastnderkaran cities in relation to the provision of services to citizens and classified with a serious face and have a problem.

There are many examples of applications of Multi Criteria Decision Making in literature (For instance: The evaluation of service quality[9]; Inter company comparison [10]; The applications inaggregate production planning [11], Facility location selection [12] and large scale nonlinear programming [1]. The modifications proposed in this paper can be implemented in all real world applications of Fuzzy TOPSIS.., Krishnamurthy et.al (1995, 1996) used RS and GIS techniques to find a suitable position for artificial recharge of ground water in India. Also, they investigated the effects of geomorphologic and geological factors on the behavior of ground water and stated that there is a special unevenness in each area for recharge of ground water[13]. parhizkar and Choudhury (1998) used remote sensing capabilities in extracting different layers like land usage, geomorphology, vegetation, and their integration in GIS environment to determine the most suitable area for artificial recharge of ground water[3]. Mahdavi (1997, 16) investigated water management and artificial recharge of ground water in Jourm city and indicated that controlling usage and recharge of water tables by the watershed management is the main management technique[6]

In this study, we tried to locate optimized fire station in Maku city using linear assignment.

## II. Methods and Materials

*a) Mathematical situation of studied area*

Maku city Being situated in the north part of Western Azarbayezan province, Maku city is bounded by 39º, 00' latitude to 18º, 00' north latitude and 44º, 31' longitude. Globally, Maku is located at 2560 meter height above sea level .distance from city to center of provence is 280km and distance from city to Tehran is 850km.

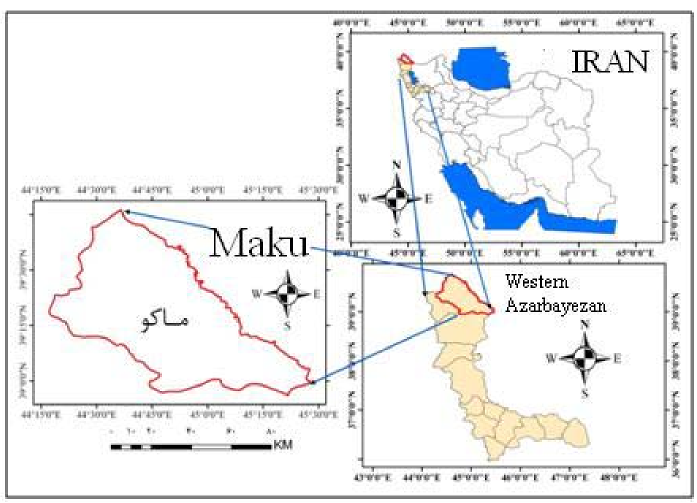


*Figure 1 :* mathematical situation of studied area

## III. Research Methodology

In this study we used following methods to collect data:

1. Library and software method and using locating instructions from scientific papers and studies.
2. Interview with fire fighting expert of Maku city.
3. Field study to evaluate present stations and collecting data which were questionable.

In present study we used linear assignment to locate fire station in Maku city, and with field study and using present maps, numeral data as Shape file and providing distance map, weighting these data using linear assignment has been done and finally using software Arc GIS 9.3 these data incorporated using index overlay method and presented as fit places for locating fire stations in Maku city.

*a) Theoretical principles of Linear Assignment*

In recent decades, several researchers attempt to use Multi Criteria Decision Making (MCDM) in complex and complicated decisions. These decision methods divide into two parts; MODM = Multi Objective Decision Making ,MADM = Multi Attribute Decision Making. Multi Criteria Models use to select the best

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options. Evaluative Models for MADM classify into two models; Compensatory Model, Non- Compensatory Model. Non-compensatory model includes methods which don`t need to achieve data from DM and lead to objective answer. Exchanging between indictors is permitted in Compensatory model. It means that for example, a weakness in a indicator may be compensated by option of other indicator. Electrical Method is a type of available methods in Compensatory Models. In this method whole options evaluate by non-ranked comparisons. All stages of this method are established based on coordinated and uncoordinated sets and thus this method is known as ''Coordination Analysis''. Banayoun established the Electrical Method and Delft, Nijkamp, Roy and their colleagues developed it. In Electrical method, the concept of domination uses implicitly. In this method, options are compared in pairs, then dominant and weak (dominant and defeated) options determined and weak or defeated options omitted [14]. Linear Assignment is one of the Multi Criteria Decision Making combines qualitative and quantitative indicators, weights criteria based on their importance and helps decision makers to select the best options at the same time. In this method, supposed options are ranked based on their points in each available indicator and then the final rank of the options determined by the Linear Compensatory Process. The situation of these two models show among the other Multi Criteria Decision Making (Figure2).solution process doesn`t need to scale down the quantitative and qualitative indicators.

*a) Applying Linear Assignment Technique for locating Fire stations*

1. Establishing Decision Making matrix

First, decision Making Matrix is established based on quantitative data related to the indicators in each area.

2. Ranking options according to available indicators.

Second, the areas are prioritized based on their ranks in each indicator.

3. Establishing QG Matrix

Third, having access to determined weights of indicators (W), QG Matrix is established. Each element in QG Matrix equals:

$$^{q}/_{it} = \sum_{j=1}^{n} \pi\text{itj} \,.\, \text{wj} \qquad :(1)$$

If option i were in rank t in indicator j, then $\pi\text{itj} = 1$ otherwise it would be $\pi$itj.

4. The following assignment problem is solved with variables (0, 1 hit) in order to determine the final priority of options.

$$\max : \ \sum_{i=1}^{m} \sum_{k=1}^{m} \gamma_{ik} \,.\, h_{i\,k} \qquad : (2)$$

$$s.t \ : \sum_{k=1}^{m} h_{ik} = 1 \quad ; \quad i = 1,2,\dots,m$$

$$\sum_{i=1}^{m} h_{ik} = 1 \quad ; \quad k = 1,2,\dots,m{:}(3)$$

$$h_{ik} \quad \begin{cases} = 1 \\ = 0 \end{cases}$$

5. Ranking Options

In the final stage, the options are ranked.

## IV. Discuss

In this study, for the correct locating of fire stations, firstly, effective criteria were determined and classified.

Stage one: preparing position data layers:

In this stage, the 1:2000 map of detailed plan in Maku city which was provided in 1385 by housing and urban development organization, , was entered into GIS software and converted to Shape File.

Stage two: digitizing position data layers

Digitizing effective layers in locating fire stations are performed in 3 ways:

1. Spot complications: hydrants, Mosques, oil and gas stations.
2. Polygonal complications: residential centers, educational centers, medical centers, administrative centers, industrial and workshop centers, storage centers and ….
3. Linear complications: passage network, strap business centers.

Stage three: providing distance map

In this stage, the distance map was created using spatial analyst for each criterion of position data.

Stage four: reclassifying maps on the basis of suitable areas and rating

In this stage, each map was classified into some classes according to the importance of each class, values between 1(the worst value) to 5 (the best value) was allocated to them.

"Fire stations should be near residential, business and administrative complications, main streets, storage centers, industrial centers, hydrants, gas station, and dense population places, and should be far from educational, medical and religious centers, and then reclassification will be done on the basis of suitable places into 5 classes."

Stage five: analysis of data in linear assignment.

The results of Linear Assignment method to locating Fire stations are showed in tables (1-7) and figures (2-5).



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*Table 1 :* Data Collection Matrix

| Regions | available | trade | industrial | habitate | area | educational | official | Religiously | transportation |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 9 | 15889 | 6150 | 438418 | 1221221 | 23610 | 31800 | 3296 | 290000 |
| 2 | 5 | 37600 | 1800 | 297315 | 962319 | 47976 | 43708 | 6255 | 284116 |
| 3 | 13 | 20340 | 3890 | 565835 | 1475081 | 47974 | 4900 | 3919 | 489218 |
| 4 | 23 | 6227 | 950 | 345449 | 762035 | 19865 | 9470 | 1577 | 197811 |
| 5 | 26 | 2951 | 126 | 414707 | 804172 | 257214 | 21432 | 1854 | 207650 |

*Table 2 :* Options Ranked Matrix based on indicators

| Rated | available | trade | industrial | habitate | area | educational | official | Religiously | transportation |
|---|---|---|---|---|---|---|---|---|---|
| first | 5 | 2 | 1 | 3 | 3 | 5 | 2 | 2 | 3 |
| Second | 4 | 3 | 3 | 1 | 1 | 2 | 1 | 3 | 1 |
| third | 3 | 1 | 2 | 5 | 2 | 3 | 5 | 1 | 2 |
| Fourth | 1 | 4 | 4 | 4 | 5 | 1 | 4 | 5 | 5 |
| Fifth | 2 | 5 | 5 | 2 | 4 | 4 | 3 | 4 | 4 |

*Table 3 :* Ranks Number Matrix of Options

| Regions | first | Second | third | Fourth | Fifth |
|---|---|---|---|---|---|
| 1 | 1 | 4 | 2 | 2 | 0 |
| 2 | 3 | 1 | 3 | 0 | 2 |
| 3 | 3 | 3 | 2 | 0 | 1 |
| 4 | 0 | 1 | 0 | 4 | 4 |
| 5 | 2 | 0 | 2 | 3 | 2 |

*Table 4 :* Paired Comparison Matrix of different criteria (S)

| | available | trade | industrial | habitate | area | educational | official | Religiously | transportation | Wij |
|---|---|---|---|---|---|---|---|---|---|---|
| available | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0.307 |
| trade | 0.5 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 0.218 |
| industrial | 0.33 | 0.5 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 0.154 |
| habitate | 0.25 | 0.33 | 0.5 | 1 | 2 | 3 | 4 | 5 | 6 | 0.108 |
| area | 0.2 | 0.25 | 0.33 | 0.5 | 1 | 2 | 3 | 4 | 5 | 0.076 |
| educational | 0.17 | 0.2 | 0.25 | 0.3 | 0.5 | 1 | 2 | 3 | 4 | 0.053 |
| official e | 0.14 | 0.17 | 0.2 | 0.2 | 0.3 | 0.5 | 1 | 2 | 3 | 0.037 |
| Religiously | 0.13 | 0.14 | 0.17 | 0.2 | 0.2 | 0.33 | 0.5 | 1 | 2 | 0.025 |
| transportatio n | 0.11 | 0.13 | 0.14 | 0.1 | 0.2 | 0.25 | 0.33 | 0.5 | 1 | 0.019 |
| Inconsistency rate: 0/0242 (due to being less than 0/1 compatibility matrix indices are acceptable) | | | | | | | | | | |

*Table 5 :* Weight Matrix of rank number of options

| Regions | first | Second | third | Fourth | Fifth |
|---|---|---|---|---|---|
| 1 | 0.1542 | 0.2413 | 0.2441 | 0.3603 | 0 |
| 2 | 0.2812 | 0.0533 | 0.2496 | 0 | 0.4158 |
| 3 | 0.2042 | 0.3983 | 0.3603 | 0 | 0.0371 |
| 4 | 0 | 0.307 | 0 | 0.5183 | 0.1746 |
| 5 | 0.3603 | 0 | 0.1459 | 0.1213 | 0.3724 |



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*Table 6 :* Options Rating Table

| Points / Regions | | | | | |
|---|---|---|---|---|---|
| 1 | 0 | 0 | 0 | 1 | 0 |
| 2 | 0 | 1 | 0 | 0 | 0 |
| 3 | 1 | 0 | 0 | 0 | 0 |
| 4 | 0 | 0 | 0 | 0 | 1 |
| 5 | 0 | 0 | 1 | 0 | 0 |

*Table 7 :* Options Ranking

| Regions | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Rated | Fourth | Second | First | Fifth | Third |

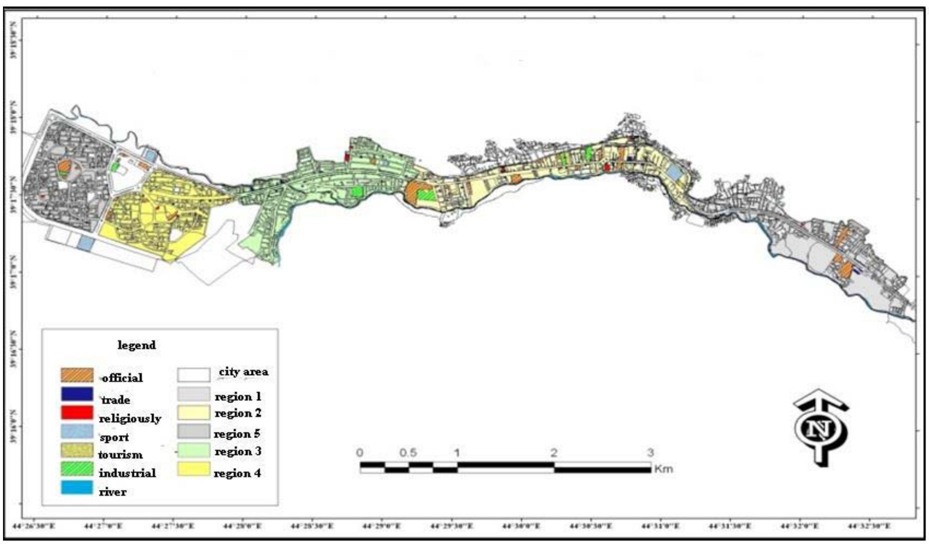


*Figure 2 :* Applicational map of Religously and official applicational map

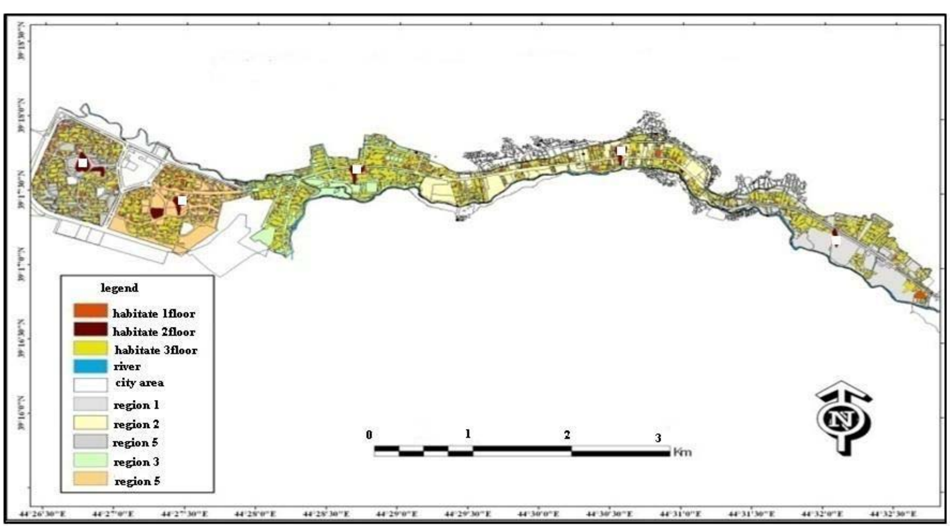


*Figure 3 :* Habitate applicational map

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*Figure 4 :* The map of roads of Maku city

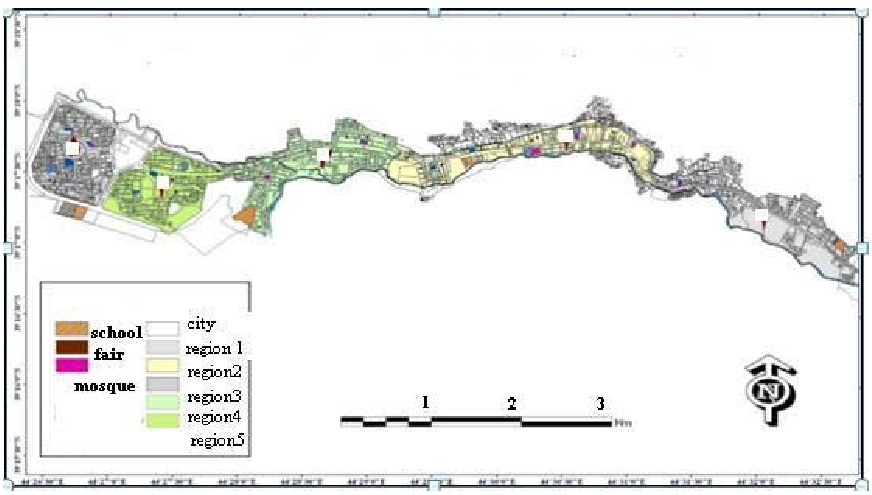


*Figure 5 :* Applicational map of educational and industrial

## V. Conclusion

It could be stated that using GIS and linear assignment for analyzing position data and choosing optimized location, has unique performance, so it is suggested that fire fighting organizations use these software applications to create database. It is suggested that fire fighting organization and safety services, create reasonable relationship with urban service centers to enhance their performance, and equip these centers to safety tools before the incident. It is suggested that fire fighting organization and safety services, promote in teaching citizens about how to use fire extinction tools. The three existing stations in Maku city are suitable regarding the population of the city and that one station per 30000 persons is necessary, but because of the vastness of city, these three stations can't service optimally to whole city. It is suggested that 2 additional medium stations to be located in city area, , and because Maku city has one central station and three secondary (small) stations, and this city doesn't have medium station.

## References Références Referencias

1. Abo-Sina, M.A., Amer, A.H. "Extensions of TOPSIS for multiobjective large-scale nonlinear programming problems", Applied Mathematics and Computation, 2004, Article in press.
2. Amoud rah Consultant Engineers (1997). Traffic study in detail plans, Tehran: GIS Tehran publication.
3. Parhizkar, A., 1383, proposing model and criteria for locating fire stations - urban and rural studies center.
4. PoorEskandari,A., 1380 , evaluation and space distribution of fire incidents in city using GIS, Case study of Karaj city, Master's thesis.
5. Howerton, C., 2006, GIS Network Analysis of Fire Department Response Time Dallas, Texa Fall.
6. GIS for Fire Station Locations and Response Protocol, 2007, White Paper, An ESRI January.
7. Gharib, F. (2003). Feasibility study of creating pedestrian and cycling paths in the old Tehran. journal of faculty of fine arts university of Tehran. Number 17, pp.19-28.



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8. Hwang, C.L., Yoon, K., ''Multiple Attributes Decision Making Methods and Applications'', Springer, Berlin Heidelberg, 1981.
9. Tsuar, S.H., Chang, T.Y., Yen, C.H., ''The evaluation of airline service quality by fuzzy MCDM'', Tourism Management, 2002, 23, pp. 107–115.
10. Deng, H., Yeh, C.H., Willis, R.J., ''Inter-company comparison using modified TOPSIS with objective weights'', Computers & Operations Research, 2000, 27, pp. 963-97.
11. Wang, R.C., Liang, T.F., ''Application of fuzzy multi-objective linear programming to aggregate production planning'', Computers & Industrial Engineering, 2004, 46, pp. 17–41.
12. Chu, T.C., ''Facility location selection using fuzzy TOPSIS under group decisions'', International Journal of Uncertainty, Fuzziness and Knowledge-Based Systems , 2002, 10(6), pp. 687-701.
13. Krishnamurthy, J., N. Kumar, V. Jayaraman& M. Manivel, (1996). An Approach to Demarcate Ground Water Potential Zones Thorough Remote Sensing and a Geographical Information System, INT. J. Remote Sensing, 17 (10):1867-1884.
14. Roy,B,The outranking Approach and the foundation of ELECTRE Methods, Theory and Decision, 31,1991,pp49-73.




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# The Dead in the Lives of the Living: A Socio- Cultural Survey of Burial Sites in the Niger Delta

By Jones M. Jaja
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*Abstract-* Burial sites come into existence only after death. Death is therefore a unique phenomenon which we either appreciate or denigrate. The death of an individual may bring sorrow to some, great relief and joy to others and often captured or marked by a burial site. It is the inevitability of death and the African understanding that the dead are not dead and gone, that informs this exercise. This paper attempts to examine the meaning of death, the beauty of death, types of burial sites and the place or importance of the dead in the life of the living. It then concludes with the view that History is incomplete without the history of the dead dotted round our society.

*GJHSS-H Classification: FOR Code: 160899*

THE DEAD IN THE LIVES OF THE LIVING A SOCIO- CULTURAL SURVEY OF BURIAL SITES IN THE NIGER DELTA

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# The Dead in the Lives of the Living: A Socio-Cultural Survey of Burial Sites in the Niger Delta

Jones M. Jaja

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## I. Introduction

Scholars' shy away from the study of man's morbid nature .Not that there is anything fundamentally iniquitous about such a study. Rather it is borne out of the decency and respect for the dead .The desire not to disparage the dead who had translated to the spirit world, also informs the awe with which death is discussed and the premium attached to the way by which the dead joined his/her ancestors. Death is the worst thing that happens to man on Earth, it is one evil that could render man's achievements meaningless and make human life appear purposeless. It is probably for this reason that many try to achieve whatever they desire within the shortest possible time not minding the method or consequences. But before we explore this further, it is necessary to have a working definition of death.

## II. What is Death?

Defining death is illusive and controversial .The controversy is borne out of the fact that those who experience it have no way of explaining their experiences to those who observe the incident. In other words, the attempt of the living to recount or explain death will be problematic having not empirically experiencing it. Their accounts are only based on observation and these could be influenced by their emotional ties to the individual going through the process of death, or who died. Moreover, defining death is complicated by its vagueness. This explains why virtually all disciplines define death from its own perspective. For instance, in religion, death is viewed as a spiritual transformation.

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A transformation that involves the mind and matter. In All religions death affects man holistically, leading to the disintegration of the body, mind and spirit. Indeed death is reviewed in two ways. The first involves the disintegration of the body and the second that affects destruction of the soul, mind and the condemnation of man to eternal torture and misery. Jesus said: "Do not fear those who kill the body, but are unable to kill the soul; but rather fear him who is able to destroy both soul and body in hell" (Matt 10:28).

