Online ISSN : 2249-460X
Print ISSN : 0975-587X

Global Journal of Human-Social Sciences: H

Interdisciplinary

Simulation of Human Behaviors

Geometry to Make Archaeotourism

Highlights

Areas Affected by Disasters

Conception of a Mathematical Model

Discovering Thoughts, Inventing Future

VOLUME 15 ISSUE 10 VERSION 1.0

Global Journal of Human-Social Science: H
Interdisciplinary

Global Journal of Human-Social Science: H
Interdisciplinary

Volume 15 Issue 10 (Ver. 1.0)

Open Association of Research Society

Incorporation No.: 0423089
License No.: 42125/022010/1186
Registration No.: 430374
Import-Export Code: 1109007027
Employer Identification Number (EIN):
USA Tax ID: 98-0673427

Global Journals Inc.

*(A Delaware USA Incorporation with "Good Standing"; **Reg. Number: 0423089**)*

Sponsors: Open Association of Research Society
Open Scientific Standards

Publisher's Headquarters office

Global Journals Headquarters
301st Edgewater Place Suite, 100 Edgewater Dr.-Pl,
Wakefield MASSACHUSETTS, Pin: 01880,
United States of America
USA Toll Free: +001-888-839-7392
USA Toll Free Fax: +001-888-839-7392

Offset Typesetting

Global Journals Incorporated
2nd, Lansdowne, Lansdowne Rd., Croydon-Surrey,
Pin: CR9 2ER, United Kingdom

Packaging & Continental Dispatching

Global Journals
E-3130 Sudama Nagar, Near Gopur Square,
Indore, M.P., Pin:452009, India

Find a correspondence nodal officer near you

To find nodal officer of your country, please email us at *local@globaljournals.org*

eContacts

Press Inquiries: *press@globaljournals.org*
Investor Inquiries: *investors@globaljournals.org*
Technical Support: *technology@globaljournals.org*
Media & Releases: *media@globaljournals.org*

Pricing (Including by Air Parcel Charges):

For Authors:

22 USD (B/W) & 50 USD (Color)

Yearly Subscription (Personal & Institutional):

200 USD (B/W) & 250 USD (Color)

Integrated Editorial Board (Computer Science, Engineering, Medical, Management, Natural Science, Social Science)

Dr. Bart Lambrecht
Director of Research in Accounting and FinanceProfessor of Finance
Lancaster University Management School
BA (Antwerp); MPhil, MA, PhD (Cambridge)

Dr. Carlos García Pont
Associate Professor of Marketing
IESE Business School, University of Navarra
Doctor of Philosophy (Management), Massachusetts Institute of Technology (MIT)
Master in Business Administration, IESE, University of Navarra
Degree in Industrial Engineering, Universitat Politècnica de Catalunya

Dr. Fotini Labropulu
Mathematics - Luther College
University of ReginaPh.D., M.Sc. in Mathematics
B.A. (Honors) in Mathematics
University of Windso

Dr. Lynn Lim
Reader in Business and Marketing
Roehampton University, London
BCom, PGDip, MBA (Distinction), PhD, FHEA

Dr. Mihaly Mezei
ASSOCIATE PROFESSOR
Department of Structural and Chemical Biology, Mount Sinai School of Medical Center
Ph.D., Etvs Lornd University
Postdoctoral Training,
New York University

Dr. Söhnke M. Bartram
Department of Accounting and FinanceLancaster University Management SchoolPh.D. (WHU Koblenz)
MBA/BBA (University of Saarbrücken)

Dr. Miguel Angel Ariño
Professor of Decision Sciences
IESE Business School
Barcelona, Spain (Universidad de Navarra)
CEIBS (China Europe International Business School).
Beijing, Shanghai and Shenzhen
Ph.D. in Mathematics
University of Barcelona
BA in Mathematics (Licenciatura)
University of Barcelona

Philip G. Moscoso
Technology and Operations Management
IESE Business School, University of Navarra
Ph.D in Industrial Engineering and Management, ETH Zurich
M.Sc. in Chemical Engineering, ETH Zurich

Dr. Sanjay Dixit, M.D.
Director, EP Laboratories, Philadelphia VA Medical Center
Cardiovascular Medicine - Cardiac Arrhythmia
Univ of Penn School of Medicine

Dr. Han-Xiang Deng
MD., Ph.D
Associate Professor and Research Department Division of Neuromuscular Medicine
Davee Department of Neurology and Clinical NeuroscienceNorthwestern University
Feinberg School of Medicine

Contents of the Issue

Global Journal of HUMAN-SOCIAL SCIENCE: H
Interdisciplinary
Volume 15 Issue 10 Version 1.0 Year 2015
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals Inc. (USA)
Online ISSN: 2249-460X & Print ISSN: 0975-587X

Um Estudo Geográfico Na Observação Dos Sentidos, Percepções E Representações Sociais Sobre Um Recurso Natural Efetivo À Vida: A Água Amazônica

By Klondy Lúcia De Oliveira Agra

Faculdade Interamericana de Porto Velho, Brazil

Resumo- Com o objetivo principal de conhecer como se constituem os sentidos em comunidades amazônicas, as percepções dos sujeitos e suas representações sociais sobre a importância, o uso e a preservação da água, fez-se uma pesquisa qualitativa, sob o quadro teórico da abordagem da Geografia Cultural, em sua vertente fenomenológica, cuja interface permeou a Geografia Sociocultural. O recorte espacial deste estudo são 06 (seis) comunidades inseridas em duas cidades do Estado de Rondônia: Porto Velho e Guajará-Mirim. Na condução das entrevistas e análise das narrativas, utilizou-se o método da Grounded Theory, com auxílio do ATLAS/ti, com a elaboração de mapas mentais e sua compreensão por meio da metodologia Kozel.Na totalidade deste estudo, foi possível observar os sentidos dessas comunidades em relação à água e as conexões entre os fenômenos sociais e as problemáticas que as cercam.

Palavras-chave: sentido. água. amazônia. lógica de comunidade.

GJHSS-H Classification: FOR Code: 040699

UMESTUDOGEOGRFICONAOBSERVAODOSSENTIDOSPERCEPESEREPRESENTAESSOCIAISSOBREUMRECURSONATURALEFETIVOVIDAAGUAAMAZNICA

Um Estudo Geográfico Na Observação Dos Sentidos, Percepções E Representações Sociais Sobre Um Recurso Natural Efetivo À Vida: A Água Amazônica

Klondy Lúcia De Oliveira Agra[1]

Resumo- Com o objetivo principal de conhecer como se constituem os sentidos em comunidades amazônicas, as percepções dos sujeitos e suas representações sociais sobre a importância, o uso e a preservação da água, fez-se uma pesquisa qualitativa, sob o quadro teórico da abordagem da Geografia Cultural, em sua vertente fenomenológica, cuja interface permeou a Geografia Sociocultural. O recorte espacial deste estudo são 06 (seis) comunidades inseridas em duas cidades do Estado de Rondônia: Porto Velho e Guajará-Mirim. Na condução das entrevistas e análise das narrativas, utilizou-se o método da *Grounded Theory*, com auxílio do ATLAS/ti, com a elaboração de mapas mentais e sua compreensão por meio da metodologia Kozel.Na totalidade deste estudo, foi possível observar os sentidos dessas comunidades em relação à água e as conexões entre os fenômenos sociais e as problemáticas que as cercam.

Palavras-chave: sentido. água. amazônia. lógica de comunidade.

Abstract- With the main objective of observing as the senses are constituted in Amazonian communities, the perception of the subjects and their social representations about the importance, the use and preservation of water, we made a qualitative research, under the theoretical framework of the Cultural Geography approach in its slope phenomenological, with Sociocultural Geography interface.The spatial area of this study are six (06) communities inserted in two cities of the State of *Rondônia: Porto Velho and Guajará-Mirim.* In conducting the interviews and analysis of the narratives, we used the method of Grounded Theory, using the software ATLAS /ti. In the analysis of mental maps, we used the Kozel methodology.In total this study, we can note the senses of these communities in relation to waters and the connections between social phenomena and problems surrounding them.

Keywords: sense. water. amazon. logic of the community.

I. Introdução

Ao pensar um estudo geográfico na observação dos sentidos, percepções e representações sociais sobre a água amazônica não se teve a pretensão de exibir os sentidos de todas as comunidades amazônicas existentes naquele espaço. Pois, composta de díspares sentidos, a Amazônia apresenta diferentes paisagens culturais, constituídas por homens e mulheres, que veem e sentem as suas águas de modos distintos.

Por isso, neste estudo, sob o quadro teórico da Geografia Cultural, em sua vertente fenomenológica, com interface a Geografia Sociocultural, com o objetivo principal de conhecer como se constituem os sentidos culturalmente construídos em comunidades amazônicas, as percepções dos sujeitos e suas representações sociais sobre a importância, o uso e a preservação da água, observa-se os sentidos de 06 comunidades ribeirinhas próximas aos centros urbanos e tem-se a consciência de que o resultado obtido diz respeitos somente a essas comunidades em particular.

Como espaço amazônico, no contexto deste estudo, escolheram-se seis (06) comunidades amazônicas inseridas em duas cidades distintas: na cidade de Porto Velho, capital do Estado de Rondônia e em Guajará-Mirim, a segunda cidade fundada nesse Estado. Um Estado que, por sua diversidade, seus problemas socioculturais e seu rápido crescimento demográfico é um retrato síntese da região amazônica.

O ser humano amazônico, observado neste estudo, é aquele que, embora esteja a poucos minutos do centro das cidades investigadas, optou[2] por viver às margens de rios. Comunidades que fazem parte de uma paisagem observada e admirada por muitos, mas transformada e vivida por esse ser humano. Um ser que dá uma caracterização diferente ao seu mundo, uma concepção de natureza que integra o urbano e o rural em seu modo de vida com dois elementos essenciais à sua paisagem: as águas e as matas.

Importante ressaltar que, ao procurar pelo sentido do ser humano amazônico, compreendeu-se que esse homem/mulher não é somente o nato do lugar, mas também aquele ser humano que escolheu viver e sonhar na paisagem natural, modificando-a e

Author: Doutora em Geografia pela UFPR. Docente da Faculdade Interamericana de Porto Velho - UNIRON.
e-mail: klondy@infouniron.com

[2] O uso do verbo optar é aqui utilizado porque, em sua maioria, esses colaboradores tiveram e ainda têm a opção de escolha na apropriação do espaço e modificação da paisagem natural amazônica, mas preferiram e ainda preferem fazer da beira do rio o seu lugar. Diferente da situação em outras comunidades, cuja própria ocupação urbana desenfreada empurra os sem teto a viverem às margens dos rios.

construindo a paisagem cultural observada, um ser que se apropriou do espaço como o seu lugar.