And materialists hold a different views, because death and life after involves some transcendental existence. It is therefore faith rather than actual empirical experiences that determines ones explanation of death. Death is the worst evil that happens to man, an evil that makes human life appear purposeless and meaningless. According to the Sartre (1969:545) "If we have to die then our life has no meaning". The strongest instinct in many living things is that of self preservation. The instinct to avoid death, the instinct to continue living. However, death is the surest thing that will happen to us. If there is one thing that is unmistakably certain, it is that death is inevitable. It is certain that we shall all die, because we were all condemned to death even before we were born. "As soon as a man is born, he is old enough to die" says Martin Heidegger (1913:289). Some people are not even born before they die. They die in the womb before they are born. Some die just as they are born, some die a few minutes after they are born, some a few hours, others a few days. Some live to a ripe old age, others in the prime of their lives and so on. Death can come and does come at anytime in a person's life, at any age, from the antenatal stage, to infancy, childhood, adolescence, adulthood, to old age.

Not only is man old enough to die as soon as he is born, he actually begins to die from that very moment, that very day. (Heidegger 1973:289) Yes, we begin to die the day we are born. We are all dying men and women, for human life on earth is a dying life. And when a dying man begins to struggle to acquire all the money and wealth in the world for himself, he behaves like a fool and makes himself ridiculous. He believes foolishly that he can take all his wealth and money with him to the grave.

"What did we bring into this world?
Nothing. What can we take out of it?
Nothing…those who want to get rich

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…are caught in the trap of many
Foolish and harmful desires which pull
them down to ruin and destruction
(1 Tim 6:7-9).

We cannot understand life until we learn to understand the phenomenon of death. For, to learn to live is to learn to die and to learn to die is to learn to live. The good book said it all. "For whosoever will save his life shall lose it: and whosoever will lose his life for my sake shall find it". (Mathew 16:25).

For man, life and death are inseparably interwoven since man lives a dying life. Death is a process which span all through life, it is not something that comes at the end of ones life and terminates it. On the contrary; it is something that accompanies man all through mortal life, a dying life. (Heidegger, 1973:307). For man, death begins when life begins and ends when life ends. Man carries life and death with him in a process, for each is a process which comes to an end the moment he leaves the world. That is why, we cannot understand life until we understand death, nor can we learn to live until we learn to die, since the two are inseparably interwoven. Indeed a reflection on the phenomenon of death shows the true nature of man. Once again the good book stated:

*"Surely every man walketh in a vain show: Surely they are disquieted in vain: he heapeth up riches, and knoweth not who shall gather them". (Psalm 39:6).*

Let us examine the causes of death.

## III. Causes of Death

There is no doubt that the phenomenon of death is enigmatic and interesting. Miguel de Unamuno, the Spanish philosopher in his book states that human life is a tragedy and that philosophy is that science that studies this tragedy. It is a tragedy because man's strongest instinct and strongest desire to continue living is frustrated by the inevitability of death and there is nothing one can do about it: The Ibani proverb *"Fi bara gbananye yanabem" or "Fi bara or olobienye yanabem"* states that death must have a witness or must be hinged on one excuse.

*a) Death by ill Health*

Health is not the reserve of any particular age range in human beings. Consequently, children, young and old people die as a result of one form of ill health or the other which affect one part of their body system or the other. The result is that, when not properly managed or attended to death occurs.

*b) Death by Accident*

Some deaths are caused by accidents due to carelessness on the part of the individual or another party, resulting in the death of someone when in our mortal estimation the time is not ripe for the individual to die.

*c) Death at Old Age*

There are however, some who by sheer faith/providence live to the ripe old age because they did not encounter the forces or struggles that led to death in the two case, noted above. They somehow overcame all to get to the ripe age of three score, ten and above.

The above discuss on causes of death is the product of realization that man's sojourn on earth is not endless. That, indeed, there are two worlds – the ethereal and the corporeal. The corporeal must come to an end to translate to the ethereal. Dying is the process through which man must be transported to the ethereal. Plato noted the existence of these two worlds when the argued. "Behind the mercurial world of the senses, there is a world – composed of the timeless (Nisbet 1982:7). The "timeless rear" (the ethereal) according to Osai (2007:73) single super-consciousness of the divine spirit God, controls the multiplicity of habitable and inhabitable planets in the corporeal.

There is an eternal scuffle that is taking place between higher and lower forces and the main arena of this struggle is the human mind's interpretation of the concept of death. In other words, how does different disciplines or professions view death? This we shall consider presently.

## IV. Medical Opinion of Death

The medical profession focuses on the prevention of ill health and the preservation of life. The medical understanding of death is the inevitable cessation of the heart and lungs. This was before the developments in technology. But before this breakthrough many have been buried due to the inability to detect their heart beat. The result was the need for a new definition which is tied to the brain. The brain became the major factor in determining death, Moderk Suatest believed that since the brain controls man's faculty, it should be a determining factor in case of permanent coma or permanent vegetative state.

The American medical Association Journal (1968:6) note that: A permanent non functioning brain must exhibit four criteria: unacceptivity and unresponsibility, in which there is a total unawareness of externally applied stimuli, no movement or breathing during period of at least an hour in which the patient is continuously observed by physicians, no reflexes such as blinking, eye movement, and stretch of tendon, reflexes; and a flat electroencephalogram, assuming that the electrodes have been properly placed, the equipment is functioning normally, and the personnel operating it competent.

Death therefore occurs when there is irreversible cessation of all functions of the entire brain

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(De Grazi : 1) Although Perret challenges this position and argues that it is an attempt to confuse the question of what is death with the question of how to determine whether death has occurred (De Grazi : 10) Medicine pronounces death the moment it occurs.

## V. Biological Explanation of Death

Biology studies living organism, man, animals and plants. Therefore living organisms must exhibit living characteristics. When it is the opposite then that organism is dead. These characteristics are: growth, feeding, respiration; excretion; movement, response to stimuli, development, reproduction and finally death. It is a fact of nature that all organisms live and die. Culver and Bernard (1982:40) defines death as "the permanent cessation of functioning of the organism as a whole". Medically this may be a state of inactivity or malfunction, but not death. It is important to note that, the heart may be vigorously pounding but it is not functioning or it is malfunctioning. Consequently, cessation of functioning cannot be regarded as death in all cases. Encyclopedia Britannica (1970:12) defines death as the absence of potential life. It means lack of ability to synthesize new molecules in an integrated organized system. The implication here is that such criteria as respiration, procreation, and transpiration of substances and irons are not necessary for potential life. For example, bacteria responds to different atmospheric situation; it may be dry and dusty but when exposed to moist, it comes back to life.

## VI. Existentialist Explanation of Death

The existentialist reasoning holds that only man exists. According to Heidegger (1962:272)

The being that exist in man. Man alone exist
Trees are, but they do not exist
Houses are but they do not exist
Angels are but they do not exist
God is, but he does not exist

Heidegger however makes a distinction between "to exist" and "real being" while all things including man are real being, it is "man alone that exists. Death is one major theme in existentialism that features prominently. Heidegger argued that "so far as one knows, all men die". Death to the existentialist, must be understood existentially as "…existential interpretation of death takes precedence over any biology and ontology of life" (1962:291). Accordingly, the existentialist believes death rather than being is just an event, is a way of life for man. Heidegger noted that "Dasein, is in its existence. This simply means that human reality cannot be defined because it is not something given, it is in question. For Heidegger, death, is the clue to authentic living.

*"It is the eventual and omni-present possibility which binds together and stabilizes my existence. I am projected in advance of myself becoming what I will be, whether I will to be or not, but I am not waiting for the end, and this is the only way in which I can command and possess my existence and give it unity and authenticity. I anticipate death not by suicide but by living in the presence of death as always immediately possible and as undermining everything."*

This full-loaded acceptance of death, emphasized, his authentic personal existence (Blackham, 1952:96). Death, is being towards its death, Dasein is dying factually and indeed constantly, as long as it has not yet come to its demise. Perret (1987:17) distinguishes between "dying" and "death" He claims that "dying" is a process while "death" is an event. Dying is a process if un-interrupted by external forces will normally end in death – Death, on the other hand, represents the completion of a process of dying.

Omoregbe also holds this view. For him death is a way of life for man, for he is a "being – towards – death", a being whose every moment of life, is a step towards his death. Man's whole life is a progressive journey to death, for he begins to die from the day he is born, (Omoregbe 1991:52). Satre's interpretation of death is instructive. According to him:

*"Death is never that which gives life its meaning. It is on the contrary that which on principles remove all meaning from life If we must die, then our life has no meaning. Because, its problems receives no solution. It is absurd that we are born, it is absurd that we die" (Omoregbe 1991:57).*

Although death is a common phenomenon, nobody while still alive experiences his own death, but experiences that of others as an observer, not as a participant. There is a remarkable difference between personal involvement and detached experience. One experiences his own death by participating in it but cannot tell the story of the experience.

If death must have any meaningful existential interpretation, then it must be defined in the widest sense, as a phenomenon of life". Perret (1987:271) defines death as "an event which is in relation to life". Heidegger helps out when he asserts that death "… in the widest sense marks the being, a boundary of living organisms" Consequently, death is "simply to die, to cease to be from being". These definitions accommodate all shades and perspective and expressly explain death.

Having examined these various interpretations of death, what is the African notion of death? This we will now examine.

## VII. African Notion of Death

Despite the misgiving about death, mainly associated with fear of the unknown, Africans see death



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as a transition, a deviation from one status to a higher realm of duty. The African believe that everyone is on a mission on earth. It is expected that one moves to the next stage as soon as he she is done with the lessons of the earthly stage. Every next stage is an improvement, a desired improvement, a desired maturity with responsibility. Death is a progression, a promotion to ancestral realm. It depicts the completion of a phase in the eternal journey of purification.

## VIII. The Uniqueness of Death

It is strange that anyone should think of death but then it is a predicament man has been born to fulfill, it is a journey man must take but man seldom contemplates or plans toward that great journey and therein lies the uniqueness. A Road one knows he must take but a road one never looks at or bothers to check its situation. Is there therefore any meaning in death? In Omoregbe's (1991:58) opinion.

> *If there were no death, there would be no sense of urgency, nor would time be taken seriously. In fact, if there were no death, life itself would not be taken Seriously and it would certainly be lived differently from the way it is being lived, we cannot say that death gives meaning to life since we do not live in order to die."*

One of the uniqueness of death is that it excuses man from the inexhaustible demand of life. But it appears that uniqueness seem lost, whether in life or death. Truly, it is absurd that we are born. It is absurd that we die".

Omoregbe has stated that our inability to make meaning from life or death is because we do not know why we live. Russell's (1886:127) argued that "life is favor, a gift from God and it will be continued everlastingly only to the obedient." (1886:127). But Russell here may be referring to the ethereal life, life everlasting. The good books also stated in 2 Peter 1:3. "As his divine power has given to us, all things that pertain to life and godliness…" Furthermore James 1:17 states. "Every good gift and every perfect gift is from above, and comes down from the father of light…"

No matter the special uniqueness that lies in death, nobody wants to die. Indeed the strongest instinct known in man is that of "self preservation". Consequently, death is a loss, a loss to those left behind. It is probably the need not to forget, not to feel the loss that the dead are properly buried and epithet put for them. They are not to be forgotten. To forget them is to forget the sense of history in the lives they shared with their loved ones. As Daniels (1972:3) pointed out…

> *History is the memory of human group experience. If it is forgotten or ignored, we cease in that measure to be human. Without history, we have no knowledge of who we are or how we came to be, like victims of collective amnesia groping in the dark for our identity. It is the events recorded in history that have generated all the emotions, the values, the ideals that make life meaningful, that have given men something to live for, struggle over, die for…*

One question we must ponder upon is "do men really die?" Don't burial sites attest to the affirmative? It needs to be emphasized that what is real never dies. The real essence of man is the soul; the soul is the spark of life which exists for eternity. Man is made up of the soul and the matter. The belief in the immortality of the soul is exercised in several post interment funeral rite. Among the Ijo, these rituals include the shaving of the hair, in-law condolence visitation and enshrinement. These ceremonies are meant to deviate the spirit of the deceased into the ancestral shrine. (Okaba 1999:73). Similarly, the rituals serve the purpose of enthroning the heir apparent to filling the deceased position as head of the ancestral cult.

Among the Edo (Nigeria) the elevation rituals require the deceased's fingernails, shaved hair and the sponge used for washing the corpse. These are put in a white clay pot and kept at the family ancestral shrine. This no doubt constitutes the visible embodiment of the deceased earthly sojourn. By implication, it shows that death does not dissolve the relationship between the deceased and his Kith and kin (Bradbury 1973:634).

The pre-interment rituals and ceremonies ritually separate the spirit of the deceased from his earth family. The deceased is transposed into liminiality between and betwixt the stages of interment and formal deification. The enshrinement rituals elevate and re-incorporate the spirit of the dead into the abode of the living dead (Okaba 1999:74). Thus Africans believe in the spirit living after the material body – matter is interred. Consequently, it reinforces the notion of the spirit of the dead and the living dead. The spirit lives, the spirit or soul never dies. Man is a spirit being, man is a spirit, he has a soul and he lives in a physical body (1 Thess. 5:23). When the physical body of a man is dead and in the grave, the spirit lives on. That part of man is eternal.

Paul in 2nd Corinthians 4:16 states "… But though our outward man perish, yet the inward Man is renewed day by day." This attests to the fact that there is an inward man and there is an outward man. The outward man is not the real you, it is only the house in which you live, it fades away, it dies. The inward man is the real you, it never grows old, he is renewed day by day. The inward man is a spirit man. The spirit of man is the candle of the Lord (proverbs 20:27). Paul calls man's spirit "the inward man" Peter calls man's spirit "the hidden man of the heart".

> *"But let it be the hidden man of the heart, in that, which is not corruptible, even the quiet spirit, which is in the sight of God of great price" (1 Peter 3:4).*

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The heart here means the spirit. It is the spirit that is born again. God does not do anything with the outward man. Let us conclude this part of the discussion by examining briefly the matter; the body, that which is buried, that which confirms that matter, the body dies. The body is buried when it dies but it is not dead and totally forgotten. This is because it impacted on the lives of people that are still living. Where are the dead buried?

## IX. Burial Sites and the Living

Various kinds of burial sites exist among the people of the Niger Delta. These are as follows:

(a) In the House: This is especially where land scarcity makes it difficult to bury the dead elsewhere. The dead is buried in the room he/she occupied while alive. The room now assume a sacred status and only someone very close to the dead can easily occupy the room. No special land mark or memorial is made in this situation.

(b) The Compound: Some bury in front or behind the court yard within their compound. A small monument or tomb of concrete marks the place of burial. It could be simply made or beautified with inscriptions. Depending on the temperament of the family, at the time.

(c) The Cemetry: This is the general area mapped out for the burial of the dead by the community. "Plots" are bought by people for their loved ones. Concrete cement with inscriptions are made for the dead. The inscriptions tell a brief history of the dead.

(d) Special Mausoleum: This is usually a state of the art tomb specially built for important personalities and statesmen, for their contribution to the society. In most cases they become historical sites for visitors who come to pay homage to the great individual. The King Jaja's mausoleum is closely guarded, so is that of Nnamdi Azikiwe, Tafawa Belewa, Ojukwu and General Murtala Mohammed, among others.

(e) The Swamp "Grave": This is peculiar to the Niger Delta societies. It is regarded as a bad omen, an unnatural burial site for those that die by drowning. Because of the nature of death, a shallow grave is usually dug for the deceased, no ceremony, burial rites or mourning is done for the dead. And there is nothing to mark the grave.

These are where the dead are buried. It could be a specified area meant for the purpose by government a community or just a place the family chose to bury its dead.

## X. Burial Sites and History

Burial sites' uniqueness lie not only in it being the abode of the ancestors but more important is the motley history it unconsciously exhibit. It reminds us not to forget. Not to forget that here lies Jeki Opusenibo Michael Alali Jaja or Alabo Watson Gabriel for instance. Burial sites takes us to the past. It admonishes us not to forget. It reminds one of St Augustine's philosophy of time. St Augustine makes an attempt to pin time down, but discovers it to be always moving, always in process of passing "towards non-being". "If we were to measure time, the only possible unit to consider would be time passing in the present, yet "the present has no space" between a past and a future where reality is attested to by memory and prophecy."

Burial sites bring memories back and reminds one of prophecies and proclamations made by the departed when they were alive, where or if these declarations comes to reality, then the departed did prophecy of a future that came to pass.

St Augustine saw the mind as the key to an understanding of time or of our account of the past, or prophecies or predictions of the future.

> *Historical accounts of the past are "images recovered from the mind where they had been implanted… Like footprints they passed through the sands, and even prophecies and predictions of the future are only possible from present things which already exist and are seen" (Alagoa 2006:170).*

Accordingly, the past, present and future are merely;

> *"The presence of things past, the presence of thing present and the presence of things future." And it is the mind alone that synthesizes time: Time is nothing more than distinction of the mind itself.*

The point being made here, is that the human mind is unconsciously built not to forget. Memory relates to the mind and the mind like footprints, prophecy as well as predict the future. St Augustine found balance in his attempt to understand time or the past. He found God and the idea of eternity.

> *"God precedes all times created all times and with Him, today does not give way to tomorrow, nor does it succeed yesterday".*

In the eternal, nothing can pass away but the whole is present. It is this understanding that informs the belief that burial is not an end but a transition. For those in the faith, it is a beautiful sleep in which they will eventually wake 1 Thessalonians (4:13-16). Reads in full.

1. But I will not have you be ignorant, brethren concerning them which are asleep, that ye sorrow not, even as other which have no hope.
2. For if we believe that Jesus died and rose gain, even so them also which sleep in Jesus will God bring to them.
3. For this we say unto you by the word of the Lord, that we which are alive and remain unto the coming of the lord shall not prevent them which are asleep.
4. For the lord himself shall descend from Heaven with a shout with voice of the archangel, and with the



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trump of God: and the dead in Christ shall rise first.

5. Then we which are alive and remain shall be caught up together with them in the clouds to meet the lord in the air and so shall we ever be with the lord…

It is evident from the above passage that the meeting with the faithfuls is an actuality, a truism. It also informs the popular comment "till we meet again" in the eternal city.

In most African societies, places of burial are not far removed from the place of abode. In deed African bury their loved ones within their compound or within the building- in the room the departed lived when he or she was alive. Burial sites tell history about the dead. The kind of life a person lived, status in society, age and circumstances of death. The grave also show affluence or otherwise of the late individual. No expense is spared in giving the departed the last honor and this show in the preparation and final resting place of the departed. The burial program, flags, banner, souvenir and the manner of entertainment depict the status and affluence of the departed in society. So also is the grave-site and epitaph.

It must be pointed out that in the Niger Delta communities; land scarcity to a large extent explains the recourse to burial in the house or the room of the departed. Largely a rural community with little land for agriculture and building of individual homes, land scarcity often led to conflict and some individuals resort to entering into agreement with poor land owners to build a storey building so they could occupy up while the land owner would have an improved ground floor. Sometimes the living name children as a constant reminder, (a living memory) of the departed. For example, if the departed's name was Alali, a new born child into the family is named Alali in memory of the departed. This researcher is named after his grand father Alali. Thus land hunger has militated against a designated cemetery in Opobo. Some families are reluctant to give up their land for such noble venture. This has resulted in the continued burial of loved ones in homes in Opobo kingdom. Sometimes, two or three persons are buried in the same spot. This is unlike what obtains in the hinterland communities with large expanse of lands. In the hinter land not only are there cemeteries, there are enough land mass making burials in the homes unattractive and unnecessary.

The point being made here is that while the Ibani Communities and some Eastern Niger Delta Communities are faced with land scarcity resulting in burials in homes and near residential houses, other communities in the hinter land have designated burial grounds and bury their dead far from the homes because of the large expanse of land available to them.

## XI. Conclusion

We have attempted to study a rather difficult area of a people's culture history. Difficult in the light of scholars aversion to study the dead. In spite of the misgiving about death and the inherent tendencies in man associated with the fear of the unknown, our study shows that not only are the departed revered in the processes and manner burial rites are undertaken but that in most African societies, the dead is not gone and forgotten. They exist in the living memory of the living, indeed, they are the living dead. In the Niger Delta Communities where land hunger exists, the dead are buried near homes or in the very room they occupied earlier.

The departed are "epitaph" written among the living as children are named after them as a constant reminder of the fond memories of their existence. Consequently, even in death they still exist in the history of the living. Burial sites are reminders that someone once passed through these lands, his name was say Michael, Alali Jaja, he was a shipping magnet and lived a fulfilled life having left behind a wife and a number of children. Such sites among the living, constantly remind us not to forget the past, for to forget is to erase the history of the dead among the living. In other words the history of the living will be incomplete without the history of the dead among the living (without burial sites).

## References Références Referencias


1. 1st Timothy 6 – The Holy Bible
2. Alagoa, E.J. (1984). "Oral Tradition and Culture History in Nigeria". History of Historiography.
3. Alagoa, E.J. (1986). "Pre-Colonial States System" Paper Presented to the Historical Society of Nigerian Nation Seminar on the Historical Roots of the contemporary.
4. Alagoa, E.J. (2006). Landmark Historical Events in Rivers State. Abuja. National Population Commission.
5. Bradbury, B. (1973). Benin Studies. London, O.U.P.
6. Culver, C.M. and Gert, B. (1982). Philosophy in Medium and Conceptual and Ethical Issues in Medicine and Psychiatry. Oxford: Oxford University Press.
7. Daniels Robert V. (1972). Studying History: How and Why, (2nd Editions) Prentice – Hall, Inc. Eaglewood Cliff, New Jersey.
8. De Grazi, D. (1972) Biology, Consciousness and the Definition of Death Report from the Institute for Philosophy and Public Policy 1976 – 1999.
9. Etuk, Udo (1999). The New Humanism. Uyo: Afahaide and Bros Printing and Publishing Company.
10. Existerntiation from Dostoevsky to Satre Expanded (Ed.) USA. The New American Library Inc, 1975.