II. Discussão

A preocupação com a água no cenário brasileiro não é recente. Em 1992, durante a Rio 92, foram assumidos compromissos, com poucos resultados. Em 1997, como resultado do seminário A evolução dos mananciais das grandes cidades brasileiras e do workshop Águas doces brasileiras, criou-se o documento A carta das águas doces do Brasil, constando como um dos seus principais itens O Planejamento e gestão integrados (REBOUÇAS, 2002). A partir daí, discute-se a gestão da água e seu futuro em congressos, encontros e simpósios, mas verificou-se que havia uma lacuna por meio de ausência de trabalho que procurassem conhecer como se constituem os sentidos que conduzem as percepções e representações sociais das comunidades em espaços amazônicos sobre o tema água, não havia também,ainda, estudos que se direcionassem a futuros projetos de gestão com respeito aos sentidos, percepções e representações sociais dessas comunidades, ou as suas lógicas.

A Amazônia é a região que comporta a maior e mais extensa bacia hidrográfica continental de drenagem superficial do planeta, ocupando uma área total de 7.008.370 km2, desde as nascentes, nos Andes Peruanos, até sua foz no oceano Atlântico (PNRH, 2010). Sua extensão no território brasileiro representa 61% de todo o território nacional, ou seja, mais de 05 (cinco) milhões de quilômetros quadrados, abrangendo 10 estados (Acre, Amapá, Amazonas, parte do Mato Grosso, Pará, Rondônia, Roraima, Tocantins, parte do Maranhão e parte de Goiás). Uma extensa e rica região que passa por transformações ocorridas pelo desmatamento acelerado e contaminação dessas águas. (DIAS E ARAGÓN, 1987, ARAGÓN, 2006).

As comunidades amazônicas analisadas, por estarem inseridas em cidades do Estado de Rondônia, à beira dos grandes rios Madeira e Mamoré, possibilitaram visualizar uma paisagem portadora de formas, cores, cheiros, sons e movimentos ligados à água. Uma paisagem que imprime e recebe as marcas dessa água, moldando sua cultura numa relação dinâmica e recíproca. Paisagens que apresentam conflitos e tensões trazidas com a ocupação desenfreada e projetos diversos de aproveitamentos, com a apropriação, territorialização e desterritorialização de espaços.

Essas ações distintas impingidas a esses sujeitos amazônicos resultam em construção de novos sentidos e significados culturais. São resultados de gestões produtoras de problemas de toda ordem que trazem a essas comunidades indagações antes ausentes em suas representações. Dessa forma, essas comunidades diversas sofrem e enfrentam problemas antes alheios às suas culturas e que agora, de modo abrupto e violento, contribuem para a desarticulação e à fragmentação de seus espaços (SENA, 2010).

Planos nacionais de expansão dos aproveitamentos hidrelétricos para o Estado de Rondônia preveem, além da construção das Usinas Santo Antônio e Jirau (já em funcionamento), mais quatro Usinas Hidrelétricas (UHEs), a Madeira Binacional, a Monte Cristo, a Ávila e a Ji-Paraná, as quais, construídas em 3.731,919 Km^2, atingirão várias comunidades, entre elas, 12 áreas indígenas com cerca de 5.784 habitantes, comprometendo suas paisagens naturais, culturais e, principalmente, a sua água (SENA, 2010).

Pela intensa transformação cultural que tais projetos provocam nessas comunidades, com a construção de novos sentidos e mudança de suas paisagens naturais e culturais e, pela importância da água, não só para essas comunidades, mas para toda a humanidade, justificou-se esta pesquisa.

A fim de conhecer e compreender sobre a constituição dos sentidos dos homens/mulheres amazônico e de como esse sentido culturalmente construído conduz a diferentes percepções, visões de mundo e construções de pontos de vista, buscou-se pela teoria de Frege[3] (1978) e a sua concepção de unidade de sentido, com base no clássico ensaio "Sobre o Sentido e a Referência[4]".

Frege[5] foi um dos fundadores da lógica simbólica moderna, perspectivando a matemática como redutível à lógica. Seus trabalhos fundamentais versam sobre a lógica filosófica, a filosofia da matemática e, sobretudo, sobre a filosofia da linguagem. Conhecido nos estudos da linguagem pela sua teoria do sentido (sinn) e da referência (bedeutung), apresentada na obra Über Sinn und Bedeutung (1892), um estudo que expõe as bases para a distinção descritivista entre sentido e referência, cujos conceitos se tornaram fundamentais para a semântica e pragmática modernas, tornando-se referência, também, para a filosofia da linguagem.

[3] Friedrich Ludwig Gottlob Frege, filósofo e matemático alemão, nasceu a 08 de novembro de 1848, em Wismar (Alemanha), e faleceu a 26 de julho de 1925, em *BadKleinen* (Alemanha). Estudou nas universidades de *Jena* e de *Göttingen*, obtendo o doutoramento em Matemática (Geometria), em 1873. Lecionou na Universidade de *Jena* de 1874 até 1917.

[4] Esse ensaio foi escrito com problemas da lógica em mente (isto é, a relação de "igualdade") e é uma amostra dos primeiros exemplos de análise filosófica a apontar que o problema do sentido invade a língua natural e que não é um problema restrito à matemática ou à lógica formal. Desse ponto de vista, Frege, como C. S. Pierce, antecipam a preocupação de filósofos e críticos com os problemas que envolvem a língua e o significado, particularmente problemas semânticos e epistemológicos que se sobrepõem, mas exigem diferenciação. Cf. In: Adams and Searle, 1985, p.624.

[5] Contemporâneo e admirador de Frege, Russel encontrou uma contradição nas teorias de Frege, que ficou conhecida como o *Paradoxo de Russell*. Esse episódio impactou profundamente na vida produtiva daquele autor. No entanto, esse filósofo Inglês foi o principal responsável pelo reconhecimento de Frege, pois, apesar da natureza de suas descobertas marcar época, sua obra permaneceu na obscuridade até 1903, quando Russell chamou atenção para a relevância dos seus escritos.

Compreende-se, portanto, neste estudo, o sentido como a ideia compartilhada como referente, isto é, uma concepção geral que permite o entendimento dos significados simbólicos entre os membros de uma mesma cultura (FREGE, 1978). Por isso, é esse sentido a consciência de que existe relação entre as experiências desseshomens/mulheres. (BERGER E LUCKMANN, 2012; HEIDRICH 2013).

a) Sentido na Geografia

O sentido no olhar geográfico traz a noção de que os homens/mulheres experienciam e transformam o mundo natural em um mundo humano, através de seu engajamento direto enquanto atores de transformação. Com o interesse voltado para esse homem/mulher, a Geografia passa a reconhecer que a produção e reprodução do espaço são, necessariamente, uma arte coletiva, mediada na consciência e mantida por códigos simbólicos que fazem a comunicação.

A comunicação humana é produção simbólica que, antes de ter significações, passa pelo sentido. Tais códigos incluem, não apenas a linguagem em seu sentido formal, mas também os valores, as crenças, percepções e representações. Uma série de produções simbólicas que constituem o mundo vivido de uma comunidade, porque toda atividade humana é, ao mesmo tempo, material, simbólica, produção e comunicação. Essa apropriação simbólica do mundo produz estilos de vida distintos e paisagens distintas, que são histórica e geograficamente específicos (COSGROVE, 2007).

Desse modo, "a Geografia Cultural passa a analisar objetos do cotidiano, representações, estudos de sentidos que conduzem a significados, paisagens e à construção social de identidades baseadas em lugares" (MCDOWELL, 1996, p. 159). Seu foco inclui a investigação da cultura, seus sentidos e significados, abordados a partir de uma série de perspectivas teóricas.

A partir daí, a Geografia dedica uma atenção nova à irredutibilidade do fato cultural. Um fato que não é mais visto como a superestrutura vaga e fluida. A cultura, hoje, tende a ser compreendida como uma vertente do real, "[...] um sistema de representação simbólica existente em si mesmo e, se formos ao limite do raciocínio, como uma visão de mundo que tem sua coerência e seus próprios efeitos sobre a relação da sociedade com o espaço" (BONNEMAISON, 2001, p. 86).

Com esse novo olhar, a ciência Geográfica passa a falar sobre temas diversos, não só sobre altitudes, profundezas e densidades, mas sobre diversidades culturais e marcadores territoriais. Estudos que revelam a procura de sentidos culturalmente construídos, que compartilham os homens de uma mesma comunidade e que dão significado às suas experiências.

Com o interesse pelo conhecimento do homem pela ciência que estabelece uma rede de essências, com suas próprias categorias, paisagem, espaço, território e lugar, o sentido que conduz ao significado passa a constituir a palavra-chave da geografia cultural, com a concepção de que, para a compreensão da realidade social, é necessário ir além de sua organização, constituição e estrutura, introduzindo-se os sentidos e significados que dela fazem parte. Trata-se de interpretar a espacialidade criada e seus sentidos, pois "[...] toda atividade humana é ao mesmo tempo material e simbólica, produção e comunicação" (COSGROVE, 2003, p. 103).

As culturas não representam somente um gênero de vida, uma maneira de viver e por isso despertam o interesse desses geógrafos. Uma cultura dá sentido e significado ao mundo: propõe uma visão do mundo, uma ordem de pensamento. "Esta ordem de pensamento baseia-se em crenças, mitos, valores" (BONNEMAISON, 2001, p. 92).

O Geógrafo passa a se interessar pelo âmbito da visão cotidiana do homem e de sua movimentação diária habitual, com a consciência de que o homem exprime sua relação geográfica com o mundo a partir da sua percepção e relação com o espaço. "A geografia pode assim exprimir, inscrita no solo e na paisagem, a própria concepção do homem, sua maneira de se encontrar, de se ordenar como ser individual ou coletivo" (DARDEL, 2011, p. 43).

Por ser essa uma relação intersubjetiva, deve ser tratada pela geografia a partir do que interessa primordialmente ao homem: suas ligações existenciais, suas preocupações, seu bem-estar e seus projetos para o futuro. Ou seja, o geógrafo passa a interessar-se pelas relações estabelecidas pelo homem/mulher com outros homens/mulheres e com todas as coisas que compõem seu mundo vivido.

Desse modo, a geografia deixa de ser um conhecimento referido a um determinado objeto, mas sim uma ciência que tem o papel de compreender o mundo geograficamente, do homem ligado a Terra por sua condição terrestre. Então, a realidade geográfica passa a ser para o homem o lugar onde ele está, os lugares de sua infância, o ambiente que atrai sua presença. Terras em que ele pisa ou onde ele trabalha, o horizonte do seu vale, ou a sua rua, o seu bairro, seus deslocamentos cotidianos. "Uma realidade geográfica que exige uma adesão total do sujeito, através de sua vida afetiva, de seu corpo, de seus hábitos, que ele chega a esquecê-los, como pode esquecer sua própria vida orgânica. Ela está, contudo, oculta e pronta a se revelar" (DARDEL, 2011, p.46).

Os estudos geográficos em busca do sentido do homem/mulher amazônico trazem à tona esse olhar, com a compreensão de que a apreensão do espaço relaciona-se às diferentes perspectivas que se fazem presentes na visão de mundo de cada ser humano.

Descrevem o espaço e lugar como conceitos distintos. Veem o espaço amazônico como liberdade, sensação de amplidão, de infinito; "[...] o lugar como a segurança, o centro ao qual se atribui valor e onde são satisfeitas as necessidades biológicas de comida, água, descanso e procriação" (TUAN, 1983, p.4).

III. Metodologia

A proposta de conhecer sentidos, percepções e representações sociais em comunidades amazônicas para (re)conhecer as lógicas dessas comunidades exigiu a presença dos pesquisadores e seu envolvimento com a cultura a ser analisada. Com esse intuito, fez-se pesquisa qualitativa com visitas às comunidades, confecção do diário de campo, entrevistas não estruturadas, gravações de narrativas, elaboração de mapas mentais, tratamento e análise dos dados.

Para desvendar os sentidos e percepções através das imagens, solicitou-se a elaboração de mapas mentais a duas pessoas de cada uma das seis (06) comunidades analisadas. O diálogo com esses mapas mentais foram feitos com o auxílio da metodologia Kozel.

Para a análise das trinta e uma (31) narrativas obtidas pelas entrevistas, optou-se pela utilização do software de pesquisa qualitativa ATLAS/ti.

IV. Resultados

Pelos dados obtidos neste estudo, verificou-se que a água tem um espaço privilegiado na vida desses homens/mulheres observados, seja por sua importância à subsistência pela pesca ou pelo contato com essas águas desde a infância. Fato que faz essa água ter um papel relevante na configuração desses sujeitos e no tecido social dessas comunidades. É um espaço no qual a água amazônica não é apenas um recurso natural, ou uma paisagem portadora de belezas naturais, encantamentos, mitos e crenças, é mais, representa a vida dessas comunidades. Uma vida composta de importantes peças que compõem o mosaico das paisagens culturais investigadas.

Com fatores relevantes que incidem no pensamento das comunidades investigadas sobre o uso e preservação da água, pôde-se observar que suas percepções vão além da subsistência ou do lazer, vão a relações de proximidade e de afastamento, do respeito ao temor. Percepções que as conduzem à passagem dos sentidos do mundo real (a água como subsistência ou lazer, dos peixes e das feras) aos sentidos do imaginário (a água dos mitos, crenças e sonhos) e interferem no seu relacionamento com ela.

Com percepções distintas em relação à água que os cercam, os colaboradores de Porto Velho e de Guajará-Mirim relacionam a vida perto da água desde a tranquilidade de viverem em um local seguro e calmo até ao medo que as águas representam devido ao risco de afogamento, de enchentes e das existências reais e imaginárias de animais selvagens dentro dela.

As representações sociais dessas comunidades observadas se entrecruzam em diversos aspectos (com sentido do respeito, temor, cuidado, subsistência) e formam lógicas de comunidade com interesse aos fenômenos sociais presentes em seus espaços (migração, desapropriação, novos empreendimentos etc.) e os conduzem a pensar e repensar a problemática que cerca o objeto água (escassez, contaminação, irregularidades de cheias e vazantes etc.).

V. Conclusões

Com a análise dos dados, verificou-se que, embora a água tenha um papel privilegiado na vida desses colaboradores, a margem do rio, o viver entre o rio e a floresta, nessas comunidades investigadas, hoje, já não lhes permite ver os enigmas da Amazônia.

Esse viver ribeirinho, embora ainda ofereça interrogações sobre origens e destinos a esse homem/mulher e a água transcenda sua materialidade e lhes imponha toda uma série de concepções sobre o viver à beira do rio, as narrativas que remeteram a uma realidade psíquica construída sobre vivências geradas a partir dessas águas, apresentaram, também, as grandes mudanças ocorridas nesse viver que transforma objetiva e subjetivamente esse ser humano e exibiu o seu mundo vivido como um universo reificado.

Uma realidade que mostrou que, embora os devaneios e a construção do Eu derivem da água que os cerca, o objeto água adquiriu a condição do Outro. Um espaço percebido por esses homens/mulheres por meio de sua situação nesse mundo vivido que os fazem reafirmar suas opções em viver à beira do rio, mas que lhes permitem, também, a percepção de problemas graves em suas águas e a preocupação com as gerações futuras.

Nas comunidades portovelhenses, essa realidade atinge a própria objetivação de ser um ribeirinho e conduz a ver essa mesma água que, para eles, anteriormente estabelecia a sua identidade e lhes permitia construir um diálogo entre o sujeito e o mundo em um território valorizado emocionalmente, hoje, cria relações de diversidade e tensão entre esses dois espaços, articulados e contraditórios: os pequenos espaços individualmente significativos e os macro espaços socialmente construídos.

Nas comunidades portovelhenses, ficou claro que suas representações sociais em relação à água já não se ancoram em condições de vida anteriores (fartura da pesca, enchentes com épocas certas, espaço de criação e plantio), ancoram-se em condições adversas (construção de usinas, falta do peixe, desbarrancamento e enchentes constantes).

Desse modo, o ser ribeirinho, que antes lhes permitia desaguar no imaginário com um espontâneo maravilhamento diante dos acasos, dos mitos e das lendas, não mais os privilegia com a contemplação que os conduzia a olhar as coisas com devaneio e gratuito prazer da imaginação.

As margens do Rio Madeira, que antes parecia não exigir lógica para ser coerente, hoje, apresenta as comunidades em crise de sentidos, cujas comunidades de sentidos e comunidades de vida já não concordam entre si. O que torna mais difícil a manutenção da concordância nos processos que formam a identidade pessoal e também promovem o surgimento de lógicas de tensão e de preocupação com suas próprias vidas e com a sua água, formando um grupo social composto pelas diferentes comunidades e conduzindo a um fortalecimento de objetivos em comum.

A comunidade guajaramirense mostrou à pesquisa que constrói e/ou reavalia seus sentidos a partir da mídia e do censo comum e, também, cria lógicas de preocupação com a sua água e a sua vida.

A serenidade que advinha das águas, ainda presente na comunidade guajaramirense, deu lugar à inquietação nas comunidades portovelhenses. As experiências do cotidiano, da leitura das águas na previsão de tempestades, da estiagem, do bom tempo ao plantio ou a praia do turismo, hoje, se mostra no estranhamento ao Rio Madeira.

A admiração e o maravilhamento que nascia da própria contemplação da água, das particularidades de onde brotavam as sensações e permitia ao espírito ribeirinho sonhar e ver em fenômenos naturais as explicações metafóricas, numa poética iluminada pela religiosidade dos mitos, formas de explicação por meio do irrepresentável da representação, em suas narrativas se mostraram ausentes.

No entanto, nesse espaço no qual a água amazônica não é apenas um recurso natural, ou uma paisagem portadora de belezas naturais, encantamentos, mitos e crenças, a água ainda se mostra mais. Ela representa a vida dessas comunidades. Uma vida composta de importantes peças que compõem o mosaico das paisagens culturais investigadas.

Reconheceu-se, portanto, a importância de estudos geográficos para intervenções urgentes nas gestões, outorgas e/ou empreendimentos nas águas em rios Amazônicos. Uma bacia hidrográfica importantíssima e que tem sido utilizada sem respeito aos sentidos e significados do ser humano local. Uma utilização irresponsável com outorgas de direitos fornecidos pela Agência Nacional de Águas (ANA) de maneira ilegal, visto que, em nenhum rio amazônico foram instalados os comitês de bacia que, de acordo com a Lei das Águas (9.433/97), deveriam ser responsáveis por planejar o uso das águas.

Em uma época em que o problema com a escassez da água é sentido em várias regiões do Brasil e no mundo, com a contaminação e assoreamento de rios, é de extrema importância (re)pensar na preservação da água na Amazônia. Por isso estudos geográficos, a partir do sentido, das percepções e das representações sociais do homem/mulher amazônico se impõem. Isso porque são essas lógicas, a partir de comunidades geograficamente localizadas, que poderão auxiliar e fornecer as ferramentas cognitivas necessárias para as políticas de gestão que conduzam a outorgas e/ou empreendimentos com maior responsabilidade.

References Références Referencias

1. ADAMS, H. and SEARLE, L. *Critical Theory.* Flórida: Universityof Florida. 1985.
2. ARAGÓN. L. E. *Novos Temas Regionais para o Estudo da Amazônia no Atual Contexto Internacional.* Trabalho apresentado na mesa redonda o tempo curto e o tempo longo: questões emergentes e questões ausentes da pesquisa em estudos urbanos e regionais. 58° Reunião da SBPC, Florianópolis, 17-21 julho, 2006.
3. BERGER, P.; LUCKMANN, T. *Modernidade, Pluralismo e Crise de Sentidos.* A orientação do homem moderno. Trd. de Edgar Orth. Petrópolis, Rio de Janeiro: Editora Vozes, 2012.
4. BONNEMAISON, J. *La Géogrphie culturelle.* Paris: CTHS, 2001.
5. COSGROVE, D. *Em Direção a uma Geografia Cultural Radical:* Problemas da Teoria. In: CORRÊA, R. L.; ROSENDAHL, Z. (Org.). Introdução à Geografia Cultural. 2. ed. Rio de Janeiro: Bertrand Brasil, 2007. pp. 103-134.
6. _______ e JACKSON, P. *Novos rumos da geografia cultural.* In: Introdução à geografia cultural. In: CORRÊA, R. L. & ROSENDAHL, Z. (Orgs.). Introdução à Geografia Cultural. Rio de Janeiro: Bertrand, 2003, pp. 135-146.
7. DARDEL, E. *O Homem e a Terra:* natureza da realidade geográfica. Trad. Holzer, Werther, São Paulo: Perspectiva, 2011.
8. DIAS, M. A. R. e ARAGÓN, L. E. *Cooperação amazônica para o conhecimento e o uso sustentável dos recursos hídricos da região.* In: ARAGÓN, L. e CLÜSENER-GODT, M. (Orgs.) Problemática do uso local e global da Amazônia. Bogotá, D.E.FEN. Colômbia, 1987, pp. 33-54.
9. FREGE, G. *Lógica e Filosofia da Linguagem.* São Paulo: Cultrix, 1978.
10. HEIDRICH, Á. L. et al. (orgs.). *Maneiras de ler:* geografia e cultura [recurso eletrônico]. Porto Alegre: Imprensa Livre: Compasso Lugar Cultura, 2013.
11. KOZEL, Salete. *Das imagens às linguagens do geográfico:* Curitiba, a "capital ecológica". São

Paulo, 2001. Tese de Doutorado-Departamento de Geografia da Universidade de São Paulo.