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11. Girigiri, B. (1999). Culture and the Group. Owerri, Springfield Publishers.
12. Heidegger, M. (1913). The Way Back into the Ground of Metaphysic in Walter Kaufmann (Ed.).
13. Jaja, J.M. (1992). Religious Beliefs and Practices in Opobo Journal of Niger Delta Studies 1(1).
14. Jaja, J.M. (2003). Women in Ibani History: Examples from the Realm of Politics, Economy and Religious order in Ejituwu, NC and Gabriel AOI (Ed.) Women in History. The Rivers and Bayelsa State. Experience Port Harcourt. Onyonta Research Publication.
15. Jaja, J.M. (2013). Ibani (Niger Delta) Traditional Religion and Social Morality. International Journal of Arts and Humanities (AFRREV. IJAH) Vol. 2(2) Bahir Dar. Ethiopia.
16. Nisbet, R. (1982). The Social Philosophers Community and Conflict in Western Thought New York: Harper and Row Publishers, Incorporated.
17. Okaba, B. (1999). African Indigenous Institutions and Societies. Amethyst and Colleagues Publishers, Port Harcourt.
18. Omoregbe, J. (1991). A Simplified History of Western Philosophy (Vol. 3) Lagos: Jaja Education Research and Publishers Limited.
19. Osai, J. (2007). Egbema, Roaa Ir'ro Ulamba Publishers Ltd. Port Harcourt.
20. Perret, R.W. (1987). Death and Immortality Netherlands: Martinus Nyhoff Publishers.
21. Psalm 39 – the Holy Bible.
22. Russel, Bertrand (1961). History of Western Philosophy. London: George Allen and Unwin Ltd.
23. Russell, C.T. (1886). The Divine Plan of the Ages. USA. Dawn Bible Students Association.



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# Fear and Challenges Faced by Small Scale Industries of India in the World of Globalisation

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*Abstract-* The small-scale sector has emerged as an engine of growth in most of the developing and newly industrialized countries of the world. In India the SSI has played a catalytic role in socio-economic transformation of the country. This sector has exhibited tremendous capacity for employment generation, greater resource use efficiency, and technical innovation, promoting inter-sectoral linkages, raising exports and reducing regional imbalances. Small business has low capital investment and therefore the risk of the entrepreneur is limited and he can afford to be venturesome. Moreover small businesses have a small gestation period so returns are also quick.

*Keywords:* *small scale industries, capital investment, economic activity, efficiency and wto (world trade organization).*

*GJHSS-H Classification:* *FOR Code: 200206, 350209*

FEAR AND CHALLENGES FACED BY SMALL SCALE INDUSTRIES OF INDIA IN THE WORLD OF GLOBALISATION

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# Fear and Challenges Faced by Small Scale Industries of India in the World of Globalisation

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*Abstract-* The small-scale sector has emerged as an engine of growth in most of the developing and newly industrialized countries of the world. In India the SSI has played a catalytic role in socio-economic transformation of the country. This sector has exhibited tremendous capacity for employment generation, greater resource use efficiency, and technical innovation, promoting inter-sectoral linkages, raising exports and reducing regional imbalances. Small business has low capital investment and therefore the risk of the entrepreneur is limited and he can afford to be venturesome. Moreover small businesses have a small gestation period so returns are also quick. The flexibility inherent in this sector allows the entrepreneur to work aggressively if a project seems promising or change course in case things do not work out. In his manner the small business functions as a nursery for developing entrepreneurial talent. The cumulative effect of these innumerable entrepreneurs leads to economic growth and higher standards of living, which transform the society. The world trading system is constantly offering new challenges for businesses in emerging economy. The WTO is bound to impact every economic activity-the small-scale-sector is no exception.WTO Agreement have thrown up a variety of threats and challenges in the sight of WTO Agreement SSIs lost the shield of protective policy of the government and have been exposed to the onslaught of multinational organization and international competition. The strategy to survive and flourish will have begun with clear understanding of the changes that are taking place, not only domestically but globally. This paper attempts to study the performance of SSI since 1995 to 2010 when WTO came in to existence and to identify the various problem which the SSIs are facing in the changing environment and to suggest strategic imperatives to make them competitive in present scenario.

*Keywords: small scale industries, capital investment, economic activity, efficiency and wto (world trade organization).*

## I. Introduction

The last fifteen years ranging from 1995 to 2010 has witnessed a growing and irreversibly trade towards globalization and liberalization with integration of the production process by subcontracting and international division of labor, dismantling of institutional barriers to international trade and capital flows, and rapid technological advances particularly in information dissemination and communication. The same has quickened the pace of growth of world trade and thrown up opportunities for emerging economies. At the same time, competitiveness has been established as the pre-dominant factor in global as well as domestic markets which no longer remain preserves of indigenous businesses. Another significant remark to the globalization process has been swiftly changing regulatory scenario the trading system all over the world is continuously offering new opportunities as well as creating new threats. The threats are created due to tariffs and quotas, new technical norms, measures relative to sanitary and phyto-sanitary and anti-dumping actions which are rendering more challenges for business in emerging economies.

The importance of small scale industry in any economy as a foundation of strong and competitive industry is well understood as the same drives economic development through employment, production and research. The small scale industry of India forms the backbone of the Indian economy, the small scale industries, which are defined in terms of the investment limit in plant and machinery (Rs. 10 million or one crore for SSI) contributing to around 40% of India's total manufacturing sector output, around 35% of total export i.e. Rs.28, 87.5 crores in to 2009-10 in comparison to Rs 93 crore in 1973-74 and providing employment to nearly 25 million person. The regulations imposed by WTO regime together with pressures for enhanced product/ service obligations is however placing an increasing demand for competitive effort from the small scale industrial(SSI) sector in India. The sector needs to be nurtured and backed by a Conducive environment and strong support mechanisms if it is to realize its full potential in the present scenario. With the globalization of the economy various economic reform which are undertaken, the SSI sector is exposed global economic environment. There is near dismantling of state barriers, replacement of national competition policy by global competition policy, harmonization of trade policies and procedures and free movement of factors of production, new business and new challenges of management in a highly networked global economy. The globalization as well as liberalization has created threats and opportunities for this sector. Maximum number of problems arises due to unorganized nature of this sector, lack of data and information, use of obsolete and low technology and some time poor infrastructure. The basic problem that is confronting the Indian economy is increasing pressure of population on the land and the need to create

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massive employment opportunities. This problem is solved to larger extent by small-scale industries because small- scale industries are labour intensive in character. They generate huge number of employment opportunities. Employment generation by this sector has shown a phenomenal growth. It is a powerful tool of job creation. The small-scale industries ensure equitable distribution of income and wealth in the Indian society which is largely characterized by more concentration of income and wealth in the organized sector keeping unorganized sector undeveloped. This is mainly due to the fact that small industries are widespread as compared to large industries and are having large employment potential. To compete internationally, reasonable economy of scale and continues investment in technology up gradation have become a necessity.

## II. Objectives Under Study

1. To assess the performance of SSI's in economic development of India.
2. To assess the challenges and threats faced by SSI sector internationally

## III. Research Methodology

The data has been collected from secondary sources comprising of micro, small and medium enterprises annual reports and Ministry of Commerce, Government of India from the period of 1995-1996 to 2009-10. The collected data has been classified and analyzed in a systematic manner. For analysis, statistical tools such as annul growth rates and compound annual growth rates (CAGR) have been used in the study.

$$CAGR(t_0, t_n) = (V(t_n)/V(t_0))^{1/t_n - t_0} - 1$$

$V(t_0)$: Start value, $V(t_n)$: finish value, $t_n - t_n$: number of years

Performance of SSI units in India (1995-96 to 2009-10)

| Year | Number of units(Lakhs) | Yearly growth of Number of units (%) | Production (Rupees Crore) | Yearly growth of production (%) | Exports (Rupees lakhs) | Yearly growth of exports (%) | Investment (Rs.lakhs) | Yearly growth of investment (%) |
|---|---|---|---|---|---|---|---|---|
| 1995-96 | 8.28 | ---- | 121175 | 11.40 | 36470 | 25.46 | 125750 | 1.58 |
| 1996-97 | 8.62 | 3.94 | 134892 | 11.32 | 39248 | 7.62 | 130560 | 3.83 |
| 1997-98 | 8.97 | 4.06 | 146263 | 8.43 | 44442 | 13.23 | 133242 | 2.05 |
| 1998-99 | 9.34 | 4.12 | 157525 | 7.69 | 48979 | 10.21 | 135482 | 1.68 |
| 1999-2000 | 9.72 | 4.06 | 170379 | 58.16 | 54200 | 10.66 | 139982 | 3.32 |
| 2000-01 | 10.11 | 4.01 | 184401 | 8.23 | 69797 | 28.78 | 146845 | 4.90 |
| 2001-02 | 10.52 | 4.05 | 282270 | 53.07 | 71244 | 2.07 | 154349 | 5.11 |
| 2002-03 | 10.95 | 4.08 | 306771 | 8.68 | 86013 | 20.73 | 162317 | 5.16 |
| 2003-04 | 11.40 | 4.10 | 336344 | 9.64 | 97644 | 13.52 | 170219 | 4.87 |
| 2004-05 | 11.86 | 4.03 | 372938 | 10.38 | 124417 | 27.42 | 178699 | 4.98 |
| 2005-06 | 12.34 | 4.04 | 418883 | 12.32 | 450242 | 20.75 | 188113 | 5.27 |
| 2006-07 | 26.10 | 11.50 | 471663 | 12.59 | 182538 | 21.49 | 207307 | 10.20 |
| 2007-08 | 27.28 | 4.52 | 532979 | 12.99 | 202017 | 10.67 | 197046 | -4.95 |
| 2008-09 | 28.52 | 4.54 | 594295 | 11.50 | 214387 | 6.12 | 203149.3 | 3.09 |
| 2009-10 | 29.81 | 4.52 | 655611 | 10.32 | 238752 | 11.36 | 209252.6 | 3.00 |
| | | | | | | | | |

*Source: RBI hand book of Statistics on Indian Economy 2009-2010.*

Computed annual average compound growth rate of investment =3.606%

Computed annual average compound growth rate of production=17.269%

Computed annual average compound growth rate of the number of units in SSI sector=4.348%

Computed annual average compound growth rate of export=15.33%

Since with the introduction of Industrial policy resolution (1948) there has been increasing emphasis on the development of SSIs in India. It was in year 1952 when the concept of SSI sector was introduce in India with the objective of promoting and developing small scale industries. The number of SSI unit has been estimated to have gone up from 8.28 lakhs in 1995-96 to 29.81 lakhs in 2009-10. During this period the value production of SSI units also increasing to 11.40% i.e. 121175 crore to 10.32%i.e 655511 crore; while compound annual average growth rate of production stood to be 17.269%. Exports in the SSI sector went up to 238752 lakhs from 36470 lakhs during the period 1995-96 to 2009-10 which contributed 15.33% compound annual average growth rate of exports.

## IV. Factors Responsible for Fear and Challenges to Small Scale Industry of India

Force of WTO (world trade organization) on SSI in India: - with the coming of WTO in 1995 it has far reaching effect on all types of SSI units in India, whether catering for domestic or global market. With the

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enforcement of several agreements it is likely to have for reaching implication SSI sector in India, with regard to their competitive ability and integration with the global markets. Following are some of the factors which are relevant for India, particularly from the point of view of small scale sector (SSI) and need to be addressed appropriately so that much needed protection is required to be given to the Indian SSI units:-

1. Spread of quantitative restrictions (QRs): - There are some quantitative restrictions which India is maintaining on certain agricultural, textile and other industrial products under Article XVIII-B of General agreement of trade and tariffs. India has notified a particular period to WTO, spread over seven years during which these import restrictions are to be removed. The restrictions imposed by India before WTO has been disputed by USA and dispute settlement panel has given judgment against India. Withdrawal of QRs means diluting the reservation policy on SSI product. Due to the removal of QRs many of the SSI units, especially those in the consumer goods sector, will find it difficult to survive as more imported product will find easy access to the Indian market. Therefore, government should provide a package of assistance to those products which are without any reservation so that their competitive power is enhanced.
2. Tariffs on industrial goods: - Though Indian SSIs have been hindered by some bottlenecks and have no access to economies of scale therefore some protection has been granted to them. As by the passage of time India has remove quantitative restrictions as per notification given by India to WTO so that protection level by way of tariff is also likely to come down. India is committed to a ceiling tariff binding of 40% on finished goods and 20% on intermediate goods, machinery and equipment. This brings another challenge for the SMEs, with their high cost of in efficiency and low support facilities such as better infrastructure in comparison to others.
3. Subsidies to the SSI units: - Though subsidies are not permitted but subsidies provide by the government to Small and Medium Enterprises (SMEs) identified on the bases of their size, number or employment would be Non-Actionable Subsidies. Non-Actionable Subsidies are those which are granted on the bases of objective criteria that are economic in nature and horizontal in application and do not favor certain enterprises over others and are not specific. Countries which import cannot levy countervailing duties on Non-Actionable Subsidies. Therefore, in India SMEs should know to be competitive without present set of subsidies. This is really big challenge what SMEs are facing.
4. Access to the market: - It has been argued by some of the people that bringing down of tariff walls is in the country's interest and will get higher market access globally. There are several such items where India stands to gain and by taking liberal stand on this issue, India can actually benefit in terms of market access. We may lose in certain areas, but it is important to note that India cannot gain a large share in the global market it tries to keep its tariffs high.
5. Measures retaliated to environment and ecological perspective: - These measures mainly affect agro based and dairy products. In the developed words, there are high standers which are difficult to achieve in developing countries like India, due to heavy investment involved. Developing countries have been regularly opposing it. For example, textile export account for 55% of India's export earning and according to one estimate, over 60% of production is by small scale enterprises. But the stringent environment conditions in developed countries have adverse consequences for India's export performance.

## V. Conclusion and Various Measures to be Taken

The greatest challenge before SSI is to globally change itself. It cannot survive because of high tariff barriers or non tariff barriers like import licensing. It cannot hope to get subsidies from the government indefinitely. Indian SSI will have to be at par with the best in the world by raising their level of efficiency and competitiveness because at present time they are facing competition in the domestic as well as international market from multiple sources. Imported goods coming into the domestic market at lower import duties are offering stiff competition. Therefore, various measures that can be taken in order to revive SSI from such fears and challenge are: - In present scenario Indian SSI have poor infrastructure, technically and financially weak and unable to look at their right destination. Therefore, we may have to redefine the SSI unit in tune with international SME.

## References Références Referencias


1. Annual report, Reserve Bank of India Hand book of Statistics on Indian Economy 2009-2010
2. Naik, S.D.(2002) " Small Scale Industries: Preparing for the WTO Challenge," The Hindu business line, July 12.
3. India & WTO. (2004) "Monthly Newsletter of the Ministry of Commerce and Industry; Feb-March.
4. Misra and Puri. (2011) "Indian Economy- its development Experience", Twenty Ninth Revised and Updated Edition , Himalaya Publishing House, pg no 375-387.
5. Rajkumar.S.Topandasani. (2011) "Performance of Small scale Industry in India", Southern Economist, July, pg no.5-7.


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6. Yogesh Madhukarrao Kulkarni. (2011) “Role of Small scale industry in Employment Generation”, Aug15, pg no 9-11.
7. Sonia and Dr. Rajeev Kansal. (2009)” Globalization and Its Impact on Small Scale Industries in India”, PCMA Journal of Business, Vol. 1, No. 2 pp. 135-146.
8. Vidya Suresh and P Shashidhar, “Competitiveness of Small-Scale Industries of India”, Conference on Global Competition & Competitiveness of Indian Corporate, pg no 43.
9. Role of the Informal Sector in Poverty Reduction Economic and Social Commission for Asia and the Pacific Committee on Poverty Reduction, Third Session 2006, Bangkok.




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# Eradication of Poverty through Community Green Economic Development Utilizing Khas (Government Jurisdiction) Ponds: Lessons Learned from Grameen Motsho (Fisheries) O Pashusampad (Livestock) Foundation (GMPF) in Bangladesh

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*Abstract-* Grameen Motsho O Pashusampad (Fisheries and Livestock) Foundation (GMPF)-is a sister organization of Grameen Bank (GB) involves in livestock and fish culture, mobilizing poor people engage in livestock and fish production, agriculture, horticulture, homestead gardening, social forestation and bio-gas plants and other community green income generating economic activities to bring improvement in the quality of life of the poor, in particular of poor women. GMPF is managing leased of 1035 Khas (public) ponds having 2557.3 acres of water bodies and 20 fish seed farms leased from the Government of Bangladesh (GoB) for 25 years.

*Keywords: community economic development (ced); fish culture and livestock services; and social business.*

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ERADICATION OF POVERTY THROUGH COMMUNITY GREEN ECONOMIC DEVELOPMENT UTILIZING KHAS GOVERNMENT JURISDICTION PONDS LESSONS LEARNED FROM GRAMEEN MOTSHO FISHERIES O PASHUSAMPAD LIVESTOCK FOUNDATION GMPF IN BANGLADESH

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GMPF has seven projects- Joygagor farm (JF), Dinajpur farm (DF), Jamuna Borrow-Pits Farm (JMBA), Empowerment of Coastal Fishing Community for Livelihood Security Project (ECFC), Community Livestock and Diary Development Project (CLDDP), Livestock Development Fund (LDF), Livestock Insurance Fund (LIF), Feed Supply and Fodder Cultivation Program (FSFCP) and Community Dairy Enterprises (CDEs).

A total of 14451.22 metric ton (MT) of fish was produced by Joygagor farm since inception up to 2006. Fifty percent of the fish went to the share of poor beneficiaries. The Dinajpur farm production of fish during the period 1988-1989 was only 18.60 MT per ha, which increased to 260 MT in 2006. Jamuna borrow-pits farm (JMBA) is a unique example of integrated farming through fish-crop-livestock and social forestation model. It has 1005 women village group members (VGMs) - the only one of its type in Bangladesh. The empowerment of coastal fishing community for livelihood security project (ECFC) developmental objectives are to promote livelihood security of the poor coastal fishing communities. Community livestock and dairy development project (CLDDP) has organized 3275 village group members (VGMs)-2750 male members and 525 female members in 655 villages. Total TK 183, 09, 305 ($2.2 million) deposited to livestock development fund (LDF) and total Tk 31, 05,554 insurance premiums deposited to livestock insurance fund (LIF) by VGMs. Out of 5445 cow heifer 177 died, GMPF compensation paid against 148 dead cow heifers. GMPF has set up 6 community livestock centers (CLC), 5 livestock sub-centers and 85 trevice points had been equipped with all veterinary facilities including mini laboratory, which are managed by Community Livestock Officers (CLO), Livestock Field Assistants (LAs) and Veterinary Compounder s(VCs) located at the livestock service centers (LSCs). The veterinary clinical laboratory and vaccination services are given free of cost to project clients. GMPF has feed supply and fodder cultivation program too. Under this program, it cultivated 1396 decimal napier plots, 125 decimal guinea plots, 6.03 decimal ipil-ipil plots and 445 decimal maize plots. GMPF has initiated two community dairy enterprises (CDs) with milk cooling two tanks of 2000 liter each were established at Nimgachi and Dinajpur. GMPF has also been executing shrimp farms at Chokoria, Cox's Bazar and Satghira. GMPF had 8 fish seed multiplication farms with total area of 11.16 hectors across Bangladesh. Modern fish culture and livestock production technologies has introduced in the project. GMPF has conducted many workshops on fisheries and livestock management, community forestation and micro-credit management for local people that has impacted increasing local fish and livestock productions and community forestations in Bangladesh. Many local green jobs are created by GMPF projects by expanding/ creating green small-businesses like agricultural and artisan jobs there. GMPF runs all these projects/programs by 435 staff in Bangladesh.

GMPF initiatives embrace the distinctive characteristics with a strong social mission. It earns revenues from the market and covers its costs from the revenues, which is hard for it to sustain financially. Moreover, the shock news is the Government of Bangladesh did not extend ponds lease agreement period to GMPF. Hence GMPF returned all ponds

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**and fish seed farms to GoB in 2010. As result community members' access to these ponds management has declined. Hence these community members face challenges to continue their community green economic development in future.**

*Keywords: community economic development (ced); fish culture and livestock services; and social business.*

*Thesis:* Grameen Motsho (Fisheries) O Pashusampad (Livestock) Foundation (GMPF) of Bangladesh is a very successful example of using Khas (government jurisdiction) ponds to create community green economic development and foster local living green economies and empower the marginalized people. The GMPF has managed to both increase local green economic activity and build community social green businesses through its highly successful and world renowned public ponds management.

## I. Introduction

This paper is an overview of Grameen Motsho (Fisheries) O Pashusampad (Livestock) Foundation (GMPF), which is an example of the community resource asset-based [ponds community economic development (CED) project in Bangladesh. The paper examines applications of theories of CED as a strategy for improving the quality of life of marginalized people through GMPF activities in rural Bangladesh.

The Grameen Motsho (Fisheries) O Pashusampad (Livestock) Foundation (GMPF) is a green social business community economic development project serving marginalised people in Bangladesh. The geographical areas of this project is in Bangladesh are covering 14 districts, 32 Thanas/sub- districts. The districts are Tangail, Sirajgong, Pabna, Bogra, Gaibandha, Rangpur, Kurigram, Nilphamari, Dinajpur, Thakurgaon, Panchaghar, Satkhira, Chittagong and Cox's bazaar, Satkhera and Jamalpur. GMPF involves in livestock and fish production, mobilizing poor people, engage in livestock and fish production, community forestation and other community green economic activities by managing leased 1035 Khas (public jurisdiction public) ponds having 2557.3 acres of water bodies, 20 fish seed farms lease of for 25 years from Government of Bangladesh (GoB) in 1986 (GMPF annual report 2006). It introduced two tiers accounting system that prevents project leaking and corruptions. It runs the project with 'no loss' principle. GMPF generates revenues from selling fishes, fingerlings and supply livestock vaccines. The profit generated from the project reinvested for ponds renovations, roads construction, and repair and project development.

GMPF is a social business institution generating revenues and serving poor people by utilizing these leased Khas ponds in Bangladesh. The GMPF connects local poor people to these ponds; involve them in livestock and fisheries activities. These livestock and fisheries activities open local green economic opportunity for marginalized communities there. In addition to these, GMPF encourages local poor people to form fish culture and livestock associations in order to develop their capacity building to manage these Khas ponds and to develop their partnership capacity and confidence among the beneficiaries. This asset-based community green economic development project generates the power of local fish and livestock production associations to drive the community green economic development process and leverage entitlements to local poor people (Mathieu & Cunningham, 2004) for their own benefit.

## II. Objectives of the Study

The objectives of this study is to examine the motives, policies, strategies and approaches of GMPF community green economic development (CED) and to link these concepts with GMPF if it benefits to local poor people in Bangladesh.

## III. Research Questions

Is Grameen Motsho (Fisheries) O Pashusampad (Livestock) Foundation (GMPF) a CED program in Bangladesh? If so, how it works, what approaches and strategies GMPF follows. What are its strengths and challenges it faces in implementing its CED mission?

## IV. Methodology

The author writes this paper from his pre-and post-GMPF operation experience in Bangladesh. The author collected GMPF annual reports and other GMPF reports from GMPF office at Dhaka. The paper contains literature review and secondary data. He directly talks with GMPF executives, field officers, and local elites of the project to know about GMPF activities, policies, strategies and approaches in Bangladesh. The author looks at GMPF 'Memorandum of Articles' and 'Memorandum of Associations' and GMPF lease agreement with the Department of Fisheries and Livestock, Government of Bangladesh. The paper follows interpretative method; however, it does not critically analyse GMPF activities, outcomes, strengths and weaknesses. Therefore, this paper is not an analytical paper rather it is an informative paper that provides readers with a synopsis of community managed Khas ponds contributed to local poverty reduction, fish culture and livestock production, green technology transfer among marginalised people in Bangladesh.

## V. Literature Review

Community economic development (CED) means a process through which citizens take charge of planning and managing economic development projects in their community areas with the aim of creating employment for them, improving their quality of



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life and developing greater community autonomy (Shragge, 1997, p. 103). It is an attempt to democratize the economic life of the neighbourhood's particularly marginalized people. Quarter et al. (2009) believe that CEDs are working for communities that are facing problems; unemployment, poverty, job loss, environmental degradation and loss of community control, need to be addressed in a holistic and participatory way (p. 95). CED initiatives embrace the distinctive characteristics of a strong social mission, but earn revenues from the market and require ongoing external supports, often from government (Brown & Iverson 2004; Dees, 1998; Quarter, Mook & Armstrong, 2009; Yunus, 2007). It refers to communities of common interest. CED programs can be considered as commercial non-profits. For example, CED- Canada emphasizes distinct values: it has emerged as an alternative to conventional approaches to economic development. In Canada there is an apex CED organization called Canadian Economic Development Network (CCEDNet) (Quarter, Mook, & Armstrong, 2009, p. 80). According to CEDNet CED defined as action by people locally to create economic opportunities and enhance social conditions in their communities on a sustainable and inclusive basis, particularly with those who are most disadvantaged. Putnam (2000) refers to these dynamics as social capital development, social engagement, trust, and informal cooperation, as social capital can create multipliers, as strong communities pull together and initiate new projects. Therefore, CED projects have an important role in reducing the hardships associated with social inequalities. CED projects are mainly targeting below average standard of living people or involve groups who experience extraordinary challenges. Many community scholars think CED is a tool used to get economic equality. It is a program to address economic insecurity of the marginalised members of the community.

Government supported CED projects, either direct full funding or partial funding to CED projects, or lease/donate government properties like ponds, lands, bazaars, roads, public busses, industries to community organizations, can generate revenues from them, covers project costs and contribute to local living green economics. The author believes that community green economic development projects are social businesses that are not completely dependent on external continuous support rather it generates revenues from its products and services to cover project costs. Moreover, inclusion of marginalised people in project services could generate employment among disadvantaged people; get green economic and social benefit from CED services. According to Quarter et al. (2009) CED involves organizations-nonprofits and cooperatives that are within social economy. These organizations earn a portion of their revenues from the market, sometimes in competition with other private sector firms, but they rely on support from government, and at times from corporations and individuals, both financial and volunteer labour. One of the intentions of CED project is reducing external funding/ public funding and ultimately reaching financial sustainability in order to be self-sufficient of its own after certain time. However, it is difficult for CED to survive as profit making business in the free market economy.

As CED project synchronize economic and social missions together in its social business model, CED project required ongoing external support for a while, but here the problem is external funding support decrease even funding support stopped before CED projects reach their financial self-sufficiencies. In Canada and USA government agencies and foundations are important supporters of CED projects although now government support is decreasing. Quarter et al. (2009) suggest that small business development funding could include CED initiatives in social businesses. Other alternatives could be private and CED project resource partnership sharing; public funding, foundations and community organizations collaboration project in the poverty prone area to generate employment among local disadvantaged people. In Canada government initiated and supported many aboriginal businesses and projects in Northern regions through the department of Indian and Northern Affairs Canada, and Aboriginal Businesses Canada (ABC). Moreover, Community Futures Development Corporation has 268 CED projects across Canada. These are community development corporations (CDCs) and public sector non-profits agencies that have social economic contribution in Canada. They are the social economy organizations that have market orientation that combine a social mission and vision. They serve small and medium businesses within the communities. For example, Quint Development Corporation serves five neighbourhoods of Saskatoon through renting 45,000 square feet Community Enterprise Centre that combine retail and commercial office spaces. It also built housing cooperatives for ninety families including child care centre, family recreation and community gardens (Quarter, Mook, & Armstrong, 2009). These are outreach programs and services within their jurisdiction, which could be difficult in centralised public institutions.

Author's experience finds that projects like the technical and vocational training assistance program, agricultural projects, urbane food security services, community gardens, community kitchens, community transport pool services and community printing press could help community unemployed people to work in these projects and learn technical and vocational skills to make them employable in the job market.

Therefore CED is a system of human activity directed to meeting human wants that is determined by deliberate allocations of scarce resources, including human time (Boothroyd & Davis, 1993, p. 230). Here



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people gain confidence when their opinions and experience are valued; their confidence strengthens their participation in community planning and decision making (Shragge, 1997, p. 46). Therefore CED agencies should be organized to promote cooperation rather than competition although they operate in the free market economy. Through this process, community people are concerned with each other's well-being and gain satisfaction from cooperating. GMPF is an example of community economic and social/emotional project where people feel connected with each other although the purpose of this project is to increase community livestock and fish production and increase income, solidarity, distribute justice and enhance quality life among GMPF beneficiaries. Through GMPF-CED activities, services and processes it helps community marginalised members become empowered to participate in the community resource optimum uses, engage in community planning and decision making for the well being of their own in the project areas. According to Mathieu & Cunningham (2004) this asset-based community development project could foster inclusive participation, fostering community leadership, foster relocation of power to communities and increase civic engagement in the community. It provides the source of constructive energy in the local communities. However, ideal community equality achievement is still hard to achieve in neoliberal market economy particularly in Bangladesh.

Under community economic development, it is seen as synonymous with promoting growth in jobs, income, or business activity. Here community is seen simply as the locality in which businesses get together to promote their interests through economic expansion (Alexander, 2000; Quarter, Mook & Armstrong, 2009). Many local green jobs are created by CED projects by expanding/ creating green small-businesses like agricultural and artisan jobs. It increases local control and brings local living green economics' stability in the community. Moreover CED encourages local control and power ownership of resources; it creates organizations that are representative of and accountable to the local community, enables communities to address issues of poverty and inequality, environmental degradation and drives to basic social change (Shragge, 1997). Because CED principle is to utilize local resources, promote establishment of new green firms by local entrepreneurs and increase the productivity of the firms. Although CED approach is a single minded economic growth-commercialization approach and unable to structural change, CED projects increase the flow of money into local community. It has trickledown effect that helps the entire economy, which is very important to increase income among poor people and to address the issue of poverty. However, CED projects needs diversify external investment resources and use community resources, but it could reduce dependence on outside decision-makers by increasing local control over resource management. Moreover, community project initiators need to emphasis on planning for all relevant private, public and community agencies in setting targets, surveying opportunities and developing a wide range of strategies, which are sometimes absent in CED projects.

Although social enterprises, community green economic development programs/servicers, public sector non-profits, non-profit mutual associations, civil society organizations, cooperatives, credit unions, micro-credit agencies and social financings all are social businesses and they are components of social economy, they are different in terms of approaches, structures, designs, strategies and policies. All these organizations have both social and economic missions, but all of them have different principles and operate strategies in the market economy. However, they have common provision for generating revenue from their operations in addition to social well being services to disadvantaged people. They are all different from charitable grants and relief organizations. Charitable organizations have traditions of social handout giving assisting those in need. Social enterprises are completely different from for-profit business organizations because for-profit business organizations main objective is profit maximizing; they don't have social and environmental commitment to society. In GMPF social businesses organization community members are not handout receivers rather they are community beneficiaries who are part of community fisheries and livestock production economic actors and social actors in Bangladesh.

Boothroyd and Davis (1993) think that community development corporation institutions favour those most in need in the community. This approach includes production and distribution based on non market principles of common ownership, mutual aid, and improving productive life at the expense of the efficiency. It creates alternatives to capitalism, rebuild and reconnect people with water, air, soil, agriculture and changes the quality of life for a number of people; however, it requires a major shift in power which is usually not easy for local communities. Moreover, this entrepreneurial approach generally reinforces individualist and capitalist values, bringing poor people into competitive market economy (Shragge, 1997) that confirms by Jim Lotz (1987) community economic development research in USA.

*a) Author's involvement with GBJMF before and after inception of Grameen Bank Joysagore Motsho Farm*

On December 09, 1984, Muhammad Yunus, Managing Director, Grameen Bank (GB) Bangladesh requested the author to visit Government managed

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Nimgashi Fish Culture Project (NFCP), Sirajgong on his way return to Dhaka from Rangpur Grameen Bank branches tour. The author visited several Khas ponds of Nimgashi Fisheries Project (NFP) located in Raigong and Tarash Upzilla and collected preliminary information about NFP. The NFP has huge infrastructures in Nimgashi and Tarash sub-districts. Many cluster Khas ponds situated in Nimgashi area. Among these Khas ponds, Joyshagore Digi (pond) is the biggest one in the area with 22.35 ha of water surface. Mahango tribal people, 20% (approximately) of total population, live in this area; however, public has no access to these Khas ponds for fish cultivation although many poor people live on these ponds' embankments. Many rural powerful elites illegally occupied many Khas ponds and take benefit from them. Although many government officers work in this project, few of them stay in the project area. There is an excellent fish fingerlings production center in Nimgashi; however, it is in underproduction. The author's preliminary observation reported to Muhammad Yunus and to GB executives.

After one year (November 07, 1985) Yunus again sent the author to NFCP to survey it. At this time the author surveyed NFCP with GB another officer to explore the project resources and to asses if Grameen Bank and poor people could benefit from the project by managing it. The author writes a feasibility report on NFCP and identifies problems, potentialities, possibilities, and challenges for GB if GB is managing these Khas ponds and other resources of NFCP.

On March 20th 1986 the author returned to Dhaka after delivering 5000 Thai Camble baby ducks to GB branches in Tangail and Dhaka district, managing director of GB request him to join GB Nimgachi Area Office as an Area Manager in order to start Grameen Bank micro-credit services in Nimgashi and its surrounding area. The author worked in Nimgachi for two years as an area manager. During this time he opened GB twenty Grameen Bank branches. In addition to his GB responsibilities he was involved with GBJMP operations in Raigonja, Tarash, Handial and Vangura sub-districts. He intensively traveled in each village of these sub-districts, visited all ponds of the projects, talked with rural elites, politicians, general people and government officials. He friendly explained them the missions and visions of GB and GBJMF in these sub-districts. Although at the beginning many rural elites were protested against GJMP, later they were impressed of GB activities and appreciated GB and GBJMP activities in their area.

*b) Grameen Bank operation starts in Grameen Bank Joygagor Motsho Project (GJMP) in Khas ponds in Sirajgong, Pabna and Dinajpur*

The Ministry of Fisheries and Livestock (MoFL), Govt. of Bangladesh (GoB) first transferred 782 ancients and derelict ponds with 675 ha water areas for 25 years to Grameen Bank in March 07, 1986 with the aim of improvement/better fisheries production and management, stop leaking/ corruptions by the government officials and to stop illegal occupancy of Khas (public jurisdiction) ponds by the local elites. Latter the government also decided to lease many other fish and shrimp farms and Fish Seed Multiplication Farms, spread over across Bangladesh. The Ministry of Fisheries managed Dinajpur Fisheries Project and Fish Seed Multiplication farms were handed over to Grameen Bank at the end of 1986. There were agreements between Government of Bangladesh and Grameen Bank for handing over physical possession of all assets and ponds on long term lease for community based management by organizing the landless poor people living on and rescue ponds those are occupied by locally influential people and around the embankments of the ponds. After receiving them, GB renamed this project to Grameen Bank Joysagore Motsho Project (GBJMP) in 1987. In 1994, GBJMP became a separate organization and named it Grameen Motsho Foundation (GMF). It again renamed Grameen Motsho O Pasusampad Foundation (GMPF) in 1999.

The author was assigned to attend all 'GBJMP Advisory Committee' meetings in addition to his job in Grameen Bank Training, Research and Special Program portfolio at Dhaka. Although at the beginning the local elites protested against of GBJMP management, GBJMP is able to overcome this problem and smoothly run the project.

The primary objective of GMPF is to produce and to provide protein rich food and thus improve human dietary standard. GMPF other objectives are (1) to undertake production, transportation, processing and marketing of products of fisheries, livestock, agriculture, horticulture, homestead gardening, social afforestation and bio-gas plants and other income generating activities to bring improvement in the quality of life of the poor, in particular of poor women; to finance, assist, take or give on lease, or otherwise support the management of fisheries, livestock, horticulture and forestry-based enterprises which are owned by the poor, in particular by poor women. (2) to promote the increased participation of women in fisheries, livestock, horticulture and forestry production, storage, marketing, processing and other such related business; and (3) to promote the increased participation of women in integrated fish-crop-livestock, horticulture, bio-gas, milk cooling, feed making and forestry production, storage, processing, marketing , and other related business.

The goals of GMPF are: diversifying rural production, increasing employment potentials, to provide alternative employment to rural people especially women, produce more fish, livestock and horticultural products for local consumption and to improve the nutritional standards in rural areas through additional supplies of animal proteins and vitamins,



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raising the net income of the rural communities, alleviation of poverty and increasing opportunities for earning foreign exchange and ensuring sustainable livelihood of the marginalized people in Bangladesh.

GMPF had many programs that are operated through (1) Fisheries Management and Aquaculture, (2) Livestock Dairy Development and Social Forestry, (3) Social Mobilization Technical Assistance Consultancy and NGO Execution, (4) Training Human Development and Research and Development (R & D), and (5) Planning, Monitoring and Evaluation. The GMPF has its training institute Joysagar named Joysagar Training Institute. GMPF had five farm managers at Joysagar Mostsu Farm, Dinajpur Farm, Jamiuna Borrow-pit Farm, Chokoria shrimp Farm and Satkhira shrimp Farm. GMPF had officers for empowerment of Coastal Fishing Community Project, Community Livestock Officers, Veterinary Surgeon, program organisers and community organisers for mobilizing community people for fisheries and aquaculture and livestock development. The GMPF had provided micro-credit to fisheries farmers and livestock farmers by its credit field assistants.

*c) Functions/activities of Grameen Motsho O Pashu Sampsad Foundation (GMPF)*

The functions /activities of GMPF are as follows:

1. Community Fisheries Development: Fish farming, Shrimp farming, integrated aquaculture, fish mono culture, fish poly culture, fish-cum-shrimp culture, paddy-cum-fish culture, duck weed culture, fish hatcheries and nurseries, shrimp hatchery, brood management, marketing of fish, hatchlings &fry, Ice making and net-making.
2. Community Livestock and Diary Development: Cow farming, milk chilling, processing and marketing, beef fattening, goat farming, poultry farming, duck farming, pig farming, use of cow dung as slurry and fertilizer, development of bio-gas plants, community diary enterprises and community feed mills.
3. Community Farming and Social Afforestation: Social forestry, home-stead gardening, landscape gardening, horticulture farming, crops & fodder farming, and plant nurseries.
4. Training and Manpower Development: Programs include training of GMPF officers & staff, training of government and NGOs staff, training of group members, international training on social mobilization, groups and community development through integrated fish-crop-livestock and dairy development activities.
5. Social Mobilization Program;This program includes motivate and orientation, formation of groups and centers, facilitation and communication skill development, gender awareness, legal awareness, awareness building for health, nutrition, safe water &sanitation, education and rights, training of poor men and women on facilitation and communication skill development, training on social mobilization and gender issues, group and community development, training on fisheries, livestock, social afforestation, horticulture and homestead gardening etc. (Memorandum of Articles and Memorandum of Association (GMPF), 2003; Memorandum of Articles and Memorandum of Association (GMF), 1994).

*d) Joysagor Aquaculture Farm*

The Nimgachi Fish Culture Project named as Joysagor Fish Farm (JF) by Grameen Bank after the name Joysagor-the biggest pond in the area with 22.35 ha of water surface. JF is scattered over 200 square kilometres of remote rural areas of 5 Thanas of Sirajgong, Panba and Bogra districts where ancient ponds of Paul and Sen Dynasties were left derelict and unused for hundreds of years. This has rendered these ponds as grazing grounds of cattle and goats. For rehabilitation and aquaculture, GB transferred these resources to Grameen Motsho (Fisheries) Foundation (GMLF) soon after its creation in 1994 as its sister concern. GMLF organised the local people living on banks of the ponds or its close vicinity, formed them into groups of five beneficiaries and centers of 6-8 groups who were trained in aquaculture, rural development and social development activities and were given all inputs including fry, fertilizers, manure, feeds, nets, boasts, etc. The possessions of the derelict ponds were given over from the vested interest groups to the down-trodden and resource less poor. It was an uphill task. GMPF has excavated/re-excavated 432 ponds with 417.50 ha water area and brought under scientific fish culture (GMPF, 2006). Table-1 shows year wise performance of Joysagar Farm.

*e) JF year-wise fish production, share and income of beneficiaries*

A total of 14451.22 MT of fish were produced by JF since inception up to 2006. Fifty percent of the fish went to the share of poor beneficiaries. An amount of Tk. 179.21 million was received by the beneficiaries in 16 years as their share. Number of beneficiaries rose from 2249 in 1990-91 to 5876 in 2006. Per capita additional income through fish culture rose from TK. 1700 in 1990-1991 to Tk. 7223 in the year 2006. Per ha fish production rose from 700 kg in 1988-89 to 2734.30 kg in 2006-a rise of over 3905 in last 20 years or 19.53% per annum increase on an average. Out of 5876 of VGMs 2756 were involved in fish culture in 2006 (Grameen Mostsho O Pashusampad Foundation Annual Report 2006).

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*Table 1 :* Year Wise performance of Jaysagor Farm (JF)

| Year | # of ponds under cultivation | Water area (ha) | Production of fish (MT) | Prod. Of fish/ha (kg) | Prod. Of hatchlings (kg) | Total income Tk. In Lacs | Share of beneficiaries @50% (Tk. in Lacs) | # beneficiaries | Av income/head –Tk. |
|---|---|---|---|---|---|---|---|---|---|
| 1986-87 | 185 | 225.20 | 157.0 | 700.0 | 193.2 | 12.9 | - | - | - |
| 1987-88 | 306 | 335.37 | 160.0 | 477.1 | 122.9 | 40.1 | - | - | - |
| 1988-89 | 356 | 399.06 | 173.0 | 433.5 | 142.9 | 48.1 | - | - | - |
| 1989-90 | 347 | 389.37 | 237.0 | 608.7 | 190.9 | 58.9 | - | - | - |
| 1990-91 | 388 | 404.48 | 456.0 | 1127.7 | 240.8 | 66.0 | 38.2 | 2249 | 1700 |
| 1991-92 | 392 | 382.98 | 503.0 | 1313.4 | 279.9 | 60.6 | 46.0 | 2301 | 2000 |
| 1992-93 | 392 | 382.98 | 810.0 | 2115.0 | 425.6 | 197.9 | 86.2 | 2165 | 3980 |
| 1993-94 | 396 | 386.16 | 920.0 | 2382.4 | 656.0 | 190.6 | 78.4 | 2198 | 3566 |
| 1995 | 396 | 386.16 | 968.0 | 2506.7 | 624.3 | 241.4 | 103.4 | 2247 | 4600 |
| 1996 | 397 | 386.83 | 986.0 | 2548.9 | 633.0 | 221.7 | 94.2 | 2247 | 4200 |
| 1997 | 406 | 393.52 | 867.0 | 2203.2 | 551.6 | 222.3 | 97.1 | 2322 | 4200 |
| 1998 | 421 | 401.55 | 621.6 | 1548.1 | 560.9 | 198.8 | 85.6 | 2293 | 3733 |
| 1999 | 423 | 411.00 | 842.7 | 2050.7 | 504.6 | 269.0 | 121.3 | 2548 | 4760 |
| 2000 | 427 | 415.52 | 869.2 | 2091.8 | 552.3 | 292.7 | 125.4 | 2628 | 4770 |
| 2001 | 427 | 418.27 | 907.7 | 2193.1 | 569.1 | 313.7 | 137.7 | 2724 | 5057 |
| 2002 | 427 | 415.52 | 987.1 | 2304.8 | 645.9 | 330.3 | 148.6 | 2776 | 5351 |
| 2003 | 430 | 415.74 | 950.1 | 2285.4 | 612.3 | 328.4 | 142.3 | 3128 | 5218 |
| 2004 | 430 | 415.78 | 881.8 | 2120.9 | 709.9 | 326.6 | 133.2 | 3855 | 4832 |
| 2005 | 432 | 417.5 | 1012.4 | 2420.1 | 739 | 381.9 | 155.5 | 4674 | 5582 |
| 2006 | 432 | 417.5 | 1141.6 | 2734.3 | 818 | 496.7 | 199.1 | 5876 | 7223 |
| Total | - | - | 14451.2 | - | 9773.1 | 4298.7 | 1792.1 | - | - |

*Source: Grameen Mostsho O pashusampad Foundation Annual Report 2006.*

*f) Dinajpur Farm (DF)*

Dinajpur Farm (DF) was taken over from the DoF of GoB during 1987-1988 with 65 ponds having 155.46 ha of water areas scattered over the remotest rural areas of the greater Dinajpur district presently the new three districts of Dinajpur, Thakurgaon and Panchaghar (Grameen Annual Report, 1987). Most of these ponds were excavated by the local kings/Zamindars about 500-800 years ago. Bangladesh's largest man-made pond 'Ramsagor Dhighi' with a water area of 30 ha is located about 10-km North of Dinajpur town. Out of these 65 ponds 51 ponds were brought under fish culture by organizing landless poor people of the area. Out of 1159 village group members (VGMs) 674 were involved in fish culture in 2006.