12. MCDOWELL, L. *A transformação da Geografia Cultural.* In: GREGORY, D. et al. (Org.) Geografia Humana: Sociedade, Espaço e Ciência Social. Rio de Janeiro: Jorge Zahar Editor, 1996.
13. TUAN, Yi-Fu. *Espaço & Lugar.* A perspectiva da experiência. São Paulo: DIFEL, 1983.
14. PLANO NACIONAL DE RECURSOS HÍDRICOS. 2010. http://www.brasil.gov.br/meio-ambiente/-2009/-10/rios-e-bacias. Acesso em 25/07/2003.
15. REBOUÇAS, A.C. *Água doce no mundo e no Brasil.* In: Rebouças, A.C.; Braga, B. & Tundisi, J.G. Águas doces no Brasil: capital ecológico, uso e conservação. São Paulo: Escritura, 2002.
16. SENA, J. A. *Empreendimentos hidrelétricos e vulnerabilidade socioambiental na Amazônia:* o caso da bacia do rio Madeira. Anais do XIII Congresso Brasileiro de Energia - XIII CBE. Rio de Janeiro, 2010.

Global Journal of human-social science: H
Interdisciplinary
Volume 15 Issue 10 Version 1.0 Year 2015
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals Inc. (USA)
Online ISSN: 2249-460x & Print ISSN: 0975-587X

Understanding and Simulation of Human Behaviors in Areas Affected by Disasters: From the Observation to the Conception of a Mathematical Model

By Nathalie Verdière, Guillaume Cantin, Damienne Provitolo, Valentina Lanza, Edwige Dubos-Paillard, Rodolphe Charrier, Moulay Aziz-Alaoui & Cyrille Bertelle
University of Le Havre, France

Abstract- One of the major challenges today is to better understand and anticipate both individual and collective human behaviors face to threats and disasters, whatever their causes. This anticipation is the critical point for populations and operational services in charge of managing the crisis, since it helps ensure populations' safety and keep the emergency situation under control as well as its spatial and temporal spread. This paper deals with the modeling of the temporal dynamics of human behaviors during a catastrophic event. Several complex models, at different scales, can be found in the literature in order to model crowd dynamics. Up to now, the models essentially take into account the panic since it is the most feared reaction.

Keywords: human behavior, panic, disaster, systemic modeling, mathematical modeling, differential equation.

GJHSS-H Classification: *FOR Code: 049999*

UNDERSTANDINGANDSIMULATIONOFHUMANBEHAVIORSINAREASAFFECTEDBYDISASTERSFROMTHEOBSERVATIONTOTHECONCEPTIONOFAMATHEMATICALMODEL

Understanding and Simulation of Human Behaviors in Areas Affected by Disasters: From the Observation to the Conception of a Mathematical Model

Nathalie Verdière [α], Guillaume Cantin [σ], Damienne Provitolo [ρ], Valentina Lanza [ω], Edwige Dubos-Paillard [¥], Rodolphe Charrier [§], Moulay Aziz-Alaoui [χ] & Cyrille Bertelle [ν]

Abstract- One of the major challenges today is to better understand and anticipate both individual and collective human behaviors face to threats and disasters, whatever their causes. This anticipation is the critical point for populations and operational services in charge of managing the crisis, since it helps ensure populations' safety and keep the emergency situation under control as well as its spatial and temporal spread. This paper deals with the modeling of the temporal dynamics of human behaviors during a catastrophic event. Several complex models, at different scales, can be found in the literature in order to model crowd dynamics. Up to now, the models essentially take into account the panic since it is the most feared reaction. However, human sciences learn us that the population during a catastrophic event can exhibit different concurrent reactions, as behavioral sequences, and each individual does not keep the same behavior. A first work associating geographers, mathematicians, computer scientists has been proposed in this direction (Verdière et al., 2014; Provitolo et al., 2015). They have developed a first SIR-based model considering three different types of collective behaviors in catastrophic event and their different interactions. In this paper, we propose a more mature version of the mathematical model (called PCR for « Panic / Controlled and Reflex behaviors) simulating the behavioral sequences from a first phase called « reflex » to a second phase called « rational » according to the type of the threat, domino-effects and local environment.

Keywords: human behavior, panic, disaster, systemic modeling, mathematical modeling, differential equation.

Author α σ ω χ: Normandie Univ, France; ULH, LMAH, Le Havre; FR CNRS, ISCN, rue Philippe Lebon Le Havre, France.
e-mails: nathalie.verdiere@univ-lehavre.fr, gcmaths76@free.fr, valentina.lanza@univ-lehavre.fr, aziz.alaoui@univ-lehavre.fr
Author ρ: Univ. Nice Sophia Antipolis, CNRS, Observatoire de la Côte d'Azur, IRD, Géoazur UMR, Valbonne.
e-mail: damienne.provitolo@geoazur.unice.fr
Author ¥: Université Paris, Panthéon-Sorbonne, Géographie-Cités UMR 8504, Paris. e-mail: Edwige.Dubos-Paillard@univ-paris1.fr
Author § ν: Normandie Univ, France; ULH, Laboratoire d'Informatique, du Traitement de l'Information et des Systèmes (LITIS), Le Havre, ISCN, rue Philippe Lebon Le Havre, France.
e-mails: rodolphe.charrier@univ-lehavre.fr, cyrille.bertelle@univ-lehavre.fr

I. Introduction

When facing crises "beyond the scope" turns out to be no longer exceptional occurrences and becomes the common background for risk management (Lagadec, 2009), the assumption of responsibilities in major crises or disasters, regarding security concerns, makes focus on the safety of residents as well as the sustainability and resilience of societies.

Strategies have been thus introduced aiming at addressing threats, reducing vulnerabilities, and developing populations' capabilities for resilience and adaptation, all at once. On the latter concern, the purpose is to raise public awareness and prepare inhabitants to face the risk they might encounter, so that they can adapt their behaviors to the crisis.

Despite these efforts, it is clear that populations are often unaware of how they should act or take action to protect themselves against the threat or disaster they might face (CEPRI, 2013). This lack of awareness is not only limited to populations; it refers to the challenges of the research community in identifying the wide range of behaviors actually expressed in the case of a disaster (Crocq, 1994), their sequence, dynamics, and inter-dependence (Provitolo et al., 2015; Verdière et al., 2014).

These limitations relate especially to the relatively youthful works referred to, as well as the difficulties experienced in real-time observation and analysis of human behaviors facing a crisis or disaster. The scientist, who does not hold time series for human response analysis, can then proceed to simulations.

In mathematical and computer literature, scientists have focused essentially on the modeling of crowd dynamics and in case of a catastrophic event, on the modeling of collective panic (Helbing et al., 2000; Provitolo, 2009) or simulating movements inside buildings in order to model pedestrian evacuation (Yang et al., 2009). Several models have been developed at different scales.

At microscopic level, cellular automate or agent based models have been proposed (Pan et al., 2007). They consist in modeling each individual of the population as a single entity. For the study of pedestrian flows, some microscopic models consider the pedestrians as particles subject to a mixture of socio-psychologically and physical forces (Helbing et al., 2000). Even if this approach permits to take into account the heterogeneity of the population, it requires high computational. Furthermore, the microscopic properties are sometimes difficult to transfer at a macroscopic level (Rahmandad et al., 2008).

At macroscopic level, partial differential equations are used to model the crowd dynamics. They permit to describe the evolution in time and space of the density and mean velocity of the crowd flow. In (Venel et al., 2008, Goatin et al., 2010), for example, the interactions of crowds and structures in panic situations are considered.

Finally, at mesoscopic level, a level between the microscopic and the macroscopic ones, the models exploit the approach of the kinetic theory, through the Boltzmann or Vlasov equations, depending on the different range of interactions (Bellomo et al., 2011).

However, all these models focus either on the modeling of crowd or/and on the panic reactions and they do not really take into account all the works done in Human Science and Social Science since the second half of the twentieth century (Janis, 1951; Tyhurst 1957, Whyte, 1978; Quarantelli, 2008). They have established that during a disaster, individuals can exhibit different concurrent reactions and they do not stay in the same behavior. Indeed, individuals adopt a sequence of behavioral responses depending on the regions of the brain processing information (Noto et al., 1994), the first one, instinctive and of short duration, the second reasoned. The aim of the paper is to gather the different types of knowledge from human sciences researchers, mathematiciens and computer scientists and to propose a mathematical model considering the panel of behaviors occurring during a disaster. The aim at long term will be to better understand the human reactions during a sudden disaster according to the place, the culture of risk of the population, etc...

Our model has been developed from the SIR based-models which are compartmental models widely used in epidemiology (Murray, 2002). In these models, the population, dense or not, can be decomposed in several subpopulations each of them corresponding to a compartment. Different types of transition can also be considered between each of them as imitation processes corresponding to contagion processes in epidemiology (Hatfield et al., 1994). A first work in this sense has been proposed in (Verdière et al., 2014). (Verdière et al., 2014) has developed a first SIR-based model, considering three different types of collective behaviors occurring in catastrophic events and their different interactions. In this paper, we propose to extend this work in completing both the investigation in the human science area and the mathematical model. About the latter, according to the advices of human sciences, the imitation terms have been changed in order to better describe the imitation between two concurrent behaviors. This change ensures us now to obtain positive solutions that is, for all values of parameters in the system, realistic behaviors. This positivity was not always guaranteed by the previous system and reduced the scenarios of disasters. In this paper, we also propose to incorporate, in the model, the possibility to take into account a succession of catastrophes and the mortality.

The paper is organized as follows. In section I, we explore the factors influencing the human behaviors in the context of disasters. From this analysis, we give, in Section II, our choices for the modeling of the behaviors in such event as the considered interactions between them. In Section III, we present the mathematical model from a graphical representation. Several simulations are proposed in Section IV, representing different scenarios of disasters. Finally, in Section V, we conclude the paper.

II. Factors Influencing the Human behaviors in the Particular Context of Disasters

In order to position our research about the state of the art in this domain, we will first precise the notion of human behaviors and the factors influencing these latters during a catastrophic event. This fast overview will permit to specify our choices both in terms of reactions to take into account and parameters to integrate in the modeling.