*Table 2 :* Year-wise performance of DF

| Year | # of ponds under cultivation | Water area (ha) | Production of fish (MT) | Production of fish/ha | Total Income (Tk. in Lacs) | Share of beneficiaries @40 (Tk. In Lacs) | # of beneficiaries | Income per head (Tk.) |
|---|---|---|---|---|---|---|---|---|
| 1988-89 | 35 | 88.34 | 18.60 | 210.55 | 4.79 | - | - | - |
| 1989-90 | 50 | 133.18 | 19.62 | 147.32 | 6.53 | - | - | - |
| 1990-01 | 53 | 136.52 | 49.34 | 361.41 | 11.84 | - | - | - |
| 1991-92 | 53 | 140.81 | 96.34 | 684.18 | 15.10 | 6.04 | 451 | 1340.00 |
| 1992-93 | 50 | 133.48 | 121.00 | 906.50 | 17.42 | 6.98 | 439 | 1590.00 |
| 1993-94 | 50 | 134.82 | 1778.00 | 1320.28 | 33.39 | 134.37 | 496 | 2695.00 |
| 1995 | 54 | 154.00 | 209.00 | 1441.38 | 46.30 | 17.18 | 482 | 3564.00 |
| 1996 | 56 | 150.58 | 204.00 | 1354.76 | 36.82 | 13.41 | 492 | 2726.00 |
| 1997 | 56 | 150.58 | 128.73 | 854.90 | 29.02 | 11.23 | 480 | 2340.00 |
| 1998 | 56 | 149.65 | 137.44 | 918.48 | 37.34 | 14.79 | 619 | 2389.00 |
| 1999 | 56 | 149.65 | 147.00 | 982.30 | 40.29 | 15.98 | 615 | 2598.00 |
| 2000 | 54 | 151.79 | 161.20 | 1062.00 | 47.59 | 17.70 | 636 | 2783.00 |
| 2001 | 52 | 144.8 | 187.18 | 1292.7 | 54.07 | 20.66 | 666 | 3102 |
| 2002 | 52 | 153.8 | 201.00 | 1304.65 | 55.95 | 22.18 | 722 | 3072 |
| 2003 | 51 | 146.40 | 208.17 | 1421.93 | 56.04 | 22.29 | 776 | 3488 |



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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2004 | 51 | 146.40 | 215.34 | 1470.90 | 60.21 | 23.95 | 873 | 3772 |
| 2005 | 52 | 150.00 | 237.10 | 1580.67 | 68.30 | 27.11 | 942 | 4236 |
| 2006 | 46 | 106.67 | 260.00 | 2437.42 | 92.60 | 33.10 | 1159 | 4911 |

*Source: Grameen Mostsho O pashusampad Foundation Annual Report 2006.*

The DF production of fish during the period 1988-1989 was only 18.60 MT per ha, which increased to 260 MT in 2006. The income out of fish sales increased from tk. 4.79 lacs to k 92.60 lacs during 1988-2006. 400% of the sale proceeds were given to the group members. Beneficiaries' per capita additional income was raised from Tk. 1340 in 1992 to Tk. 4911 in 2006. Per ha fish production rose from 210.55 kg in 1988-99 to 2437 kg in 2006 - a rise of 1157% in last 18 years or 64% per annum on an average (Grameen Mostsho O pashusampad Foundation Annual Report 2006).

*g) Jamuna Borrow-Pits Farm (JMBA)*

The Jamuna Borrow Pits were created as result of construction of East and West Approach roads of Jamuna Bridge in Tangail and Sirajgong. Due to acquisition of land on both sides of the road, many people were rendered homeless and landless. The people are called Project Affected Person s (PAPs). Jamuna Multipurpose Bridge Authority (JMBA) has its moral and legal responsibility to 42 km of slopes of the approach roads for construction of ponds for fish culture and developing the farms for agriculture and horticulture and the slopes for plantation. GMPF accepted the offer from the government for fish culture in the ponds and plantation besides the road and took over possession in 1997 by virtue of agreement for 25 years lease singed between Jumuna Multipurpose Bridge Authority (JMBA) and GMPF on 12-03-1997. Under this project the major component was excavation of 90 ha of new water areas (ponds) for creating physical resources for the poor people living adjacent to the 42 km long East and West approach Roads of the Jamuna Multipurpose Bridge (JMB) in Tagnail and Sirajgonj districts. During 1998-2004 only 65 ponds having a water area of 67 ha were excavated under JBPF. This project is a unique example of Integrated Farming through Fish-Crop-Livestock and Social Afforestation having 1005 women VGMs-the only one of its type in Bangladesh.

*Table 3 :* Group formation, Centers, VGMs, Ponds and Water Areas

| Activities | Total | Comments |
|---|---|---|
| No of Centers | 45 | 100% women |
| No of Groups | 274 | |
| No of Members | 1259 | |
| No of Ponds | 65 | |
| Water Area (ha) | 69.60 | |
| Fish Production (MT) | 52.84 | |

*Source: Grameen Mostsho O Pashusampad Foundation Annual Report 2006.*

*h) Chokoria Shrimp Farm*

GMPF has also been executing shrimp farm named Chokoria Shrimp Farm at Chokoria sub-district in Cox's Bazar district. This farm was handed over by Department of Fisheries (DoF) to GMPF in 1986 for 25 years on lease. It has area of 300 acres of water area and producing shrimps since inception. In 1992-1993 semi-intensive shrimp culture was started in 42 ponds. From 1996 the farm did not culture any intensive semi-intensive shrimp but traditional extensive shrimp culture was re-introduced to get rid of the diseases problem. The farm had one dairy farm with 49 cows/cattle and it has over 1911 coconut trees. It produced 19.26 MT shrimps and 6.47 MT fish in 1996 (Grameen Mostsho O Pashusampad Foundation Annual Report 2006).

*i) GMPF Micro-credit Implementation Project*

Grameen Motsho O Pashu Sampad Foundation (GMPF) has been executing the Command Area Development Project and Micro-credit Implementation Project funded by Asian Development Bank (ADB). This project was operated in three sub-districts (Santhia, Bera, Sujanagar) of Pabna district. GMPF had been organizing the ponds, borrow-pits, and irrigation canals of Pabna Irrigation and Rural Development project. The project owners' preferably landless poor, marginal farmers, fishermen, hatchery/nursery operators, net makers, and sellers and other aquaculture related persons. GMPF had organised 499 groups of 5005 beneficiaries, and gave them training in fish culture, gender issues, social development issues, legal awareness etc. It covers 134 villages, and 519 hectors of water areas. The project gave micro-credit to the beneficiaries not in the form of 'cash' but in the form of 'input'. During the project period the project disbursed Tk. 17.05 million as input credit to the beneficiaries and the recovery rate is 86.30%.



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*Table 4 :* No. of groups, no. of beneficiaries, fish cultivation areas, loan disbursement, savings collections

| Description | # of group | # of beneficiaries | Area under cultivation | # of villages covered | Savings collections million in (TK.) | Loan disbursement in million in (TK.) | Loan recovery in million (TK.) |
|---|---|---|---|---|---|---|---|
| Actual | 341 | 3553 | 367 | 126 | 7.93 | 17.05 | 118.94 |
| Target | 341 | 3410 | 341 | 126 | - | 17.05 | 14.50 |
| % | 100% | 104.2% | 107.6% | 100% | - | 100% | 81.37% |

*Source: Grameen Mostsho O pashusampad Foundation Annual Report 2006.*

*j) Empowerment of Coastal Fishing Community for Livelihood Security Project (ECFC)*

Grameen Mossho O Pashu Sampad Foundation (GMPF) was executed the social mobilization program 'the Empowerment of Coastal Fishing Communities and Livelihood Security Project' (ECFC) in Cox's Bazar, Ramu, Teknaf, Ukiya, Moheskhali and Kutubdisa sub-districts under Cox's Bazar district covering 65 fishing villages, and 149 village organizations. This project was basically a social mobilization and community empowerment project following a multidimensional approach. The project engages a numbers of service providers from the private sector to assist the project in achieving its objectives within the framework of project concept, strategy, and institutional arrangements. The developmental objectives of the project were to promote livelihood security of the poor coastal fishing communities. The ECFC immediate objectives were to: (1) assist the communities to empower themselves to collectively address their problems and needs; (2) introduce various economic and community approaches which are operated and managed by the community organizations; and (3) facilities sustainable conservation and management of coastal marine and estuarine fisheries resources and habitats through strengthening of community based management of the resources. ECFC target people are marginalized women, children and men are from the coastal fishing communities and the people who are most prone to recurrent natural disasters.

The project concept is based on the Sustainable Livelihood Approach-includes the vulnerability context, peoples coping and adaptive strategies, the livelihood assets, and the livelihood outcomes. Poor fishing communities have access to information, assets and resources as well as knowledge and technologies, employments and alternative income options in the area. ECFC emphasises on marine fishing technologies and strength capacity building for disaster management among coastal people.

*k) Community Livestock and Diary Development Project (CLDDP)*

The objectives of the CLDDP project are to contribute to national efforts for poverty alleviation by providing a model for sustainable rural development opportunities for women. The project is located in GMPF`s three-existing farm areas namely (1) Joysagar Farm, (2) Dinajpur Farm, and (3) Jamuna Borrow-Pits Farm (JBPF) in 18 sub-districts of 7 districts in Northern West of Bangladesh. CLDPP works in 375 villages of 18 sub-districts of seven districts in Bangladesh. It has 360 centers, 1150 groups and 7750 beneficiaries where 4600 were male (59.35%) and 3150 females (40.65%) under 22 GMPF unit offices (Grameen Mostsho O Pashusampad Foundation Annual Report 2006). The following table shows GMPF meat, milk, dung and eggs production of GMPF under CLDDP.

*Table 5 :* Production of Milk, Meat, Cow Dung and Eggs

| Produces | Total (as of 2006) |
|---|---|
| Total Milk Production (Litre | 6723871 |
| Milk received by CDE (Litre) | 3560999 |
| Eat (Fattening Cattle) (MT) | 1478.99 |
| Cow dung: produced (MT) (Estimated | 62434 |
| Egg (nos) | 1329591 |

*Source: Grameen Mostsho O Pashusampad Foundation Annual Report 2006.*

*l) Livestock Development Fund (LDF)*

A savings account has been opened at each of the GMPF village centers to make up a local Livestock Development Fund by VGMs. Each VGM contributes TK. 5 at every fortnightly meeting as a compulsory savings into the LDF. This is considered to be a personal savings of each VGM and proper records were maintained at the centre to determine the amounts saved by each VGM so that he/ she may be able to withdraw the full amount with interest at the time the VGM leaves the center. Every time a VGM receives a loan for a livestock package through the center, a sum equal to 2.5% of the value of the livestock (milch cow and pregnant heifer) procured is deducted from the total loan amount and deposited into the LDF at the centre. When the group repays the loan capital and interest at the fortnightly meeting of the centre, 25% of the interest is deposited into the DF account. Each VGM is expected



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to contribute to the LDF at the rate of thirty paisa (TK. 0.30) for every litre of milk sold, irrespective of whether it is sold direct to the market or through the Community Dairy Enterprise (Grameen Mostsho O Pashu Sampad Foundation Annual Report 2006).

Bank interest for the fund accrued in the savings account gets added every quarter into the LDF. Any fine imposed by the centre on the GM is also deposited into the LDF.

*m) Livestock Insurance Fund (LIF)*

2.5% of the purchased value of cows/heifers realised as premium have been deposited to the insurance account. Out of 5445 cow heifer 177 died and compensation paid against 148 dead cow heifers. The details of livestock insurance fund position are shown in Table below.

*Table 6 :* Insurance Fund: Premium and Compensation

| Description | Total |
|---|---|
| No. Of insured cows heifers | 4250 |
| Total premium realized (Tk.) | 27,21,809 |
| No. Of insured cows heifers died | 177 |
| No. of Insurance claimed settled | 148 |
| Amount of insurance claimed settled | 3,79,170 |
| Total LIF | 31,05,554 |

*Source: Grameen Mostsho O Pashusampad Foundation Annual Report 2006.*

*n) Livestock Support Services*

The project provided adequate facilities for treatment, vaccination, artificial insemination, fodder cultivation and pregnancy test for cow heifers. Moreover facilities like treatment, vaccination and other facilities for goats, poultry, ducks etc. provided with necessary equipment, instruments, trevice, LFA kit box and other ancillary appliances. In addition, linkage has been established with Department of Livestock Services (DLS) to provide more necessary inputs and veterinary services.

*o) Community Livestock Centers and Livestock Sub-centers*

In order to provide needed veterinary services for the livestock distributed to the VGMs, the project has set up 06 Community Livestock Centers (CLC) at Nimghachi, Tarash, Sujan, Elenga, Ramrai and Dinajpur. Moreover five livestock sub-centers setup at Nandigram, Nalka, Deul, Vitargarh, Belowa and Ramarai units. 85 trevice points had been equipped with all veterinary facilities including mini laboratory. They had been managed by a Community Livestock Officer (CLO), Livestock Field Assistant (LA) and Veterinary Compounder (VC) located at the SC. The CLO, LFA VCs services are given free of cost. If the livestock is owned by a non VGM the cost of medicine, vaccine, artificial insemination and emergency call fees are realized and deposited into a Livestock Services Fund maintained at the respective farm. Required number of community members also given training on AI techniques by DLS for a period of 3-months. These trained personnel earned money by insemination privately. The following table shows scenario of the treatments, vaccinations of cattle, poultry and ducks and artificial insemination and pregnancy test of cow heifers.

*Table 7 :* Livestock, Poultry, Breeding and Treatment

| Description | Total (as of 2006) |
|---|---|
| No. of various types of Vaccination | 114631 |
| Artificial Insemination and Pregnancy Test | |
| No. Of Artificial Insemination done by the project | 7429 |
| No. Of Pregnancy Diagnosis done by DLS | 1665 |
| No. De-worming done by the project | 17103 |
| No. of Infertility treatment done by the project | 1216 |
| Total no. of cases treated at | |
| Trevice Points | 13559 |
| CLC LSC | 13258 |
| VGMs house on emergency call | 960 |
| VGMs houses services provided | 28157 |

*Source: Grameen Mostsho O Pashusampad Foundation Annual Report 2006.*

*p) Feed supply and Fodder Cultivation*

The project motivated the VGMs on the advantages of feed and fodder for dairy cows setting up demonstration plots in Units. Distribution of milch cow was subject to a condition that every VGM should plant at least a small plot of improved grass such as Napier, Guinea grass, maize or ipil-ipil whatever land available in the backyard of the beneficiaries or on pond embankments. Grass cutting and ipil-ipil seedlings were distributed to the VGMs. VGMs cultivated 1396 decimal napier plots , 125 decimal guinea plots, 6.03 decimal ipil-ipil plots and 445 decimal maize plots and others 700 decimal. The project has also set up feed mills for supplying quality cattle feed to the VGMs. Since inception 3 feed mills produced and distributed 5184 Metric tons of feed (Grameen Mostsho O Pashusampad Foundation Annual Report 2006).

*q) Community Feed Mill (CFM)*

Although there is a provision for two feed mills at Nimgachi and Dinajpur, the project established three feed mills one more at JBPF for facilitating steady

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supply of quality feed to the VGMs. All the feed mills are functioning well with highly satisfactory management and producing quality cattle feed by producing raw materials from the local market and mills. Feed samples of collected ingredients are sent to nutrition laboratory of DLS in every six- months. The results compare well with national analytical figure. Moreover, feedback information from VGMs about feed is also promising. The price of feed is fixed by the committee and their selling price varies depending on their price of ingredients. A profit margin of TK. 0.50-1.00 is kept in the Feed Mills account to build up working capital. The feed mills are jointly owned and managed by the Community and GMPF with 70:30 share of profit. Feed mills employ managers and staffs from the community only.

*r) Community Dairy Enterprise (CDE)*

Two Community Dairy Enterprises (CDs) with milk cooling tanks of 2000 litre each were established at Nimgachi and Dinajpur. Under changed situation and market demand more facilities had been developed in 3 farm areas for preservation and marketing of milk. Beyond 2 cooling tanks of 2000 litre capacity each set up at Joysagar and Dinajpur 8 more cooling tanks of 2000 litre capacity-4 and 1000 litre capacity-4 have been set up at Nalka, Nandigram, Tarash, Belwa and Ramrai. Total cooling capacity of milk was 16,000 litres per day (Nimgachi 4000, Tarash-3000, Nandigram-2000, Nalkas-2000, Belowa-1000, Dinajpur-1000 and Ramrai-3000 litre) (Grameen Mostsho O Pashusampad Foundation Annual Report 2006).

## VI. Implications of the Study

The experience of GMPF is one of the examples of CED green program in Bangladesh. In theory CED approach has many advantages in producing local jobs creation, increase income among community members, empower people, and address the issue of poverty by using local resources for local community members. It is an approach where private-public-community agencies make partnerships among them and serve to local communities for their wellbeing. GMPF has community Khas ponds project. This community project cultivates fish by employing local poor people. Moreover, GMPF project encourage community members to become involved in fish culture; livestock productions and community forestations in its project area. They are an asset-based community economic development project that has an innovative strategy for community-driven development for rural communities in Bangladesh. Therefore, community economic development workers, researchers, policy makers, academicians and executives could learn from GMPF different services, products, tools and its implementation strategies from this paper. This paper can assist them to plan and to initiate CED projects in their own communities lesions learned from GMPF.

## VII. Conclusion

GMPF employed local people to work in the GMPF fish culture firm and livestock farm. GMPF mobilise local villagers to make fish culture associations and let them jointly (association members and GMPF field staff) work with the project in order to increase livestock and fish production in the area. GMPF livestock association members benefited from the GMPF services. It has setup milk collection chilling points at different locations near to villages where people sell their milk. The Grameen Yogurt plant uses the collected milk for producing Grameen Yogurt. Many local people employed in this Yogurt plant for producing and selling yogurt.

Modern fish culture and livestock production technologies were introduced to the project. GMPF conducted many workshops on livestock management, fish culture management, community forestation and micro-credit for local people that have impacted increasing local fish and livestock production and community forestation. Many NGOs' field workers, government officials and international agencies visited the project and learn GMPF activities and management strategies. For example, Bangladesh Fisheries Development Corporation, DFID, UK, JICA, Indian Livestock Association, Nepal Fisheries Department, Kenya Livestock Department etc. visited GMPF and they learned about GMPF ponds management.

The author finds GMPF beneficiaries gain access to modern livestock and fish production through this project that resulted in an increase to their income, created excitement, confidence, access to better food, housing and social activities, acquire new skills and information and developed coping strategies through GMPF. The GMPF technology transfer process helps local poor to develop their leadership skills, exposed to technologies on modern fish culture, and livestock production and community forestation. GMPF these activities, programs and services have created many employments in project area and help the community to be self-help at the local level.

Grameen Bank field staff works hard to serve local poor people in providing micro loans, open center schools cost free for the poor in addition to other benevolent activities in Bangladesh. GBJMP has developed a people centered decentralised local community partnership ponds management model for low cost fish culture and livestock production in the project area that become an examples for the local communities and other agencies in Bangladesh. The author and his GB staff extend their full cooperation to GBJMF in order to run the ponds smoothly under



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GBJMP management. All people were impressed of GB and GBJMF activities. The author narrated his GB and GBJMP working experiences in his monthly official report received from the project during his tenure at Nimgashi. It was a great experience for him.

The Khas ponds lease agreement between Grameen Bank and GoB was for 25 years (1986-2010). The Government of Bangladesh did not extend the lease period; hence GMPF returned all these Khas ponds to GoB in 2010. Khas ponds return to Government by GMPF has declined community members' access to ponds management and fish cultivation. As a result GMPF association members and beneficiaries are deprived from the pond management participations although they are conscious about their rights to access to Khas ponds fish culture. Hence the sustainability of this GMPF community economic development project faces red tape challenges to develop/flourish. Moreover, there is a question would the government bureaucrats red tape be able to carry people centered GMPF fisheries and livestock associations services to communities because government officials do not have experience working with the local communities in Bangladesh.

## References Références Referencias


1. Alexander, J. (2000). Adaptive strategies of nonprofit human services organizations in an era of devolution and new public management. *Nonprofit Management and Leadership* 10(3), 287-303.
2. Boothroyd, P. & Davis, H.G. (1993). Community economic development. *Journal of Planning Education and Research*, Vol. 12, 230-240.
3. Brown, W. A., & Iverson, J.O. (2004). Exploring strategy and broad structure in nonprofit organizations. *Nonprofit and Volunteering Sector Quarterly* 33(3), 377-400.
4. Dees, J. G. (1998). Enterprising non-profits. *Harvard Business Review* (Jan.-Feb.), 55-67.
5. Grameen Mostsho O Pashusampad Foundation Annual Report (2006). Grameen Mostsho O Pashusampad Foundation Annual Report (Grameen Fisheries and Livestock Foundation) 2006. Dhaka: Grameen Bank.
6. Grameeen Bank Annual Report (1987). Grameen Bank Jaoysagor Project 1986 in Grameen Bank Annual Report (1986). Dhaka: Grameen Bank.
7. Lotz, J. (1987). Community Development: a short history. *Journal of Community Development* May-June, 40-46.
8. Mathieu, A. & Cunningham, G. (2004). From clients to citizens: *Asset-based community development as a strategy for community driven development.* Antigonish: Coady International Institute.
9. Memorandum of Articles and Memorandum of Association (GMF). (1994). Grameen Motsho Foundation Memorandum of Articles and Memorandum of Association. Dhaka: Grameen Bank.
10. Memorandum of Articles and Memorandum of Association (GMPF) (2003). Grameen Motsho O Pashu Sampad Foundation Memorandum of Articles and Memorandum of Association. Dhaka: Grameen Bank.
11. Quarter, Mook & Armstrong (2009). *Social economy: A Canadian perspective.* Toronto: University of Toronto Press.
12. Putnam, R. (2000). *Bowling alone: The collapse and revival of American community.* New Work: Simon and Schuster.
13. Shragge, E. (1997). *Community Economic Development: In search of empowerment*. Montreal: Black Rose Books.
14. Yunus. M. (2007). *Creating a world without poverty: Social businesses and the future of capitalism.* New York: Public Affairs.