In 1936, K. Lewin (1936) formalized the human behavior (C) by a function of the form:

$C = f\ (P,\ E)$. This formalization indicates that the environment (E), in the broader sense of the term (i.e physical, social cultural, spatial, temporal environment), and the characteristic of individuals (P) (i.e. physical resistance, experience, memory of past events) are parameters conditioning the reactions of populations. Relatively to the field of disasters, these parameters are:

a) *Origin of the risk and anticipation of the beginning of the disaster (parameter E)*

Some disasters can be anticipated and announced by different information channels (newspapers, radio, televisions...). It is often the case of hurricanes, floods, volcanic eruption. However, other disasters arrive by surprise as earthquakes and nuclear explosions or, in another domain, terrorist actions. In the first case, we observe controlled behaviors (Baumann and Sims 1974; George and Gamond, 2011) since the authorities actions allow the population to be prepared in front of the risk (organised evacuation, consideration of the potential effects of the disaster) whereas in the second case, because of the effect of surprise and fear, reactions are more instinctive (Laborit, 1994), immediate and automatic (sideration, leak for example during non anticipated auto-evacuation) at least in the first time instants of a disaster (Provitolo et al., 2015).

b) Areas of the disaster (parameter E)

Human behaviors depend also on the area of the catastrophe in which the population is located (Crocq, 1994). The affected area is usually divided in four types of zoning: the impact zone, where the material destructions, the number of victims and the social and territorial disorganization are maximal; the destruction zone, where the material damages are very important but where the number of injured people is less and the social organisation is very perturbed; and finally the marginal and external zones which are generally less impacted by the disaster.

c) Specificities of the impacted zone (parameter E)

The human behaviors and the associated displacements are generally guided by the territory and the alternatives that it offers particularly for the evacuation or leak, the accessibility of temporary shelters. One can name some non exhaustive elements, that affect the behavioral reactions: the presence of open spaces or buildings permitting to ensure the security of populations, the number and the position of exits (Helbing et al., 2000; Henein and White, 2005), the identification of arrow evacuation exits, the morphology of networks and the state of the communication infrastructures (Nabaa et al., 2009).

d) Characteristics of individuals (parameter P) and density of population (parameter E)

The behaviors vary also with the physical factors of individuals (age, agility), their learnings and experiences (culture of risk), their knowledge about the place, the individual motivations (join or save his family members, to become an hero...) but also the local perception of the environment (Wijermans, 2007). Indeed, without any consideration of the risk, most of individuals are influenced by the density of population (E). This density, which increases when the crowd is being formed, makes the situation more dangerous (i.e. reduction of the choices for the individual displacements, increasing of interactions between individuals and their neighbours) and can lead, for example, to extreme situations of trampling and suffocation. The origin of the risk, the anticipation of the beginning of the catastrophe and the spatial zoning are factors that are taken into account in the construction of the mathematical model. At this stage of the modeling, we have decided to integrate general parameters, that is parameters not specific to an area or to social, economic or cultural characteristics as age, sex, cultural area, level of income or wealth. Indeed, the latter do not play key role during the catastrophe but rather before and after the catastrophe (Baumann and Sims, 1974).

III. Choices of the Modeled Behaviors

Exceptional catastrophic events induce a complete break with daily behaviors (Noto et al., 1994). These behaviors can be varied in nature, they can be isolate or collective, they can change over time (succession of behaviors) and have a limited duration.

These particular behaviors come from an hostile pressure of the environment, often brutal and unpredictable (e.g. earthquake, local tsunami), sometimes continuous (e.g. drought), that impose new ways to act in state of stress.

Provitolo et al., 2015 have proposed a typology of human behaviors in impacted zones of catastrophic events, based, first, on the implicated cerebral zone in the behavioral answer, then, on temporal phases of the event and its alert.

In the impacted zone, two mains categories of behaviors have been noted, according to the region of the brain that acts:

- the reptilian zone of the brain, the center of our instincts and the basis of our emotions. It induces instinctive behaviors that handle with the impulsive and urged behaviors;
- the pre-fontal zone of the brain that leads to controlled behaviors. It adapts in a more reflexive way the reactions to an external perturbations.

The first category groups together the behaviors of instinctive escape and fight, the panic, but also the behaviors as sideration and automaton (Crocq, 1994). This mechanism allows people to react quickly either by running away as fast as possible or by being flabbergasted and being physically unable to move in space. The second category concerns calm and self-control behaviors.

In our mathematical model, we have decided to distinguish three different types of behaviors in the situation of a sudden disaster. Despite the diversity of reflex behaviors, we have decided to divide them just in two types. The first one consists in reflex behaviors except panic. Thus, for example, it groups together sideration and automate behaviors.

The second type concerns the panic reactions since they have a particular status in reflex behaviors. Indeed, this behavior is the most feared: it can provoke dangerous situations in a crowd, due to trampling and crushing and can cause deaths. Furthermore, this mechanism is difficult to stop once started since its extinction is more linked to internal dynamics than to the remoteness of the danger (Crocq, 2013). Notice that this behavior is not always adopted as, for example, during

Global Journal of Human-Social Science (H) Volume XV Issue X Version I Year 2015

an earthquake in Japan, a country where the population is formed to react adequately in case of such disaster.

Finally, since the prefrontal cortex takes over the reptilian brain, the third type of considered behaviors includes all the controlled, intelligent and reasoned reactions. They can take different forms in a catastrophe, as, for example, evacuation, leak, containment, sheltering, research for help, looting, theft, etc... Despite their variety, we have decided to globalize, as for the first type, all these controlled behaviors.

The three previous behaviors do not all occur at the same time and respect a certain order. Indeed, the first behavior of an individual in the face of danger is a reflex one, followed, in a second step, by controlled or panic behavior (George and Gamond, 2011).

The dynamics of these behaviors can be represented as a complex system composed of different groups in interaction. Interactions can come from different mechanisms: the simple aggregation resulting of identical individual behaviors; the causality, taking into account the possible succession of behavioral reactions; the emotional contagion, a process resulting of imitation between individuals.

In the following section, the mathematical model is presented.

IV. Mathematical Model

Before presenting our model, we propose to describe the three meta-behaviors in the exceptional situation of a disaster through a graphical model.

a) Graphical model

The graphical model (Fig. 1) corresponds to the evolution of individual behaviors of a population at different times *t*.

Here, *Q* corresponds to the number of individuals in a daily behavior, *r* and *p* to uncontrolled behaviors, more precisely reflex and panic behaviors, c to controlled ones.

The population *Q* is composed of *N* individuals and is constituted of two sub populations.

- Q_1 (t) represents the number of individuals with routine behaviors before the disaster at the instant time *t*. Clearly, just before the catastrophic event occurs, all the population is in this state, therefore $Q_1(0)=N$.
- Q_2 (t) represents the number of individuals who come back to pseudo-normal lifestyle after the outbreak of the disaster at the instant time t. We expect that, at the end of the event, all the individuals will be in this state except the death individuals. We suppose that only those in a controlled behavior can go back to a normal lifestyle and this return is modeled through the function $\varphi(t)$. Once in Q_2, we suppose that individuals can not join again the system. This condition corresponds to immunized people in classical SIR-models.

Let us now describe the dynamic of the processes.

The exterior event, that is the disaster onset, is modeled by a forcing function γ whose form could vary according to the specificities of the event (event with a slow or fast kinetic, expected or not). During the disaster, the population, initially in Q_1, evolves during the time according to different modalities within the three sub-populations *r*, *p* et *c*. However, according to the effect of surprise, we suppose that all these individuals will be in a reflex behavior *r(t)*. This aspect has to be modulated if the catastrophe is announced (in that case, we can have as soon as the beginning of the catastrophe some controlled behaviors *c(t)* of type confinement).

Some transitions, recurrent in each disaster, set up between these sub-populations: causality processes (B_1, B_2, C_1, C_2) and imitation and contagion processes (α, δ, μ). Furthermore, some specific transitions are used to model domino effects (s_1 and s_2), these transitions slowing the individuals to a return in a pseudo-normal behavior in Q_2.

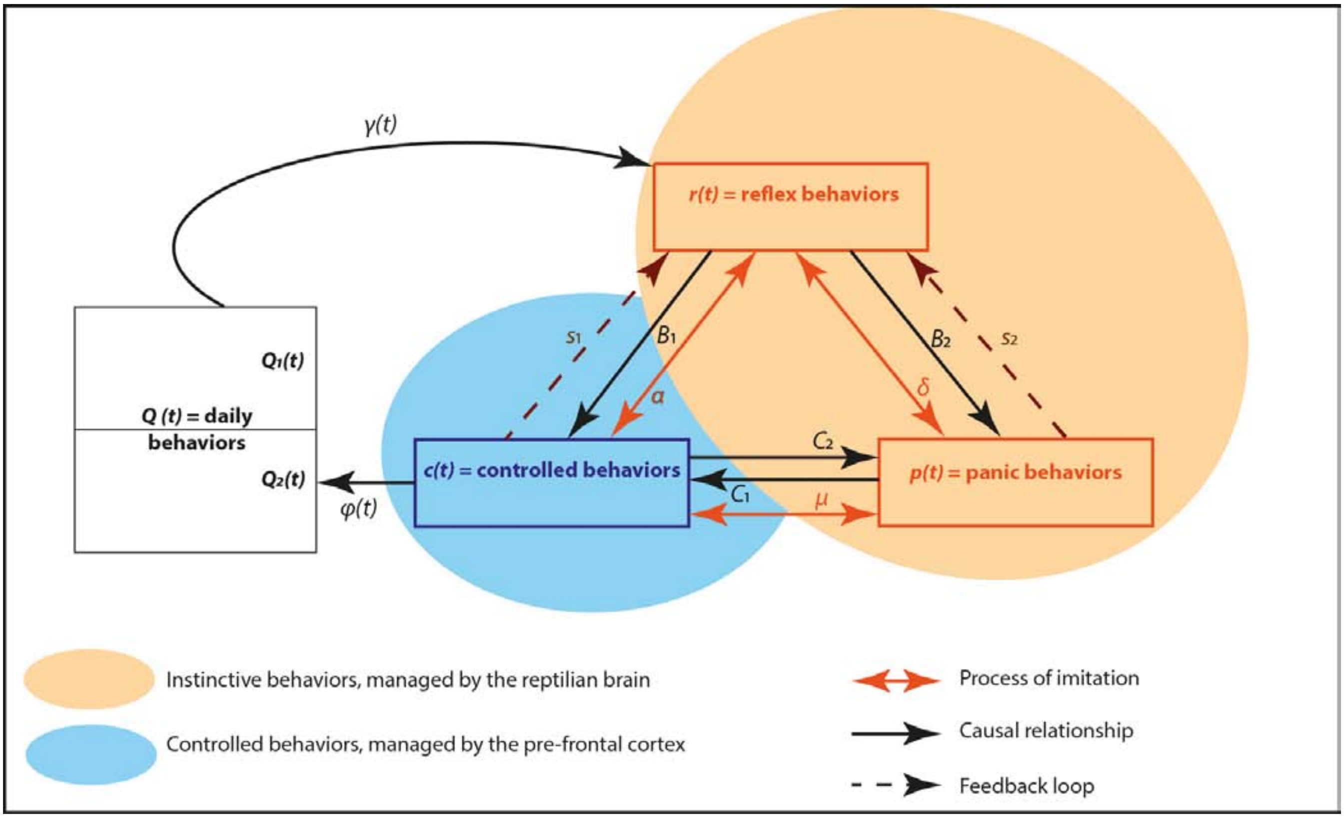


Fig. 1 : Graphical model of the three meta-behaviors (PCR: Panic, Reflex Controlled) in the exceptional situation of a disaster