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# U.S. Global Logistics and Transport a Computable General Equilibrium Model

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*Abstract-* Global logistics companies can reduce the cost of international trade and increase consumer welfare. By reducing total transportation costs and increasing production and distribution efficiencies, these companies allow both exporting and importing countries to use fewer scarce resources to meet the needs of producers and consumers. This paper will employ a computable general equilibrium (CGE) model to quantify the economic impacts of global logistics companies in United States. As a major exporter and importer of goods and services, the United States is in a position to affect the consumer welfare of people around the globe. The CGE model will measure the effect of lowering costs in transportation and logistics for trade between the United States and the world. Results show significant increases in trade and consumer welfare, and interesting shifts in production and consumption. The United States in particular would stand to benefit.

*GJHSS-H Classification:* *JEL Code: H50, O10, C32*

U.S. GLOBAL LOGISTICS AND TRANSPORT A COMPUTABLE GENERAL EQUILIBRIUM MODEL

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Research | Diversity | Ethics

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# U.S. Global Logistics and Transport a Computable General Equilibrium Model

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*Abstract-* Global logistics companies can reduce the cost of international trade and increase consumer welfare. By reducing total transportation costs and increasing production and distribution efficiencies, these companies allow both exporting and importing countries to use fewer scarce resources to meet the needs of producers and consumers. This paper will employ a computable general equilibrium (CGE) model to quantify the economic impacts of global logistics companies in United States. As a major exporter and importer of goods and services, the United States is in a position to affect the consumer welfare of people around the globe. The CGE model will measure the effect of lowering costs in transportation and logistics for trade between the United States and the world. Results show significant increases in trade and consumer welfare, and interesting shifts in production and consumption. The United States in particular would stand to benefit.

## Executive Summary

This paper uses a large computable general equilibrium (CGE) model to ask a question. What would happen to the U.S. economy and that of its trading partners if the United States were to achieve a 10 percent increase in productivity in its logistics and transport sectors? As expected, the largest results were seen for the American economy, but the model produces measureable results for sectors and countries around the world. Some of the most significant findings include the following:

- Cheaper transport costs would result in a $27.2 billion worsening of the U.S. trade balance. In contrast, the trade balances of every other region in the world would improve, including those for the EU ($13.0 billion), Japan ($5.1 billion), the Rest of North America ($1.6 billion), and China ($1.2 billion).
- Excluding transport and extraction sectors, the United States imports more of everything else and exports less of everything else. This means a worsening in U.S. trade balances for heavy manufacturing ($22.0 billion), light manufacturing ($16.2 billion), agriculture ($2.6 billion), utilities and construction ($0.3 billion), and other services ($9.1 billion).
- A bright spot for U.S. trade would be in the improved transport sectors. U.S. sector trade balances in sea, air, and other transport services improve by $0.8 billion, $8.2 billion, and $11.9 billion, respectively. Meanwhile, every other region of the world experiences worsening trade balances in each of these sectors.
- U.S. exports decrease in heavy manufacturing (3.0 percent), light manufacturing (3.2 percent), agriculture (2.2 percent), utilities and construction (3.7 percent), and other services (3.7 percent). U.S. imports increase in heavy manufacturing (1.6 percent), light manufacturing (2.2 percent), agriculture (2.0 percent), utilities and construction (2.5 percent), and other services (2.2 percent).
- As the U.S. exports less of most everything, the rest of the world exports more of almost everything. The trade balances in heavy manufacturing impove in the EU by $10.2 billion, in Japan by $3.0 billion, in East Asia by $2.1 billion, and in China by $1.2 billion. A similar pattern is seen for light manufacturing, where trade balances improve in the EU ($6.6 billion), Japan ($2.0 billion), the Rest of North America ($1.8 billion), and East Asia ($1.3 billion).
- The United States would enjoy a 1.04 percent increase in GDP. In contrast, GDP falls in every other region of the world, including the EU (-0.51 percent), Japan (-0.48 percent), China (-0.31 percent), East Asia (-0.37 percent), and the Rest of North America (-0.30 percent).
- U.S. heavy manufacturing falls by $26.4 billion, while light manufacturing falls by $8.9 billion. Similarly, more efficient transport sectors use less energy in the U.S., resulting in a decrease of U.S. imports in the extraction sector (-1.2 billion). Likewise, U.S. domestic production in the extraction sector falls by almost $1 billion.
- The decrease in U.S. manufacturing and extraction frees up productive resources in the United States, for use in other sectors. Production in every other U.S. sector significantly increases, including that of capital goods ($32.2 billion), utilities/construction ($15.1 billion), other services ($3.4 billion), and agriculture ($1.3 billion).
- Much of the world's manufacturing production moves from the United States to the EU, Japan, East Asia, China, Canada, and Mexico. Heavy manufacturing increases in the EU ($9.8 billion), Japan ($4.3 billion), East Asia ($2.8 billion), and China ($1.2 billion). Similarly, light manufacturing

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increases in the EU ($5.8 billion), Japan ($2.6 billion), Canada and Mexico ($2.1 billion), East Asia ($1.9 billion), and China ($1.7 billion).

- Capital goods output moves to the United States from the rest of the world. U.S. capital goods output increases by $32.2 billion, while such output falls in every other region of the world. The largest such decreases are seen in the EU (-$13.1 billion), Japan (-$5.8 billion), East Asia (-$1.8 billion), and Canada and Mexico (-$1.8 billion).
- Investors are attracted by the increased returns on capital investment in the United States. The return on capital increases in the United States by 1.1 percent, but falls in every other region of the world. Returns on capital fall the most in Australia (-0.6 percent), Japan (-0.5 percent), South Asia (-0.4 percent), East Asia (-0.4 percent), China (0.3 percent), and Canada and Mexico (-0.3 percent).
- Global output of transport services clearly moves to the United States. While output in the transport sectors increase in the United States, such output falls in every other region of the world. U.S. output increases in sea transport ($2.5 billion), air transport ($12.9 billion), and other transport ($21.0 billion). The biggest losers in transport sector output include the EU (-$13.7 billion total in the three sectors), East Asia (-$4.4 billion), Japan (-$1.7 billion), and China (-$1.3 billion).
- The largest price declines are found in U.S. transport sectors. U.S market prices decrease for sea transport (-9.6 percent), air transport (-9.8 percent), and other transport (9.6 percent). Such price declines ripple throughout transport markets in all of the other regions. As other countries' demand for U.S. transport increases, their own domestic transport demand decreases, causing significant domestic price declines in almost every single sector.
- American transport sectors demand less energy, but more land, labor, and capital to fuel greater U.S. ouput. This result is reflected in the prices of the world's primary factors of production. The price of natural resources (including energy) decreases in every region of the world except Australia. The largest decreases are seen in the United States (-2.51 percent), Canada and Mexico (-1.42 percent), China (-0.61 percent), South Asia (-0.53 percent), and East Asia (-0.49 percent). In Australia, the price of natural resources increases by 0.49 percent.
- For every other primary factor, prices increase in the United States but decrease in every other region. In the Unoted States, prices increase for land (1.31 percent), unskilled labor (1.03 percent), skilled labor (1.15 percent), and capital (1.06 percent).
- The world would experience a net welfare gain of more than $71.7 billion dollars. The vast majority of welfare gains are experienced by the United States, which would see a $76.2 billion welfare gain ($73.8 billion of which comes from technological gains brought by improvements in U.S. logistics and transport methods).
- In contrast, much of the rest of the world would be worse off after the improvements to U.S. logistics and transport. Large net welfare losses would be seen in the EU (-$3.0 billion), Canada and Mexico (-$573.5 million), Japan (-$751.4 million), and Australia (-$203.0 million). China and East Asia would be better off (by $385.5 million and $306.4 million, respectively).
- Gains from greater savings and investment would accrue to the United States at the expense of every other region of the world. Here the U.S. would experience a welfare gain of $3.1 billion, while large welfare losses would accrue to the EU (-$792.2 million), Japan (-$418.6 million), China (-574.9 million), and East Asia (-$483.2).

## I. Introduction

Global logistics companies can reduce the cost of international trade and increase consumer welfare. By reducing total transportation costs and increasing production and distribution efficiencies, these companies allow both exporting and importing countries to use fewer scarce resources to meet the needs of producers and consumers.

This paper will employ a computable general equilibrium (CGE) model to quantify the economic impacts of global logistics companies in the United States. As a major exporter and importer of goods and services, the U.S. is in a position to affect the consumer welfare of people around the globe. The CGE model will measure the effect of lowering costs in transportation and logistics for trade between the U.S. and the world. Results show significant increases in trade and consumer welfare, and interesting shifts in production and consumption.

## II. Introduction to Global Logistics

With billions of dollars' worth of merchandise moving between China and the United States, inefficiencies can add significantly to costs. What if Trek bicycle Company of Waterloo, Wisconsin buys parts from a Chinese manufacturer, but only needs enough to fill half of a shipping container? What if Peerless Pump, with 65 manufacturing facilities across Asia and the world, loses track of inventories and shipments to all of its distribution centers? How can Chemtura, a global chemical company with facilities in every major market in the world, avoid costly inventory overflows and mismatched production? And how can major U.S. retailers organize and manage thousands of suppliers in China, each with various costs, tariffs and customs, and



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transportation requirements? Each of these examples and many others introduce extra costs to global trade. Reducing these costs is the goal of global logistics companies.

Global logistics and supply chain management includes the management of upstream and downstream value-added flows of materials, final goods, and related information among and within companies, suppliers, resellers, and final consumers, across national borders and within a domestic economy. A major goal is the more efficient use of resources in production, transportation, and distribution.

Global logistic companies can act as intermediaries and consultants, helping importers and exporters find these increased efficiencies. Examples of services provided by global logistic companies include:

- Logistics process analysis and optimization
- Cost analysis to optimize pricing & sourcing
- Freight negotiation and carrier cost maintenance
- Supplier schedule expediting
- In-house project (civil) engineering services
- Route & bridge surveys
- Regulatory & security compliance
- End-to-end materials management and tracking
- Inland transport via truck, rail & barge including required permits
- Coordination of inspections
- Project cargo consolidation & line-item verification
- Export packing
- Advanced corrosion prevention
- Port & off-site warehousing
- Aircraft & vessel charters
- Marine / cargo surveys
- Supervision of port operations for heavy lifts and over-dimensional cargo
- Heavy lift planning & execution
- Duty exemption management
- Complete documentation
- Customs clearance
- Online global shipment tracking and reports
- Hazardous cargo management
- Letter of credit & banking services
- Document translation
- Turnkey & full logistics management.

As logistics firms use these and other services to lower the cost of trade, presumably more trade will occur, and fewer resources are used. Both exporting and importing countries stand to gain. A CGE model can be used to capture these multi-regional, multi-sectoral effects.

## III. CGE Modeling for Global Logistics

The section is broken into several parts, including, (a) a background of CGE models; (b) the Global Trade Analysis Project (GTAP); (c) the structure of this paper's model, (d) model results; (e) model limitations and future research.

### a) Background of General Equilibrium Models

General equilibrium, a concept which dates back to Leon Walras (1834-1910), is a pillar of modern economic thought. General equilibrium recognizes that there are many markets in an economy, and that these markets all interact in complex ways with each other. In rough terms, everything depends on everything else. Demand for any one good depends on the prices of all other goods and on income. Income, in turn, depends on wages, profits, and rents, which depend on technology, factor supplies and production, the last of which, in its turn, depends on sales (i.e., demand). Prices depend on wages and profits and vice versa (Hertel, et al., 2007).

Computable General Equilibrium (CGE) modeling specifies all economic relationships in mathematical terms and puts them together in a form that allows the model to predict the change in variables such as prices, output and economic welfare resulting from a change in economic policies. To do this, the model requires information about technology (the inputs required to produce a unit of output), policies and consumer preferences. The key of the model is "market clearing," the condition that says supply should equal demand in every market. The solution, or "equilibrium," is that set of prices where supply equals demand in every market— goods, factors, foreign exchange, and everything else (Hertel, et al., 2007).

A CGE model is a closed system. This means that no production or financial flow escapes the system and none are created outside of the system. In basic closure terms, we assume output will equal income. Households, businesses, the government, and the financial sector, and the foreign sector are all connected by real flows and financial flows. Intuitively, the idea of a "general" equilibrium is captured; any given market is connected to all of the other markets for the system.

Over the last 25 years, CGE models have become an important tool for analyzing economic issues, including trade policy, taxation policy, technological growth, energy policy, environmental issues, and even warfare. This development is explained by the ability of CGE models to provide an elaborate and realistic representation of the economy including the linkages between all agents, sectors and other economies. While this complete coverage permits a unique insight into the effects of changes in the economic environment throughout the whole economy, single country, and especially global CGE models very often include an enormous number of variables, parameters and equations (Brockmier, 2001).

CGE modeling is a very powerful tool, allowing economists to explore numerically a huge range of issues on which econometric estimation would be

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impossible; in particular to forecast the effects of future policy changes. The models have their limitations, however. First, CGE simulations are not unconditional predictions but rather 'thought experiments' about what the world would be like if the policy change had been operative in the assumed circumstances and year. The real world will doubtless have changed by the time we get there. Second, while CGE models are quantitative, they are not empirical in the sense of econometric modeling: they are basically theoretical, with limited possibilities for rigorous testing against experience. Third, conclusions about trade and other policies are very sensitive to data assumption. One can readily do sensitivity analysis on the parameter values assumed for economic behavior, although less so on the data, because altering one element of the base data requires compensating changes elsewhere in order to keep the national accounts and social accounting matrix in balance. Of course, many of these criticisms apply to other types of economic modeling, and therefore, while imperfect, CGE models remain the preferred tool for analysis of many global issues.

### *b) The Global Trade Analysis Project*

One of the most widely-used CGE models is the GTAP Model. The Global Trade Analysis Project (GTAP), with headquarters at Purdue University, has organized a consortium of national and international agencies which provide guidance and base-level support for the Project (GTAP, 2008).

GTAP is a multi-regional CGE model which captures world economic activity in 57 different industries of 66 regions. The underlying equation system of GTAP includes two different kinds of equations. One part covers the accounting relationships which ensure that receipts and expenditures of every agent in the economy are balanced. The other part of the equation system consists of behavioral equations which based upon microeconomic theory. These equations specify the behavior of optimizing agents in the economy, such as demand functions (Brockmier, 2001). Input-out tables summarize the linkages between all industries and agents.

The mathematical relationships assumed in the GTAP model are simplified, though they adhere to the principle of "many markets." The simplification is that thousands of markets are "aggregated" into groups. For example, 'transport and communications services' appear as a single industry. In principle all the relationships in a model could be estimated from detailed data on the economy over many years. In practice, however, their number and parameterization generally outweigh the data available. In the GTAP model, only the most important relationships have been econometrically estimated. These include the international trade elasticities and the agricultural factor supply and demand elasticities. The remaining economic relationships are based on literature reviews.

### *c) Structure of this Paper's Model*

The model employed in this paper is that of the GTAP project. While the core database has 57 sectors and 66 regions, we have aggregated the matrices to simplify the world into just nine sectors (plus capital investment goods), nine regions, and five factors of production. This aggregation is described in Table 1.

The data is first, "calibrated," meaning the model is solved for its original equilibrium prices and volumes in all markets. This baseline is meant to represent the economy as is, before any shock takes place. Thousands of equations are created, each representing supply and demand conditions in markets inside each region, including markets for goods, services, factors of production, savings, government expenditure, and more. Equations are also generated for trade of all goods between each of the regions, separately created for each industry. The calibrated result is a large set of simultaneous equations, of which the solution matches the existing prices and quantity levels of the economy.

*Table 1 :* Aggregation used in the Model

| Regions | Sectors | Factors |
|---|---|---|
| United States | Sea Transport | Land |
| China | Air Transport | Unskilled Labor |
| Japan | Other Transport | Skilled Labor |
| European Union | Agriculture | Capital |
| Rest of North America | Extraction | Natural Resources |
| East Asia | Light Manufacturing | |
| South Asia | Heavy Manufacturing | |
| Australia | Utilities and Construction | |
| Rest of World | Other Services | |
| | Capital Goods | |

*Source:* Generated by Author

A "shock" is then introduced to system. Mathematically, a "shock" is the alteration of a single parameter or variable in the giant system. That change acts like a stone thrown in a pond, with waves created throughout every one of the thousands of equations in the system. The model is re-solved with the one autonomous change, and the effects on the system are then measured.

The "shock" in this model is the introduction of a 10 percent productivity increase to the Sea Transport, Air Transport, and Other Transport sectors in the United States. These increases are meant to capture the further development of global logistics companies doing work in both U.S. exports and U.S. imports with the rest of the world.

The role of a CGE model is to trace and quantify the direction and magnitude of these changes. More



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inputs are used to produce more output, and the economy consumes a different mix of goods.

## IV. Model Results

A computable general equilibrium model can generate an enormous array of matrix results. In this model, results are grouped into the following sections: 1) international trade; 2) output and income; 3) market prices; 4) the labor market; and 5) welfare effects.

### a) *International Trade*

Model results suggest that the largest effects of reduced costs in U.S. tranportation and logistics would be in the U.S. trade balance with the world. Cheaper transport costs would result in a $27.2 billion worsening of the U.S. trade balance. In contrast, the trade balances of every other region in the world would improve, including those for the EU ($13.0 billion), Japan ($5.1 billion), the Rest of North America ($1.6 billion), and China ($1.2 billion). Trade balances are presented in Table 2.

| Table 2 | |
|---|---|
| Change in Trade Balance | |
| DTBAL | Millions of dollars |
| USA | -27222.73 |
| China | 1198.87 |
| Japan | 5080.96 |
| EU_25 | 12983.49 |
| RestNAmerica | 1590.92 |
| EastAsia | 1068.01 |
| SouthAsia | 733.69 |
| Australia | 750.88 |
| RestofWorld | 3815.92 |
| Source: Generated by author | |

U.S. transport and logistics services become more competitive around the world. Exports of U.S. transport services increase for sea transport (15.7 percent), air transport (27.2 prcent), and other transport (33.7 percent). At the same time, U.S. imports for these services all decrease (by 13.2 percent for sea trasnport, 13.6 percent for air trasnport, and 13.8 for other trasnport). All told the U.S. trade balances in sea, air, and other transport services improve by $0.8 billion, $8.2 billion, and $11.9 billion, respectively. Meanwhile, every other region of the world experiences worsening trade balances in each of the three logistics and transport sectors. Trade balances by sector are presented in Table 3.

Excluding transport and extraction sectors, the United States imports more of everything else and exports less of everything else. This means a worsening in U.S. trade balances for heavy manufacturing ($22.0 billion), light manufacturing ($16.2 billion), agriculture ($2.6 billion), utilities and construction ($0.3 billion), and other services ($9.1 billion). (Table 3).

As shown in Table 4, U.S. exports decrease in heavy manufacturing (3.0 percent), light manufacturing (3.2 percent), agriculture (2.2 percent), utilities and construction (3.7 percent), and other services (3.7 percent). Table 5 presents regional imports by sector. U.S. imports increase in heavy manufacturing (1.6 percent), light manufacturing (2.2 percent), agriculture (2.0 percent), utilities and construction (2.5 percent), and other services (2.2 percent).

As the U.S. exports less of most everything, the rest of the world exports more of almost everything. The trade balances in heavy manufacturing impove in the EU by $10.2 billion, in Japan by $3.0 billion, in East Asia by $2.1 billion, and in China by $1.2 billion. A similar pattern is seen for light manufacturing, where trade balances improve in the EU ($6.6 billion), Japan ($2.0 billion), the Rest of North America ($1.8 billion), and East Asia ($1.3 billion).

| Table 3 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Change in Trade balance by Sector (millions of dollars) | | | | | | | | | |
| DTBALi | USA | China | Japan | EU_25 | RestNAmerica | EastAsia | SouthAsia | Australia | RestofWorld |
| SeaTransport | 878.26 | -135.15 | -210.65 | -1155.36 | -52.45 | -282.21 | -52.05 | -14.63 | -437.29 |
| AirTransport | 8238.37 | -231.16 | -610.81 | -4452.67 | -498.02 | -1379.56 | -61.27 | -407.27 | -1673.55 |
| OtherTransp | 11891.6 | -738.05 | -412.52 | -4910.47 | -809.97 | -1707.09 | -157.04 | -178.55 | -3864.33 |
| Agriculture | -2581.58 | 49.03 | 308.21 | 1043.27 | 257.69 | 168.54 | 36.68 | 175.97 | 1031.08 |
| Extraction | 1956.92 | 54.49 | 269.84 | 623.14 | -426.52 | 73.27 | 175.75 | -39.57 | -2241.24 |
| LightMnfc | -16195.6 | 916.31 | 1996.13 | 6584.82 | 1767.74 | 1348.28 | 335.27 | 392.01 | 3555.16 |
| HeavyMnfc | -22081 | 1206.76 | 3005.52 | 10242.67 | 900.34 | 2116.84 | 354.05 | 577.24 | 5466.4 |
| Util_Cons | -262.78 | -8.93 | 39.45 | 113.03 | 21.39 | 8.18 | 3.32 | 1.16 | 85.19 |
| OthServices | -9066.91 | 85.58 | 695.79 | 4895.02 | 430.73 | 721.77 | 98.99 | 244.54 | 1894.51 |
| Source: Generated by author | | | | | | | | | |

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| **Table 4** | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Exports by Sector (percent change)** | | | | | | | | | |
| **qxw** | **USA** | **China** | **Japan** | **EU_25** | **RestNAmerica** | **EastAsia** | **SouthAsia** | **Australia** | **RestofWorld** |
| **SeaTransport** | 15.7 | -0.69 | -0.21 | -0.45 | -1.19 | -0.04 | -1.06 | -1.5 | -0.58 |
| **AirTransport** | 27.18 | -4.89 | -4.32 | -4.84 | -8.26 | -4.65 | -5.91 | -6.35 | -5.41 |
| **OtherTransp** | 33.65 | -6.94 | -7.68 | -3.32 | -6.93 | -3.66 | -5.64 | -4.93 | -4.72 |
| **Agriculture** | -2.24 | 0.25 | 0.97 | 0.33 | 0.61 | 0.37 | 0.39 | 1.23 | 0.7 |
| **Extraction** | 0.12 | 0.57 | 2.6 | 0.19 | -0.39 | 0.08 | 0.71 | 0.26 | 0.01 |
| **LightMnfc** | -3.19 | 0.68 | 1.3 | 0.52 | 0.84 | 0.74 | 0.75 | 1.51 | 1 |
| **HeavyMnfc** | -3.01 | 0.42 | 0.9 | 0.55 | 0.13 | 0.39 | 0.49 | 1.15 | 0.76 |
| **Util_Cons** | -3.69 | -0.47 | 0.07 | 0.03 | 0.67 | -0.21 | -0.25 | 0.7 | 0.13 |
| **OthServices** | -3.72 | 0.06 | 0.85 | 0.66 | 0.51 | 0.44 | 0.41 | 1.3 | 0.81 |
| **Source: Generated by author** | | | | | | | | | |

| **Table 5** | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Imports by Sector (percent change)** | | | | | | | | | |
| **qim** | **USA** | **China** | **Japan** | **EU_25** | **RestNAmerica** | **EastAsia** | **SouthAsia** | **Australia** | **RestofWorld** |
| **SeaTransport** | -13.32 | 2.72 | -0.01 | 0.05 | 1.59 | 0.03 | 0.3 | 0.11 | 0.16 |
| **AirTransport** | -13.8 | 3.05 | 3.58 | 1.21 | 6.23 | 0.72 | 1.29 | 3.31 | 1.91 |
| **OtherTransp** | -13.64 | 4.27 | 2.78 | 2.41 | 5.74 | 3.52 | 1.05 | 2.23 | 2.81 |
| **Agriculture** | 2.05 | 0.12 | -0.26 | 0.01 | -0.32 | 0.11 | 0.16 | -0.25 | 0.01 |
| **Extraction** | -0.79 | 0.42 | 0.19 | 0.18 | 0.01 | 0.28 | 0.09 | 0.61 | 0.3 |
| **LightMnfc** | 2.2 | 0.22 | -0.27 | -0.13 | -0.29 | 0.04 | -0.02 | -0.45 | -0.14 |
| **HeavyMnfc** | 1.6 | 0.16 | -0.27 | -0.1 | -0.3 | 0.06 | 0.01 | -0.31 | -0.14 |
| **Util_Cons** | 2.54 | 0.01 | -0.81 | -0.29 | -0.87 | -0.16 | -0.23 | -0.55 | -0.34 |
| **OthServices** | 2.22 | -0.03 | -0.74 | -0.3 | -0.84 | -0.36 | -0.25 | -0.84 | -0.51 |
| **Source: Generated by author** | | | | | | | | | |

U.S. bilateral exports are presented in Table 6, while its bilateral imports are shown in Table 7. U.S. exports of tansport services increase by roughly 40 percent to each of its trading partners, while U.S. imports of transport services decrease by roughly 13 percent from each partner. Exports of all other U.S. sectors decrease by roughly 2-4 percent to each partner, while U.S. imports from each region increase by roughly 1-3 percent.

| **Table 6** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **US Exports by Sector (percent change to each region)** | | | | | | | | |
| **qxs[*USA*]** | **China** | **Japan** | **EU_25** | **RestNAmerica** | **EastAsia** | **SouthAsia** | **Australia** | **RestofWorld** |
| SeaTransport | 41.11 | 42.24 | 42.47 | 37.92 | 41.59 | 39.63 | 39.66 | 42.24 |
| AirTransport | 38.67 | 35.51 | 39.9 | 29.05 | 39.48 | 40.07 | 37.51 | 38.62 |
| OtherTransp | 38.21 | 38.39 | 38.76 | 35.66 | 33.51 | 41.66 | 39.17 | 38.67 |
| Agriculture | -1.81 | -2.26 | -2.87 | -1.65 | -2.16 | -2.69 | -2.87 | -2.82 |
| Extraction | 0.72 | 0.21 | 0.4 | -0.29 | 0.56 | 0.35 | 0.87 | 0.48 |
| LightMnfc | -3.62 | -3.89 | -4.39 | -1.96 | -3.8 | -3.99 | -4.29 | -4.2 |
| HeavyMnfc | -3.28 | -3.31 | -3.72 | -1.87 | -3.26 | -3.55 | -3.43 | -3.69 |
| Util_Cons | -3.65 | -4.06 | -4.12 | -2.25 | -3.73 | -3.88 | -4.01 | -4.06 |
| OthServices | -3.76 | -3.54 | -4.02 | -2.76 | -3.68 | -3.75 | -3.93 | -3.88 |
| **Source: Generated by author** | | | | | | | | |

| **Table 7** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **US Imports by Sector (percent change from each region)** | | | | | | | | |
| **qxs[**USA]** | **China** | **Japan** | **EU_25** | **RestNAmerica** | **EastAsia** | **SouthAsia** | **Australia** | **RestofWorld** |
| SeaTransport | -14.17 | -13.52 | -13.42 | -13.99 | -12.5 | -13.94 | -13.05 | -13.47 |
| AirTransport | -14.38 | -13.69 | -13.71 | -14.54 | -13.65 | -14.15 | -13.59 | -13.85 |
| OtherTransp | -14.03 | -13.61 | -13.45 | -14.21 | -13.77 | -13.74 | -13.23 | -13.53 |
| Agriculture | 1.73 | 2.4 | 2.55 | 1.16 | 1.87 | 1.99 | 2.72 | 2.65 |
| Extraction | 0.01 | 1.8 | -0.37 | -0.66 | -0.64 | 0.37 | -0.85 | -0.88 |
| LightMnfc | 2.32 | 2.77 | 2.96 | 1.07 | 2.51 | 2.53 | 3.45 | 3.01 |
| HeavyMnfc | 1.45 | 2.09 | 2.24 | 0.39 | 1.65 | 1.96 | 2.53 | 2.22 |
| Util_Cons | 2.35 | 2.87 | 2.94 | 1.9 | 2.49 | 2.58 | 3.38 | 2.96 |
| OthServices | 1.8 | 2.31 | 2.37 | 1.6 | 1.95 | 2.01 | 2.8 | 2.4 |
| **Source: Generated by author** | | | | | | | | |

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*b) Output and Income*

As the United States improves its transport efficiencies, it enjoys a 1.04 percent increase in GDP. In contrast, GDP falls in every other region of the world, including the EU (-0.51 percent), Japan (-0.48 percent), China (-0.31 percent), East Asia (-0.37 percent), and the Rest of North America (-0.30 percent). GDP Changes are presented in Table 8.

| **Table 8** | |
|---|---|
| **Real GDP** | |
| **vgdp** | **Percent Change** |
| **USA** | 1.04 |
| **China** | -0.31 |
| **Japan** | -0.48 |
| **EU_25** | -0.51 |
| **RestNAmerica** | -0.3 |
| **EastAsia** | -0.37 |
| **SouthAsia** | -0.4 |
| **Australia** | -0.6 |
| **RestofWorld** | -0.49 |
| **Source: Generated by author** | |

Given cheaper transport options and large import increases, U.S. manufacturing significantly decreases. U.S. heavy manufacturing falls by $26.4 billion, while light manufacturing falls by $8.9 billion. Similarly, more efficient transport sectors use less energy in the U.S., resulting in a decrease of U.S. imports in the extraction sector (-1.2 billion). Likewise, U.S. domestic production in the extraction sector falls by almost $1 billion. (Table 10).

The decrease in U.S. manufacturing and extraction frees up productive resources in the United States, for use in other sectors. Production in every other U.S. sector significantly increases, including that of capital goods ($32.2 billion), utilities and construction ($15.1 billion), other services ($3.4 billion), and agriculture ($1.3 billion).

Much of the world's manufacturing production moves from the United States to the EU, Japan, East Asia, China, Canada, and Mexico. Heavy manufacturing increases in the EU ($9.8 billion), Japan ($4.3 billion), East Asia ($2.8 billion), and China ($1.2 billion). Similarly, light manufacturing increases in the EU ($5.8 billion), Japan ($2.6 billion), Canada and Mexico ($2.1 billion), East Asia ($1.9 billion), and China ($1.7 billion).

Capital goods output moves to the United States from the rest of the world. U.S. capital goods output increases by $32.2 billion, while such output falls in every other region of the world. The largest such decreases are seen in the EU (-$13.1 billion), Japan (-$5.8 billion), East Asia (-$1.8 billion), and Canada and Mexico (-$1.8 billion). Investors are attracted by the increased returns on capital investment in the United States. The return on capital increases in the United States by 1.1 percent, but falls in every other region of the world. Returns on capital fall the most in Australia (-0.6 percent), Japan (-0.5 percent), South Asia (-0.4 percent), East Asia (-0.4 percent), China (0.3 percent), and Canada and Mexico (-0.3 percent). (Table 11).

Global output of transport services clearly moves to the United States. While output in the transport sectors increase in the United States, such output falls in every other region of the world. U.S. output increases in sea transport ($2.5 billion), air transport ($12.9 billion), and other transport ($21.0 billion). The biggest losers in transport sector output include the EU (-$13.7 billion total in the three sectors), East Asia (-$4.4 billion), Japan (-$1.7 billion), and China (-#1.3 billion).

| **Table 9** | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Change in Output (percent change)** | | | | | | | | | |
| **qo** | **USA** | **China** | **Japan** | **EU_25** | **RestNAmerica** | **EastAsia** | **SouthAsia** | **Australia** | **RestofWorld** |
| **SeaTransport** | 4.56 | -0.13 | -0.14 | -0.44 | -1.21 | -0.06 | -0.35 | -0.45 | -0.44 |
| **AirTransport** | 6.63 | -2 | -2.54 | -2.95 | -5.03 | -3.12 | -1.62 | -2.08 | -2.85 |
| **OtherTransp** | 4 | -0.72 | -0.24 | -0.83 | -1.34 | -1.44 | -0.18 | -0.47 | -1.08 |
| **Agriculture** | 0.15 | 0.04 | 0.04 | 0.06 | 0.09 | 0.09 | 0.03 | 0.4 | 0.15 |
| **Extraction** | -0.49 | -0.04 | 0.02 | 0.04 | -0.15 | -0.02 | -0.02 | 0.16 | 0.04 |
| **LightMnfc** | -0.47 | 0.22 | 0.28 | 0.17 | 0.46 | 0.34 | 0.22 | 0.22 | 0.33 |
| **HeavyMnfc** | -0.98 | 0.08 | 0.27 | 0.24 | 0 | 0.21 | 0 | 0.37 | 0.24 |
| **Util_Cons** | 0.8 | -0.12 | -0.34 | -0.27 | -0.29 | -0.23 | -0.14 | -0.31 | -0.23 |
| **OthServices** | 0.28 | 0.03 | 0 | 0.05 | 0.01 | 0.06 | 0.03 | 0.02 | 0.05 |
| **CGDS** | 1.46 | -0.16 | -0.53 | -0.52 | -0.5 | -0.38 | -0.28 | -0.46 | -0.48 |
| **Source: Generated by author** | | | | | | | | | |



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| Table 10 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Change in Output (millions of dollars) | | | | | | | | | |
| qo | USA | China | Japan | EU_25 | RestNAmerica | EastAsia | SouthAsia | Australia | RestofWorld |
| SeaTransport | 2525.28 | -83.54 | -76.26 | -697.16 | -64.73 | -34.61 | -78.09 | -28.25 | -344.39 |
| AirTransport | 12893.83 | -302.47 | -749.45 | -5235.5 | -701.57 | -1592.07 | -109.65 | -463.4 | -2063.69 |
| OtherTransp | 20979.69 | -933.98 | -852.97 | -7728.38 | -1026.27 | -2778.78 | -165.32 | -202.93 | -4345.56 |
| Agriculture | 1319.75 | 176.59 | 175.28 | 1109.75 | 215.55 | 289.03 | 86.94 | 336.68 | 1777.38 |
| Extraction | -942.23 | -88.28 | 6.84 | 79.77 | -193.54 | -19.9 | -10.18 | 81.93 | 347.13 |
| LightMnfc | -8883.75 | 1710.38 | 2619.1 | 5846.5 | 2131.22 | 1915.19 | 463.52 | 209.02 | 2933 |
| HeavyMnfc | -26371.75 | 1184.5 | 4283.3 | 9847.75 | -0.59 | 2816.75 | 6.38 | 440.13 | 3633.63 |
| Util_Cons | 15149.13 | -629.88 | -2825.2 | -4595 | -559.16 | -800.25 | -254.75 | -342.52 | -2309.81 |
| OthServices | 34291 | 277.06 | -205 | 5384 | 152.75 | 957 | 126.34 | 118.44 | 1730.25 |
| CGDS | 32171.75 | -1108.3 | -5750.4 | -13144.5 | -1745.59 | -1750.81 | -544.44 | -726.86 | -5061.88 |
| Source: Generated by author | | | | | | | | | |

| Table 11 | |
|---|---|
| Return on Capital | |
| rental | Percent Change |
| USA | 1.06 |
| China | -0.32 |
| Japan | -0.47 |
| EU_25 | -0.5 |
| RestNAmerica | -0.28 |
| EastAsia | -0.38 |
| SouthAsia | -0.39 |
| Australia | -0.61 |
| RestofWorld | -0.51 |
| Source: Generated by author | |

*c) Market Prices*

Not surprisingly, the largest price declines are found in U.S. transport sectors. U.S market prices decrease for sea transport (-9.6 percent), air transport (-9.8 percent), and other transport (9.6 percent). Such price declines ripple throughout transport markets in all of the other regions. As other countries' demand for U.S. transport increases, their own domestic transport demand decreases, causing significant domestic price declines. In the EU, domestic transport market prices fall by 0.6 percent in both sea and air transport, and by 0.5 percent for other transport. Similar declines are seen in Japan, China, East Asia, South Asia, Australia, and the rest of the world. Indeed, outside of the United States, every sector in every region sees a significant decline in market prices. (Table 12). And for imports, prices decline in every sector of every region, including those in the United States. (Table 13).

In the United States, domestic market prices in several sectors increase. This includes U.S. agriculture (0.24 percent), other services (0.67 percent), utilities and construction (0.4 percent), and light manufacturing (0.23 percent).

| Table 12 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Market Price of Output (percent change) | | | | | | | | | |
| pm | USA | China | Japan | EU_25 | RestNAmerica | EastAsia | SouthAsia | Australia | RestofWorld |
| SeaTransport | -9.64 | -0.37 | -0.57 | -0.6 | -0.43 | -0.88 | -0.44 | -0.71 | -0.59 |
| AirTransport | -9.76 | -0.37 | -0.58 | -0.57 | -0.32 | -0.59 | -0.44 | -0.61 | -0.53 |
| OtherTransp | -9.63 | -0.35 | -0.48 | -0.53 | -0.3 | -0.43 | -0.44 | -0.59 | -0.5 |
| Agriculture | 0.24 | -0.33 | -0.46 | -0.49 | -0.26 | -0.35 | -0.39 | -0.55 | -0.48 |
| Extraction | -0.41 | -0.4 | -0.45 | -0.45 | -0.48 | -0.41 | -0.43 | -0.4 | -0.45 |
| LightMnfc | 0.23 | -0.36 | -0.47 | -0.49 | -0.23 | -0.4 | -0.41 | -0.56 | -0.49 |
| HeavyMnfc | 0.1 | -0.38 | -0.47 | -0.49 | -0.28 | -0.41 | -0.43 | -0.54 | -0.48 |
| Util_Cons | 0.4 | -0.36 | -0.47 | -0.49 | -0.27 | -0.39 | -0.41 | -0.58 | -0.49 |
| OthServices | 0.67 | -0.34 | -0.48 | -0.49 | -0.29 | -0.38 | -0.4 | -0.6 | -0.5 |
| CGDS | 0.15 | -0.37 | -0.47 | -0.48 | -0.24 | -0.4 | -0.42 | -0.55 | -0.48 |
| Source: Generated by author | | | | | | | | | |



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| Table 13 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Market Price of Aggregate Imports (percent change) | | | | | | | | | |
| pim | USA | China | Japan | EU_25 | RestNAmerica | EastAsia | SouthAsia | Australia | RestofWorld |
| SeaTransport | -0.63 | -1.77 | -0.86 | -0.83 | -2.07 | -0.99 | -1.42 | -1.36 | -0.9 |
| AirTransport | -0.55 | -2.42 | -3.14 | -1.73 | -5.01 | -1.68 | -1.72 | -2.7 | -2.15 |
| OtherTransp | -0.47 | -2.67 | -2.27 | -2.11 | -3.5 | -3.37 | -1.23 | -1.98 | -2.22 |
| Agriculture | -0.46 | -0.36 | -0.33 | -0.49 | -0.09 | -0.38 | -0.44 | -0.42 | -0.46 |
| Extraction | -0.48 | -0.49 | -0.48 | -0.48 | -0.48 | -0.48 | -0.49 | -0.47 | -0.49 |
| LightMnfc | -0.41 | -0.42 | -0.38 | -0.46 | -0.05 | -0.4 | -0.41 | -0.4 | -0.44 |
| HeavyMnfc | -0.44 | -0.44 | -0.38 | -0.45 | -0.15 | -0.41 | -0.45 | -0.4 | -0.45 |
| Util_Cons | -0.41 | -0.41 | -0.32 | -0.45 | 0.09 | -0.39 | -0.41 | -0.37 | -0.43 |
| OthServices | -0.45 | -0.33 | -0.08 | -0.33 | 0.16 | -0.22 | -0.27 | -0.16 | -0.23 |
| Source: Generated by author | | | | | | | | | |

*d) Factor Markets*

American transport sectors demand less energy, but more land, labor, and capital to fuel greater U.S. ouput. This result is reflected in the prices of the world's primary factors of production.

The price of natural resources (including energy) decreases in every region of the world except Australia. The largest decreases are seen in the United States (-2.51 percent), Canada and Mexico (-1.42 percent), China (-0.61 percent), South Asia (-0.53 percent), and East Asia (-0.49 percent). In Australia, the price of natural resources increases by 0.49 percent.

For every other primary factor, prices increase in the United States but decrease in every other region. In the Unoted States, prices increase for land (1.31 percent), unskilled labor (1.03 percent), skilled labor (1.15 percent), and capital (1.06 percent). (Table 14).

| Table 14 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Market Price of Factors of Production (percent change) | | | | | | | | | |
| pm | USA | China | Japan | EU_25 | RestNAmerica | EastAsia | SouthAsia | Australia | RestofWorld |
| Land | 1.31 | -0.24 | -0.41 | -0.39 | -0.15 | -0.18 | -0.34 | 0.07 | -0.23 |
| UnSkLab | 1.03 | -0.31 | -0.48 | -0.5 | -0.32 | -0.37 | -0.4 | -0.62 | -0.5 |
| SkLab | 1.15 | -0.31 | -0.49 | -0.48 | -0.3 | -0.37 | -0.4 | -0.62 | -0.49 |
| Capital | 1.06 | -0.32 | -0.47 | -0.5 | -0.28 | -0.38 | -0.39 | -0.61 | -0.51 |
| NatRes | -2.51 | -0.61 | -0.34 | -0.21 | -1.42 | -0.49 | -0.53 | 0.49 | -0.21 |
| Source: Generated by author | | | | | | | | | |

*e) Welfare Decomposition*

Table 15 presents the overall welfare decomposition from the CGE simulation. The welfare decomposition is essentially a consumer surplus concept, broken down by gains or losses to consumers from efficiency gains, factor endowments, technological improvements, terms of trade effects, and the savings-investment mechanism.

The model would suggest a global gain in net welfare of more than $71.7 billion dollars. As might be expected, the vast majority of welfare gains are experienced by the United States, which would see a $76.2 billion welfare gain ($73.8 billion of which comes from technological gains brought by improvements in U.S. logistics and transport methods).

In contrast, much of the rest of the world would be worse off after the improvements to U.S. logistics and transport. Large net welfare losses would be seen in the EU (-$3.0 billion), Canada and Mexico (-$573.5 million), Japan (-$751.4 million), and Australia (-$203.0 million). China and East Asia would be better off (by $385.5 million and $306.4 million, respectively).

A decomposition of welfare effects is presented in Table 15. Net effects are broken down by source, including allocative effects, technological effects, terms of trade effects, and changes to savings and investment.

Allocative efficiencies measure how existing, scarce resources can be stretched further to produce greater outputs. Again, the United States enjoys the greatest increase. Its improvements to technology allow it to change its allocation of existing resources to its own productive benefit, resulting in a $450.0 million welfare gain. Smaller such gains are seen in China ($321.4 million), East Asia ($161 million), and Canada and Mexico ($108.0 million).

Terms of trade gains describe improvements to trade competitiveness, or the ratio of export prices to import prices. If the prices of a country's exports relative to its imports increase, that country essentially receives more imports per unit of goods it exports. Trade is a more beneficial exchange if a country has a higher terms of trade.

Here, the model suggests that the United States would lose welfare (-$1.1 billion) by experiencing a worsening of its terms of trade. Canada and Mexico would see a welfare loss through a worsening terms of trade (measuring $504.9 million). Terms of trade gains would accrue to East Asia ($628.3 million), China ($639.1 million), and the EU ($189.0 million).