b) Mathematical model

This graphical model has been mathematically formalized as follows:

$$\begin{cases} \dfrac{\mathrm{d}r}{\mathrm{d}t} = \gamma(t)Q_1\left(1-\dfrac{r}{r_m}\right) - (B_1+B_2)r + F(r,\ c)rc + G(r,\ p)rp + s_1c + s_2p - m_1(t)r \\ \dfrac{\mathrm{d}c}{\mathrm{d}t} = B_1r - F(r,\ c)rc + C_1p - s_1c - C_2c - \varphi(t)c(1-Q_2) + H(c,\ p)cp - m_2(t)c \\ \dfrac{\mathrm{d}p}{\mathrm{d}t} = B_2r - s_2p - G(r,\ p)rp - C_1p + C_2c - H(c,\ p)cp - m_3(t)p \\ \dfrac{\mathrm{d}Q_1}{\mathrm{d}t} = -\gamma(t)Q_1\left(1-\dfrac{r}{r_m}\right) \\ \dfrac{\mathrm{d}Q_2}{\mathrm{d}t} = \varphi(t)c(1-Q_2) \end{cases}$$

The following table together the variables and parameters involved in this model.

Table 1 : Variables and parameters of the model

State variables	**Qualification of variables and functions**
$Q_1(t)$	The number of individuals with routine behaviors at the start of simulation
$Q_2(t)$	The number of individuals who come back to a normal lifestyle after the outbreak of te disaster
r(t)	The number of "reflex" behaviors at a time t
c(t)	The number of "controlled" behaviors at a time t
p(t)	The number of "panic" behaviors at a time t
$m_1(t)$, $m_2(t)$, $m_3(t)$	The percentages of individuals in reflex, panic and controlled behaviors respectively who die during the disaster at a time t
Causal relationships and domino effect	
B_1	From reflex behaviors to controlled behaviors
B_2	From reflex behaviors to panic behaviors
C_1	From panic behaviors to controlled behaviors
C_2	From controlled behaviors to panic behaviors
s_1	From controlled behaviors to reflex behaviors
s_2	From panic behaviors to reflex behaviors
$\gamma(t)$	Forcing function to represent the type of hazard
$\varphi(t)$	From y(t) to $Q_2(t)$
Imitation and contagion processes	
α	Imitation and contagion processes between r et c
δ	Imitation and contagion processes between r et p
μ	Imitation and contagion processes between c et p

Let us analyze the first equation. The evolution of individuals in a reflex behavior depends on:

- the proportion of individuals in a daily behavior, the proportional term being function of the nature of the catastrophe modeled by the function γ;
- the decrease of the number of individuals due to causality processes, B_1 and B_2 being the

proportions of individuals adopting naturally a controlled behavior and a panic behavior respectively;

- the increase or decrease of the number of individuals in a reflex behavior adopting a controlled behavior due to imitation processes through the interaction term *F(r,c)rc*. The imitation process is proportional to the number of individuals in reflex behaviors and in controlled ones. The term *F(r,c)* will depend on two functions each of them traducing one of the imitation (the imitation of reflex by controlled and vice versa) and according to the proportion of individuals in each behavior, its sign could be positive or negative allowing us to favour one sens or the other;
- the increase or decrease of the number of individuals in a reflex behavior adopting a panic behavior due to imitation processes through the term *G(r, p) rp*;
- the increase of the number of individuals in a reflex behavior due to a succession of catastrophes (s_1c+s_2p);
- finally, the decrease of the number of individuals in a reflex behavior due to mortality causes through the function m_1.
- The other equations are constructed in the same way.

Compared to (Verdière et al., 2014), the imitation terms have been modified and improved. Indeed, in their first version, their expressions did not well consider the interactions between the two populations and lead rapidly to non-sense negative solutions. In the model proposed in this paper, *F(r,c)* takes into account the fact that the imitation can be in both directions. Indeed, it is reasonable to suppose that when the controlled population is more important than the reflex one, individuals in reflex behavior will adopt a controlled one. On the contrary, in case of preponderance of individuals with reflex behaviors, we will have a transition from controlled to reflex behaviors, these transitions not being in the same proportions.

c) *Calibration of the model*

Unfortunately, in the literature, the available data necessary to calibrate the model, are scarce. However, one can mainly distinguish two groups of quantitative data. The first one concerns the percentages of the population adopting during the event a certain type of behavior and the second one relates on the duration of such behaviors.

i. *Percentages of population adopting a certain type of behavior*

The different types of human behaviors described previously can manifest in variable proportions, in function of the considered catastrophic event, the suddenness of the threat, the composition of the group, the individual aptitudes for understanding the danger and the knowledge of the environment. Moreover, Boyd (1981) considers that in most of the disasters, "15% of individuals manifest obvious pathological reactions, 15% keep their cool and 70% manifest an apparently calm behavior but answer in fact to a certain degree of emotional sideration and lost of initiative which reports to a pathological register". These percentages have to be modulated according to the different parameters, which leads us to consider:

- 50 to 75% of the population was in a reflex behavior *r* during the event;
- 12 to 25% of the population was in a controlled behavior *c* during the event;
- 12 to 25% of the population was in a panic behavior *p* during the event.

At our knowledge, no data are available for quantifying transition mechanisms from one state to an other.

Notice that these percentages will be evaluated in computing areas in the numerical part.

ii. *Duration of the behavior*

These different reactions have different durations (Vermeiren, 2007).

- *r(t)* = duration of reflex behavior varies from few minutes to one hour. Most of the time, it does not exceed 15 minutes, but it can be longer especially if it corresponds to a delay of evacuation in a disaster area. In this case, support and research behaviors for relatives and victims gradually appear.
- *p(t)* = duration of panic behaviors varies from few minutes to one hour. Most of the time, it does not exceed 15 minutes and finishes spontaneously. Sometimes an outside energetic intervention allows to the panic population to recover a calm behavior, synonym of prostration, that is why this population can adopt an automate behavior *r(t)* before adopting a controlled one *c(t)*.
- duration of the uncontrolled behavior *r(t)+p(t)* does not last more than 1h30. In this model, we suppose that an individual cannot stay 1 hour in a reflex behavior and another hour in a panic state.
- *c(t)* = duration of controlled behaviors. It varies from few minutes to several hours according to the intervention of institutional actors.

These data can be used as results towards which the solutions of our model have to converge, as explained in the numerical simulations section. This work can be done from the choice of the parameters of the model.

V. Numerical Simulations

For the numerical simulations, we have transformed the model in a dimensionless form, that is, population numbers correspond to fractions of the total population.

In the following subsection, the functions involved in the dimensionless model are specified.

a) Functions γ, φ, F, G, H, m

The construction of the functions γ and φ is based on the same function ψ defined by:

$$\psi(s, s_{min}, s_{max}, \psi_{min}, \psi_{max}) = \begin{cases} \psi_{min} & \text{if } s < \psi_{min} \\ \psi_{max} & \text{if } s > \psi_{max} \; . \\ \frac{\psi_{min}-\psi_{max}}{2} \cos\left(\frac{s-s_{min}}{s_{max}-s_{min}}\pi\right) + \frac{\psi_{min}+\psi_{max}}{2} & \text{else} \end{cases}$$

We suppose to be in the case of a sudden catastrophe, so the population is rapidly informed, in our case after 1 minute and all the concerned population is informed in the three following minutes. Obviously, the return to the normality cannot be immediate, so we suppose that individuals begins to return to the pseudo-normal lifestyle after 5 minutes and this return is done very slowly. These considerations lead us to consider the following functions φ and γ.

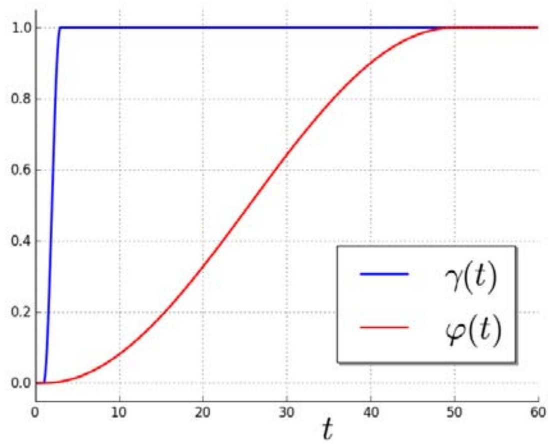


Fig. 2 : Functions φ and γ

As we have said before, the shape of the curves has to be modulated according to the type of disaster (depending if it is announced or not).

The imitation terms are modeled by the functions *F, G* and *H* that have the following form:

$$\begin{cases} F(r,c) &= \alpha_1 f_1\left(\frac{c}{r+\epsilon}\right) - \alpha_2 f_2\left(\frac{r}{c+\epsilon}\right) \\ G(r,p) &= \delta_1 g_1\left(\frac{p}{r+\epsilon}\right) - \delta_2 g_2\left(\frac{r}{p+\epsilon}\right) \\ H(c,p) &= \mu_1 h_1\left(\frac{c}{p+\epsilon}\right) - \mu_2 h_2\left(\frac{p}{c+\epsilon}\right) \end{cases}$$

where f_1, f_2, g_1, g_2 and h_1, h_2 are built in the same way. For example, f_1, f_2 are represented in Figure 3.

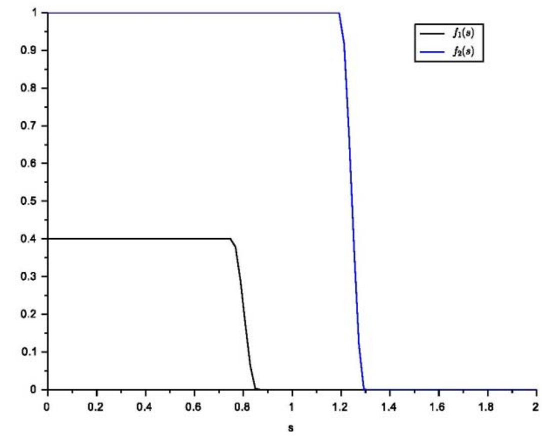


Fig. 3 : Functions f_1 and f_2

The imitation term *F(r,c)* depends on the proportion of reflex behaviors compared to controlled ones. The parameter ε is chosen to model the beginning of the interaction process, which occurs only over a certain value of the subpopulations *r* and *c*. The terms $f_2(c/(r+\varepsilon))$ and $f_2(r/(c+\varepsilon))$ are chosen so that, during the meeting of reflex and controlled behaviors, which is modeled by the product *rc*, there must be at least 55% of reflex behaviors so that 40% of the controlled individuals involved in the interaction adopt reflex behaviors. Under 55% of reflex behaviors, 100% of the individuals in a reflex behavior imitate the controlled behaviors. For the imitation of *p* and *c*, we build *G* so that the imitation is essentially in the sense *p* towards *c*.