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Gains from greater savings and investment would accrue to the United States at the expense of every other region of the world. Here the U.S. would experience a welfare gain of $3.1 billion, while large welfare losses would accrue to the EU (-$792.2 million), Japan (-$418.6 million), China (-574.9 million), and East Asia (-$483.2).

**Table 15**

**Welfare Decomposition by Region (millions of dollars)**

| WELFARE | Allocative Efficiency | Factor Endowment | Technological Change | Terms of Trade | Savings and Investment | Total |
|---|---|---|---|---|---|---|
| 1 USA | 450 | 0 | 73754.8 | -1081.5 | 3093 | 76216.2 |
| 2 China | 321.4 | 0 | 0 | 639.1 | -574.9 | 385.5 |
| 3 Japan | -205.8 | 0 | 0 | -127 | -418.6 | -751.4 |
| 4 EU_25 | -2412.5 | 0 | 0 | 189 | -792.2 | -3015.7 |
| 5 RestNAmerica | 108 | 0 | 0 | -504.9 | -176.6 | -573.5 |
| 6 EastAsia | 161.3 | 0 | 0 | 628.3 | -483.2 | 306.4 |
| 7 SouthAsia | 1.3 | 0 | 0 | 99.1 | -46.3 | 54 |
| 8 Australia | -95.5 | 0 | 0 | -37.5 | -70 | -203 |
| 9 RestofWorld | -342.2 | 0 | 0 | 201.3 | -544.4 | -685.3 |
| Total | -2014 | 0 | 73754.8 | 5.7 | -13.3 | 71733.2 |

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## V. Model Limitations and Future Research

This type of model attempts to measure multi-regional and multi-sectoral changes produced by an exogeneous economic shock. The shock in this experiment has been a 10 percent increase in productivity in American logistics and trasnport sectors. Naturally, the largest impacts are felt by the United States and U.S. industrial sectors. But as in all CGE models, the effects ripple through all markets and all regions. These model results attempt to summarize the most interesting effects.

Such a model has limitations, however. First, the nature of the shock is a question. How could the United States achieve such productivity changes in its transport sector? Would the gains be so uniform across modes of transportation and across industries? Would the gains be uniform for the United States vis-à-vis all of its trading partners? Could such productivity changes be kept to U.S. logistic companies alone, or would all countries catch on? These and other questions complicate the kind of shock that can be introduced to the model, and thus the corresponding results seen.

Second, as with all CGE models, some caution should be used in interpreting results. Less significance should be attached to the exact dollar magnitude of given results than with the direction of results (i.e. increases vs. decreases). With thousands of equations and thousands of supply and demand elasticities used, a CGE model offers an enormous opportunity for statistical error. So interpreting results as a "forecast" would be misleading. Econometric methods exist for statisitcally significant forecasts, mist built on concepts of partial equilibrium. This model is one of static, general equilibrium.

A third issue is the very static nature of this CGE model. It is a counterfactual simultaneous equations model which introduces a one-time shock to an economic equilibrium, and then measures a new equilibrium. A more dynamic model would better capture effects over time, such as the changes to the accumulation of capital stock, investment flows, and economic growth over a longer period of time. For example, as the world sees greater efficiencies in production within the United States, might there be a long-term movement of Chinese, European, and other factories to the United States? Likewise, capital investment by Americans themselves would be expected to alter production over time. The same would be true within the other regions of the model.

Each of these and other similar issues are worth considering. Each could be a new line of research, or at least a discussion for anyone using the present paper for policy decisions.

## VI. Conclusions

This paper essentially says global production and trade could be altered by the improvement of logistics and transport in the United States. In particular, the United States would stand to significantly benefit in GDP, trade, and consumer welfare should its transport and logistics sectors improve. The rest of the world would increase their use of U.S. transport services. As the U.S. economy would adjust to its own success, it must adjust to higher wages and competition. This paper suggests that improvemnts to and development of its logistics and trasnport sectors could be one part of that adjustment.

## References Références Referencias

1. Global Trade Analysis Project (GTAP) (2008), Department of Agricultural Economics, Purdue University, Website: https://www.gtap.agecon.Purdue.edu/about/consortium.asp.



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2. Brockmier, Martina (2001). "A Graphical Exposition of the GTAP Model," GTAP Technical Paper No. 8, October 1996, Minor Edits, January 2000, Revised, March 2001.
3. Hertel, T., Keeney, R., Ivanic M. and Alan Winters, L (2007). Distributional effects of WTO agricultural reforms in rich and poor countries. Economic Policy (April): 289-337.



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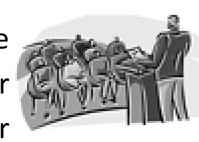

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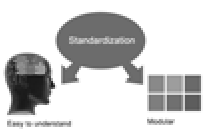


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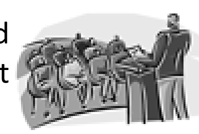

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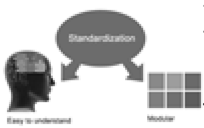


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The Editorial Board and Global Journals Inc. (US) recommend that, citation of online-published papers and other material should be done via a DOI (digital object identifier). If an author cites anything, which does not have a DOI, they run the risk of the cited material not being noticeable.

The Editorial Board and Global Journals Inc. (US) recommend the use of a tool such as Reference Manager for reference management and formatting.

Tables, Figures and Figure Legends

*Tables: Tables should be few in number, cautiously designed, uncrowned, and include only essential data. Each must have an Arabic number, e.g. Table 4, a self-explanatory caption and be on a separate sheet. Vertical lines should not be used.*

*Figures: Figures are supposed to be submitted as separate files. Always take in a citation in the text for each figure using Arabic numbers, e.g. Fig. 4. Artwork must be submitted online in electronic form by e-mailing them.*

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Even though low quality images are sufficient for review purposes, print publication requires high quality images to prevent the final product being blurred or fuzzy. Submit (or e-mail) EPS (line art) or TIFF (halftone/photographs) files only. MS PowerPoint and Word Graphics are unsuitable for printed pictures. Do not use pixel-oriented software. Scans (TIFF only) should have a resolution of at least 350 dpi (halftone) or 700 to 1100 dpi (line drawings) in relation to the imitation size. Please give the data for figures in black and white or submit a Color Work Agreement Form. EPS files must be saved with fonts embedded (and with a TIFF preview, if possible).

For scanned images, the scanning resolution (at final image size) ought to be as follows to ensure good reproduction: line art: >650 dpi; halftones (including gel photographs) : >350 dpi; figures containing both halftone and line images: >650 dpi.

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*Figure Legends: Self-explanatory legends of all figures should be incorporated separately under the heading 'Legends to Figures'. In the full-text online edition of the journal, figure legends may possibly be truncated in abbreviated links to the full screen version. Therefore, the first 100 characters of any legend should notify the reader, about the key aspects of the figure.*

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## TECHNIQUES FOR WRITING A GOOD QUALITY RESEARCH PAPER:

**1. Choosing the topic:** In most cases, the topic is searched by the interest of author but it can be also suggested by the guides. You can have several topics and then you can judge that in which topic or subject you are finding yourself most comfortable. This can be done by asking several questions to yourself, like Will I be able to carry our search in this area? Will I find all necessary recourses to accomplish the search? Will I be able to find all information in this field area? If the answer of these types of questions will be "Yes" then you can choose that topic. In most of the cases, you may have to conduct the surveys and have to visit several places because this field is related to Computer Science and Information Technology. Also, you may have to do a lot of work to find all rise and falls regarding the various data of that subject. Sometimes, detailed information plays a vital role, instead of short information.

**2. Evaluators are human:** First thing to remember that evaluators are also human being. They are not only meant for rejecting a paper. They are here to evaluate your paper. So, present your Best.

**3. Think Like Evaluators:** If you are in a confusion or getting demotivated that your paper will be accepted by evaluators or not, then think and try to evaluate your paper like an Evaluator. Try to understand that what an evaluator wants in your research paper and automatically you will have your answer.

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**18. Pick a good study spot:** To do your research studies always try to pick a spot, which is quiet. Every spot is not for studies. Spot that suits you choose it and proceed further.

**19. Know what you know:** Always try to know, what you know by making objectives. Else, you will be confused and cannot achieve your target.

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**21. Arrangement of information:** Each section of the main body should start with an opening sentence and there should be a changeover at the end of the section. Give only valid and powerful arguments to your topic. You may also maintain your arguments with records.

**22. Never start in last minute:** Always start at right time and give enough time to research work. Leaving everything to the last minute will degrade your paper and spoil your work.

**23. Multitasking in research is not good:** Doing several things at the same time proves bad habit in case of research activity. Research is an area, where everything has a particular time slot. Divide your research work in parts and do particular part in particular time slot.

**24. Never copy others' work:** Never copy others' work and give it your name because if evaluator has seen it anywhere you will be in trouble.

**25. Take proper rest and food:** No matter how many hours you spend for your research activity, if you are not taking care of your health then all your efforts will be in vain. For a quality research, study is must, and this can be done by taking proper rest and food.

**26. Go for seminars:** Attend seminars if the topic is relevant to your research area. Utilize all your resources.

**27. Refresh your mind after intervals:** Try to give rest to your mind by listening to soft music or by sleeping in intervals. This will also improve your memory.

**28. Make colleagues:** Always try to make colleagues. No matter how sharper or intelligent you are, if you make colleagues you can have several ideas, which will be helpful for your research.

**29. Think technically:** Always think technically. If anything happens, then search its reasons, its benefits, and demerits.

**30. Think and then print:** When you will go to print your paper, notice that tables are not be split, headings are not detached from their descriptions, and page sequence is maintained.

**31. Adding unnecessary information:** Do not add unnecessary information, like, I have used MS Excel to draw graph. Do not add irrelevant and inappropriate material. These all will create superfluous. Foreign terminology and phrases are not apropos. One should NEVER take a broad view. Analogy in script is like feathers on a snake. Not at all use a large word when a very small one would be sufficient. Use words properly, regardless of how others use them. Remove quotations. Puns are for kids, not grunt readers. Amplification is a billion times of inferior quality than sarcasm.

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**33. Report concluded results:** Use concluded results. From raw data, filter the results and then conclude your studies based on measurements and observations taken. Significant figures and appropriate number of decimal places should be used. Parenthetical remarks are prohibitive. Proofread carefully at final stage. In the end give outline to your arguments. Spot out perspectives of further study of this subject. Justify your conclusion by at the bottom of them with sufficient justifications and examples.

**34. After conclusion:** Once you have concluded your research, the next most important step is to present your findings. Presentation is extremely important as it is the definite medium though which your research is going to be in print to the rest of the crowd. Care should be taken to categorize your thoughts well and present them in a logical and neat manner. A good quality research paper format is essential because it serves to highlight your research paper and bring to light all necessary aspects in your research.

## Informal Guidelines of Research Paper Writing

**Key points to remember:**

- Submit all work in its final form.
- Write your paper in the form, which is presented in the guidelines using the template.
- Please note the criterion for grading the final paper by peer-reviewers.

**Final Points:**

A purpose of organizing a research paper is to let people to interpret your effort selectively. The journal requires the following sections, submitted in the order listed, each section to start on a new page.

The introduction will be compiled from reference matter and will reflect the design processes or outline of basis that direct you to make study. As you will carry out the process of study, the method and process section will be constructed as like that. The result segment will show related statistics in nearly sequential order and will direct the reviewers next to the similar intellectual paths throughout the data that you took to carry out your study. The discussion section will provide understanding of the data and projections as to the implication of the results. The use of good quality references all through the paper will give the effort trustworthiness by representing an alertness of prior workings.

Writing a research paper is not an easy job no matter how trouble-free the actual research or concept. Practice, excellent preparation, and controlled record keeping are the only means to make straightforward the progression.

**General style:**

Specific editorial column necessities for compliance of a manuscript will always take over from directions in these general guidelines.

To make a paper clear

· Adhere to recommended page limits

Mistakes to evade

- Insertion a title at the foot of a page with the subsequent text on the next page
- Separating a table/chart or figure - impound each figure/table to a single page
- Submitting a manuscript with pages out of sequence

In every sections of your document

· Use standard writing style including articles ("a", "the," etc.)

· Keep on paying attention on the research topic of the paper

· Use paragraphs to split each significant point (excluding for the abstract)

· Align the primary line of each section

· Present your points in sound order

· Use present tense to report well accepted

· Use past tense to describe specific results

· Shun familiar wording, don't address the reviewer directly, and don't use slang, slang language, or superlatives

· Shun use of extra pictures - include only those figures essential to presenting results

**Title Page:**

Choose a revealing title. It should be short. It should not have non-standard acronyms or abbreviations. It should not exceed two printed lines. It should include the name(s) and address (es) of all authors.

**Abstract:**

The summary should be two hundred words or less. It should briefly and clearly explain the key findings reported in the manuscript--must have precise statistics. It should not have abnormal acronyms or abbreviations. It should be logical in itself. Shun citing references at this point.

An abstract is a brief distinct paragraph summary of finished work or work in development. In a minute or less a reviewer can be taught the foundation behind the study, common approach to the problem, relevant results, and significant conclusions or new questions.

Write your summary when your paper is completed because how can you write the summary of anything which is not yet written? Wealth of terminology is very essential in abstract. Yet, use comprehensive sentences and do not let go readability for briefness. You can maintain it succinct by phrasing sentences so that they provide more than lone rationale. The author can at this moment go straight to shortening the outcome. Sum up the study, with the subsequent elements in any summary. Try to maintain the initial two items to no more than one ruling each.

- Reason of the study - theory, overall issue, purpose
- Fundamental goal
- To the point depiction of the research
- Consequences, including <u>definite statistics</u> - if the consequences are quantitative in nature, account quantitative data; results of any numerical analysis should be reported
- Significant conclusions or questions that track from the research(es)

Approach:

- Single section, and succinct
- As a outline of job done, it is always written in past tense
- A conceptual should situate on its own, and not submit to any other part of the paper such as a form or table
- Center on shortening results - bound background information to a verdict or two, if completely necessary
- What you account in an conceptual must be regular with what you reported in the manuscript
- Exact spelling, clearness of sentences and phrases, and appropriate reporting of quantities (proper units, important statistics) are just as significant in an abstract as they are anywhere else

**Introduction:**

The **Introduction** should "introduce" the manuscript. The reviewer should be presented with sufficient background information to be capable to comprehend and calculate the purpose of your study without having to submit to other works. The basis for the study should be offered. Give most important references but shun difficult to make a comprehensive appraisal of the topic. In the introduction, describe the problem visibly. If the problem is not acknowledged in a logical, reasonable way, the reviewer will have no attention in your result. Speak in common terms about techniques used to explain the problem, if needed, but do not present any particulars about the protocols here. Following approach can create a valuable beginning:

- Explain the value (significance) of the study
- Shield the model - why did you employ this particular system or method? What is its compensation? You strength remark on its appropriateness from a abstract point of vision as well as point out sensible reasons for using it.
- Present a justification. Status your particular theory (es) or aim(s), and describe the logic that led you to choose them.
- Very for a short time explain the tentative propose and how it skilled the declared objectives.

Approach:

- Use past tense except for when referring to recognized facts. After all, the manuscript will be submitted after the entire job is done.
- Sort out your thoughts; manufacture one key point with every section. If you make the four points listed above, you will need a least of four paragraphs.

- Present surroundings information only as desirable in order hold up a situation. The reviewer does not desire to read the whole thing you know about a topic.
- Shape the theory/purpose specifically - do not take a broad view.
- As always, give awareness to spelling, simplicity and correctness of sentences and phrases.

**Procedures (Methods and Materials):**

This part is supposed to be the easiest to carve if you have good skills. A sound written Procedures segment allows a capable scientist to replacement your results. Present precise information about your supplies. The suppliers and clarity of reagents can be helpful bits of information. Present methods in sequential order but linked methodologies can be grouped as a segment. Be concise when relating the protocols. Attempt for the least amount of information that would permit another capable scientist to spare your outcome but be cautious that vital information is integrated. The use of subheadings is suggested and ought to be synchronized with the results section. When a technique is used that has been well described in another object, mention the specific item describing a way but draw the basic principle while stating the situation. The purpose is to text all particular resources and broad procedures, so that another person may use some or all of the methods in one more study or referee the scientific value of your work. It is not to be a step by step report of the whole thing you did, nor is a methods section a set of orders.

Materials:

- Explain materials individually only if the study is so complex that it saves liberty this way.
- Embrace particular materials, and any tools or provisions that are not frequently found in laboratories.
- Do not take in frequently found.
- If use of a definite type of tools.
- Materials may be reported in a part section or else they may be recognized along with your measures.

Methods:

- Report the method (not particulars of each process that engaged the same methodology)
- Describe the method entirely
- To be succinct, present methods under headings dedicated to specific dealings or groups of measures
- Simplify - details how procedures were completed not how they were exclusively performed on a particular day.
- If well known procedures were used, account the procedure by name, possibly with reference, and that's all.

Approach:

- It is embarrassed or not possible to use vigorous voice when documenting methods with no using first person, which would focus the reviewer's interest on the researcher rather than the job. As a result when script up the methods most authors use third person passive voice.
- Use standard style in this and in every other part of the paper - avoid familiar lists, and use full sentences.

What to keep away from

- Resources and methods are not a set of information.
- Skip all descriptive information and surroundings - save it for the argument.
- Leave out information that is immaterial to a third party.

**Results:**

The principle of a results segment is to present and demonstrate your conclusion. Create this part a entirely objective details of the outcome, and save all understanding for the discussion.

The page length of this segment is set by the sum and types of data to be reported. Carry on to be to the point, by means of statistics and tables, if suitable, to present consequences most efficiently.You must obviously differentiate material that would usually be incorporated in a study editorial from any unprocessed data or additional appendix matter that would not be available. In fact, such matter should not be submitted at all except requested by the instructor.

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Content

- Sum up your conclusion in text and demonstrate them, if suitable, with figures and tables.
- In manuscript, explain each of your consequences, point the reader to remarks that are most appropriate.
- Present a background, such as by describing the question that was addressed by creation an exacting study.
- Explain results of control experiments and comprise remarks that are not accessible in a prescribed figure or table, if appropriate.
- Examine your data, then prepare the analyzed (transformed) data in the form of a figure (graph), table, or in manuscript form.

What to stay away from

- Do not discuss or infer your outcome, report surroundings information, or try to explain anything.
- Not at all, take in raw data or intermediate calculations in a research manuscript.
- Do not present the similar data more than once.
- Manuscript should complement any figures or tables, not duplicate the identical information.
- Never confuse figures with tables - there is a difference.

Approach

- As forever, use past tense when you submit to your results, and put the whole thing in a reasonable order.
- Put figures and tables, appropriately numbered, in order at the end of the report
- If you desire, you may place your figures and tables properly within the text of your results part.

Figures and tables

- If you put figures and tables at the end of the details, make certain that they are visibly distinguished from any attach appendix materials, such as raw facts
- Despite of position, each figure must be numbered one after the other and complete with subtitle
- In spite of position, each table must be titled, numbered one after the other and complete with heading
- All figure and table must be adequately complete that it could situate on its own, divide from text

**Discussion:**

The Discussion is expected the trickiest segment to write and describe. A lot of papers submitted for journal are discarded based on problems with the Discussion. There is no head of state for how long a argument should be. Position your understanding of the outcome visibly to lead the reviewer through your conclusions, and then finish the paper with a summing up of the implication of the study. The purpose here is to offer an understanding of your results and hold up for all of your conclusions, using facts from your research and generally accepted information, if suitable. The implication of result should be visibly described. Infer your data in the conversation in suitable depth. This means that when you clarify an observable fact you must explain mechanisms that may account for the observation. If your results vary from your prospect, make clear why that may have happened. If your results agree, then explain the theory that the proof supported. It is never suitable to just state that the data approved with prospect, and let it drop at that.

- Make a decision if each premise is supported, discarded, or if you cannot make a conclusion with assurance. Do not just dismiss a study or part of a study as "uncertain."
- Research papers are not acknowledged if the work is imperfect. Draw what conclusions you can based upon the results that you have, and take care of the study as a finished work
- You may propose future guidelines, such as how the experiment might be personalized to accomplish a new idea.
- Give details all of your remarks as much as possible, focus on mechanisms.
- Make a decision if the tentative design sufficiently addressed the theory, and whether or not it was correctly restricted.
- Try to present substitute explanations if sensible alternatives be present.
- One research will not counter an overall question, so maintain the large picture in mind, where do you go next? The best studies unlock new avenues of study. What questions remain?
- Recommendations for detailed papers will offer supplementary suggestions.

Approach:

- When you refer to information, differentiate data generated by your own studies from available information
- Submit to work done by specific persons (including you) in past tense.
- Submit to generally acknowledged facts and main beliefs in present tense.

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| Topics | Grades | | |
|---|---|---|---|
| | **A-B** | **C-D** | **E-F** |
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| ***Introduction*** | Containing all background details with clear goal and appropriate details, flow specification, no grammar and spelling mistake, well organized sentence and paragraph, reference cited | Unclear and confusing data, appropriate format, grammar and spelling errors with unorganized matter | Out of place depth and content, hazy format |
| ***Methods and Procedures*** | Clear and to the point with well arranged paragraph, precision and accuracy of facts and figures, well organized subheads | Difficult to comprehend with embarrassed text, too much explanation but completed | Incorrect and unorganized structure with hazy meaning |
| ***Result*** | Well organized, Clear and specific, Correct units with precision, correct data, well structuring of paragraph, no grammar and spelling mistake | Complete and embarrassed text, difficult to comprehend | Irregular format with wrong facts and figures |
| ***Discussion*** | Well organized, meaningful specification, sound conclusion, logical and concise explanation, highly structured paragraph reference cited | Wordy, unclear conclusion, spurious | Conclusion is not cited, unorganized, difficult to comprehend |
| ***References*** | Complete and correct format, well organized | Beside the point, Incomplete | Wrong format and structuring |

# Index

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