The imitation functions have been modified and improved compared to those proposed in (Verdière et al., 2014). Indeed, they take easier into account the imitation in the two sens. In (Verdière et al., 2014), the imitation functions depended only on one variable contrary to here. For example, *F* depends on the two variables *r* and *c* and can describe the imitation process between individuals in a reflex behavior and in a controlled one, or vice versa. According to the sign of the imitation term, one of the sens is favoured compared to the other. Furthermore, with the imitation functions taken in (Verdière et al., 2014), it was difficult to play with their values because we obtain in lot of cases negative solutions.

In sudden and brutal disasters, death can be an important parameter. In our simulations, we suppose that the mortality is important just after the beginning of the disaster for the three behaviors *r*, *c* and *p*. This leads us to consider the following function m which will modelize the three mortality functions m_1, m_2, m_3.

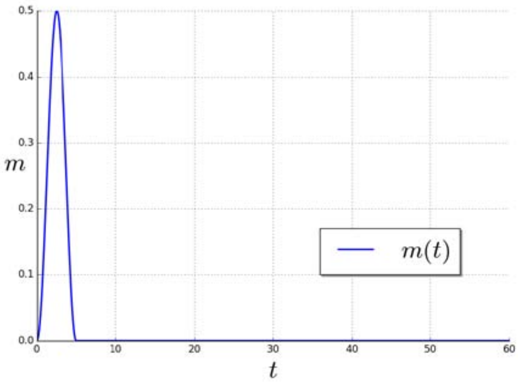


Fig. 4 : Function m

Another scenario will be to consider an event in which individuals in panic behavior are widely concerned by death, for example in the case of the rush during the pilgrimage at the Mecca in 2015.

In the following sections, we present simulations allowing us to validate our model.

b) Validation of the model

In this section, we test our model on two different extreme situations without any mortality (thus, $m(t)=0$ for all $t>0$). In these two simulations, we have verified that the percentages given in the calibration section are verified. For this purpose, we have computed the areas between each curve and the horizontal axis which give the global percentages of the corresponding population.

- *Scenario 1: An earthquake in Japan*

We propose simulations in order to find the characteristic behaviors in such an area when an earthquake happens. Since in Japan, the risk culture is well established, the population is formed to react quickly, the causality process from reflex to controlled is important with respect to the other processes, as the causality process from reflex to panic and the corresponding imitation processes. The parameters of our model are the following: $s_1 = s_2 = 0.01$, $B_1 = 0.7$, $B_2 = 0.1$, $C_1 = 0.4$, $C_2 = 0.1$, $\alpha_1 = 0.2$, $\alpha_2 = 0.01$, $\delta_1 = 0.01$, $\delta_2 = 0.01$, $\mu_1 = 0.5$, $\mu_2 = 0.1$ (see Fig. 5)

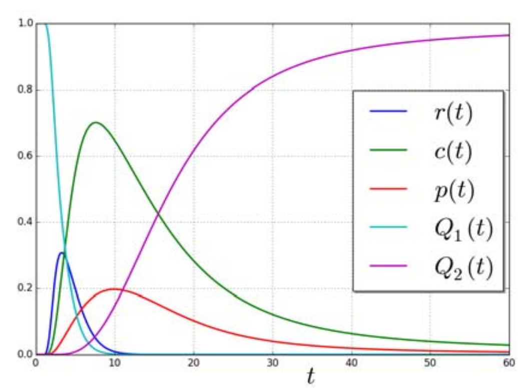


Fig. 5 : An earthquake in Japan

Figure 5 shows a domination of the controlled behaviors which perfectly matches with the geographers observations. Notice that population Q_2 increases until 1 since there is no mortality.

- *Scenario 2: An unexpected catastrophe on a non prepared population*

In 2010, an important earthquake place in Haiti. At the opposite of Japan population, the population was not prepared for such an event. In this case, the causal process from reflex to panic and the imitation of the panic control are dominant with respect to the other processes. The choice of the parameters is the following: $s_1 = s_2 = 0.01$, $B_1 = 0.1$, $B_2 = 0.4$, $C_1 = 0.1$, $C_2 = 0.1$, $\alpha_1 = 0.01$, $\alpha_2 = 0.01$, $\delta_1 = 0.4$, $\delta_2 = 0.01$, $\mu_1 = 0.1$, $\mu_2 = 0.8$. According to Figure 6, there is a high proportion of panic behavior during the event and a difficult return to daily behavior.

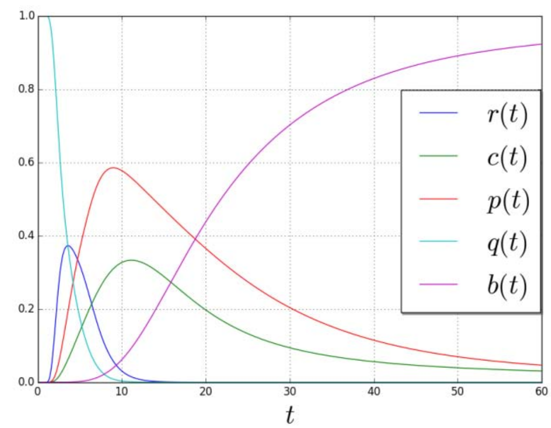


Fig. 6 : An unexpected catastrophe on a non prepared population

c) Succession of catastrophes

Frequently, the population is confronted to a succession of catastrophes. For example, earthquakes are very often followed by seismic events which lead the population to suffer again extreme behaviors. In our simulations, we suppose to be in presence of two successive catastrophes so that all individuals have not the time to come back to a daily behavior. To model this succession of two catastrophes, we consider that s_1 and s_2 are not equal to zero and depends on the time, so a second catastrophe is modeled in considering that individuals return in a reflex behavior. The functions s_1 and s_2 are as in Fig. 7.

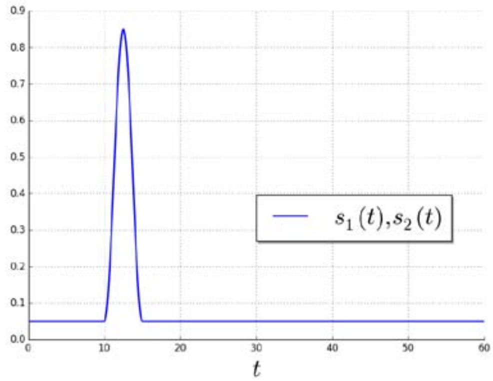


Fig. 7 : Functions s_1 and s_2

The curves represented at Fig. 8 show the impact of the second catastrophe.

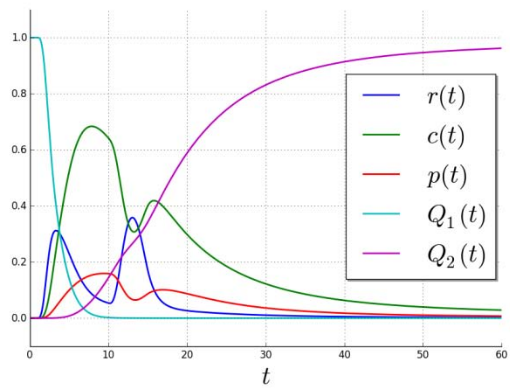


Fig. 8 : Succession of disasters

In Fig. 9, the three behaviors are represented in three dimensions.

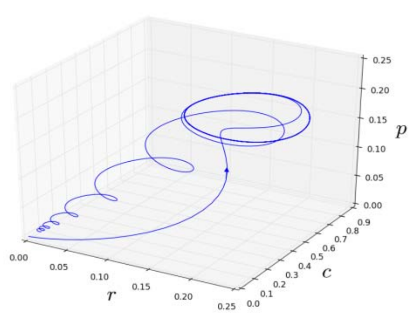


Fig. 9 : Succession of disasters (3D)

d) Simulation in case of mortality

The coefficients are the same as in the first simulation, that is $s_1 = s_2 = 0.01$, $B_1 = 0.7$, $B_2 = 0.1$, $C_1 = 0.4$, $C_2 = 0.1$, $\alpha_1 = 0.2$, $\alpha_2 = 0.01$, $\delta_1 = 0.01$, $\delta_2 = 0.01$, $\mu_1 = 0.5$, $\mu_2 = 0.1$ and the results are represented at Fig. 10.

Notice that population Q_2 does not increase until one and that the mortality impact significantly the behavioral dynamics essentially controlled behaviors.

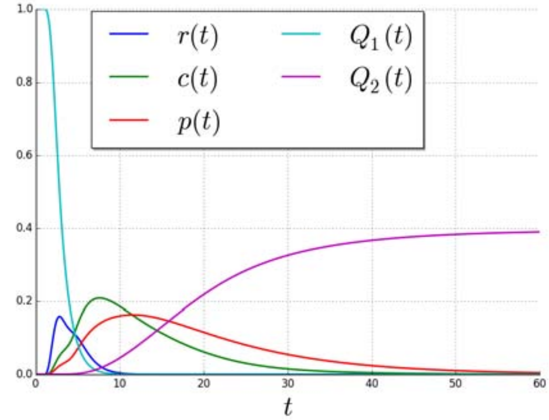


Fig. 10 : Model with mortality

VI. Conclusion

During a disaster, individuals adopt exceptional reactions completely distinct to daily ones as leaking under panic reactions, seeking victims under the rubble, fighting against the effects of a flood, evacuating at the request of authorities, etc... Unfortunately, these observations are not sufficient to understand clearly all the different concurrent behaviors and their sequence in such situation.

In order to deal with the limits of observation, we have formalized graphically and mathematically collective behaviors in the impact area and during a sudden event. These formalizations permit to consider the constraints of the situation and to analyze behaviors during the time evolution of the disaster. Furthermore, the actual model better integrates the imitation processes, the domino effects due to a new natural or technological disaster or corresponding to a closed door in situation of evacuation for example; mortality, all of these additions allowing to enrich the possible scenarios. Thus, this formalization permits to better understand and apprehend the apparition of behaviors spreading from individuals to a crowd and processes of interactions and imitation between individuals. This understanding and prevision of collective human behaviors represent a significant step forward the crisis management and specifically for the safeguard of civil populations. Indeed, during a disaster, the difficulty to prevent victims reactions increase the difficulty to master the situation for the institutional actors responsible of the crisis management. However, even if the proposed model has been improved compared to (Verdière et al., 2014), it does not consider all the human behaviors and have to be enriched in order to integrate more subtil behaviors, for example in distinguishing in controlled behaviors, altruist and selfish behaviors, to take into account geographical constraints.

References Références Referencias

1. D.D. Baumann, J.H. Sims, 1974, «Human response to the hurricane», in White G.F. (ed.), Natural hazards: local, national, global, New York, Oxford University Press.
2. N. Bellomo, C. Dogbé. On the modeling of trafic and crowds: A survey of models, speculations and perspectives. SIAM reviews, 53(3): 409-463, 2011.
3. S.T. Boyd, 1981, «Réactions psychologiques des victimes de catastrophes », South african Medicine Jal., N° 60, 744-748.
4. J.F. Brethé et al., 2014, about the detection of panic in individual and collective human behaviors. ICCSA14, 23-26 June, Le Havre.
5. L. Crocq, 1994, «La psychologie des catastrophes et des blessés psychiques», in Noto R., Huguenard P. et Larcan A. (eds.), Médecine de catastrophe, Paris, Masson, 580 p.
6. L. Crocq, 2013, Les paniques collectives, Paris, Odile Jacob, 380 p.
7. P. Goatin, R.M. Colombo and M.D. Rosini. A macroscopic model for pedestrian flows in panic situations. In GAKUTO International series Mathematical Sciences and Applications, Volume 32, 255-272, 2010.
8. N. George, L. Gamond, 2011, «Premières impressions», L'essentiel Cerveau et Psycho: Les émotions au pouvoir, N° 7, août-octobre 2011.
9. E. Hatfield, J.T. Cacioppo, R.L. Rapson, 1994, Emotional Contagion, Cambridge, Cambridge University Press.
10. D. Helbing, I. Farkas and T. Vicsek. Simulating dynamicals features of escape panic, Nature, 407(6803):487-490, 2000.
11. C.M. Henein and T. White, 2007, Macroscopic effects of microscopic forces between agents in crowd models. Physica A, 373, 694-712.
12. H. Laborit, 1994, La légende des comportements, Paris, Flammarion.
13. L.I. Janis, 1951, Air war and emotional stress: psychological studies of bombing and civilian defense, New York, McGraw-Hill.
14. J.D. Murray, 2002, Mathematical Biology I: An introduction, Springer, New York, USA.
15. M. Nabaa, C. Bertelle, A. Dutot, D. Olivier, 2009, Exploitation of a displacement survey to detect road network use vulnerability, ICCSA2009, June 29-July 02, Le Havre.
16. R. Noto, P. Huguenard, A. Larcan, 1994, Médecine de catastrophe, Masson, Paris.
17. X. Pan, C.S. Han, K, Dauber and K.H. Law. A multi-agent based framework in the simulation of human and social behaviors during emergency evacuations. AI & Society, 22(2): 113-132, 2007.
18. D. Provitolo, E. Dubos-Paillard, N. Verdière, V. Lanza, R. Charrier, C. Bertelle and M.A. Aziz-Alaoui, 2015, Les comportements humains en situation de catastrophe: de l'observation à la modélisation conceptuelle et mathématique, Cybergéo.
19. D. Provitolo, 2009, «A new classification of catastrophes based on "Complexity Criteria"», From System Complexity to Emergent properties, Springer, Series Understanding complex systems, pp. 179-194, DOI: 10.1007/978−3−642−02199−2.
20. N. Verdière, V. Lanza, R. Charrier, D. Provitolo, E. Dubos-Paillard, C. Bertelle, M.A. Aziz-Alaoui, 2014, Mathematical modeling of human behaviors during catastrophic events. ICCSA14, 23-26 June, Le Havre.
21. E.L. Quarantelli, 2008, «Conventional beliefs and counterintuitive realities», Social research, vol 75, N° 3.
22. H. Rahmandad and J. Sterman. Heterogeneity and network structure in the dynamics of diffusion: Comparing agent-based and differential equation models. Management Science, 54(5):998-1014, 2008.
23. J.S. Tyhurst, 1957, «Psychological and social aspects of community disasters», Canada M.A.J, vol. 76, 385-392.
24. J. Venel, B. Maury. A mathematical framework for a crowd motion model. C.R. Acad. Sci. Paris, 346:1245-1250, 2008.
25. E. Vermeiren, 2007, «Psychologie des foules: éléments de compréhension et de prévention en situation de catastrophe collective », Urgence.
26. Wijermans N, Jorna R., Jager W., Vliet T. van, 2007, Modeling crowd dynamics, influence factors related to the probability of a riot, Proceedings of the Fourth European Social Simulation Association Conference (ESSA), Toulouse, 531-541.
27. A. Whyte, 1978, La perception de l'environnement: lignes directrices méthodologiques pour les études sur le terrain, Notes techniques du MAB, Vol. 5, Paris, Unesco, 134 p.
28. J.J. Yang, M. Yokoo, T. Ito, Z. Jin, P. Scerri (eds), 2009, Principles of Practice in Multi-agents System: 12th International Conference, PRIMA 2009, Nagoya, Japan, Proceedings Springer, 658 p.

Global Journal of human-social science: H Interdisciplinary
Volume 15 Issue 10 Version 1.0 Year 2015
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals Inc. (USA)
Online ISSN: 2249-460X & Print ISSN: 0975-587X

Indigenous Voluntary Urban Associations and thereby Community Solidarity among Residents of Debre Markos Town, Ethiopia

By Kasahun Desyalew Mekonen & Mulugeta Berihun Asfaw
Wolaita Sodo University, Ethiopia

Abstract- Membership to indigenous voluntary urban associations suggest the nature of communalities that members have in terms of their concerns and ways of dealing with them in daily life which can be indicator of the form of community solidarity that would likely exist in the society. The main objective of this paper was to examine the state of voluntary urban associations and thereby community solidarity among residents of Debre Markos town; Ethiopia. Both primary and secondary sources were employed. Household survey and In-depth interviews were the principal means of generating primary data. A total of 384 sample household heads were selected through systematic random sampling. On top of this in depth interview was employed with 18 residents. The survey data was analyzed using descriptive statistics where as the qualitative data was analyzed in words to supplement the quantitative data. The findings of this study confirm that a substantial number of the residents of the town are member of the three voluntary associations; Edir, Ekub and Mahiber.

Keywords: community solidarity, voluntary urban associations, indigenous, Debre Markos town.

GJHSS-H Classification: FOR Code: 160810

INDIGENOUSVOLUNTARYURBANASSOCIATIONSANDTHEREBYCOMMUNITYSOLIDARITYAMONGRESIDENTSOFDEBREMARKOSTOWNETHIOPIA

Strictly as per the compliance and regulations of:

Indigenous Voluntary Urban Associations and thereby Community Solidarity among Residents of Debre Markos Town, Ethiopia

Kasahun Desyalew Mekonen [α] & Mulugeta Berihun Asfaw [σ]

Abstract- Membership to indigenous voluntary urban associations suggest the nature of communalities that members have in terms of their concerns and ways of dealing with them in daily life which can be indicator of the form of community solidarity that would likely exist in the society. The main objective of this paper was to examine the state of voluntary urban associations and thereby community solidarity among residents of Debre Markos town; Ethiopia. Both primary and secondary sources were employed. Household survey and In-depth interviews were the principal means of generating primary data. A total of 384 sample household heads were selected through systematic random sampling. On top of this in depth interview was employed with 18 residents. The survey data was analyzed using descriptive statistics where as the qualitative data was analyzed in words to supplement the quantitative data. The findings of this study confirm that a substantial number of the residents of the town are member of the three voluntary associations; Edir, Ekub and Mahiber. These voluntary urban associations are among the mechanisms of maintaining their social and cultural identities of the community and further are important to establish good relationship with members of the community. Due to this it contributes to the maintenance of the long-established forms of solidarity in the society.

Keywords: community solidarity, voluntary urban associations, indigenous, Debre Markos town.

I. Introduction

In several African societies where the state plays only a limited role in organizing public life, the activities of indigenous or voluntary associations constitute an important aspect of people's life (Nishi, 2008). These self help voluntary associations are the African's own response to the stresses and difficulties they face and became crucial aspects of the coping mechanisms and adaptive strategies (Salole, 1991; Ephrem, 2010). As saving gap is one of the serious problems confronting many developing countries, these associations provide an alternative saving mechanisms through domestic saving thereby help to reduce the luck of finance for investment (Sawani and Patterson, Nd). Moreover, they play a crucial role for sustainable development, especially at local level, by mobilizing resources and regulating their utilization with an outlook of maintaining a long-term base for productive activities (Mowo et al, 2011).

As the name implies voluntary associations are those organizations whose membership is optional/not obligatory (Bruce and Yearley, 2006). In addition to this, members of the associations have an explicit contract for mutual help in a certain way when well-defined events take place in everyday life (Weerdt et al, 2007). Urban associations are those heterogeneous institutions concerned with, regardless of their size, a variety of activities including community management, social services provision and infrastructure, finance and credit, and religious and social affairs. Their financial source may be from voluntary contributions, membership fees or external funding (Tostensen et al, 2001). Indigenous voluntary associations are a complex of norms, behaviors and accepted roles that last for long by serving valued social function (Alema, 2008). Because of this they serve as a base of social solidarity by providing a sense of belongingness and mutual thrust that member of the society experience in social life. Individuals participate in line with collective norms through which members are expected to participate in group activities accordingly (Elias et al. 2014, Turner 2006).

In Ethiopia, there are a number of indigenous voluntary associations which existed in a variety of forms in different cultural, religious and socio-economic contexts. The first organizations in Ethiopia were self-help systems. They existed in the country for centuries before they started to take shape and developed in to some sort of well established structures (Alema, 2008). Among the well known indigenous voluntary associations in Ethiopia includes, Edir, Ekub and Mahiber. Edir is a burial association established based on the mutual agreement of community members to collaborate whenever an adverse situation occur in any member of the family. It has different functions and benefits to its members. For instance, it provides financial, material, labor and emotional support at the time of mourning. Furthermore, some of them have been involving in provision of different social services such as schools and health services, and some are engaged in income generating activities such as consumer goods shop, renting halls and equipment which are mainly found in urban centers (Alema, 2008).

Author α σ: Lecturer of sociology at Wolaita Sodo University, Wolaita Sodo, Ethiopia. e-mails: desyalewkasahun@gmail.com, muler666@gmail.com

Ekub is a rotating credit association which promotes saving habit of members and provides credit service to members. It is uncommon in the rural areas of Ethiopia. Whereas Mahiber is a religious based association which provides members with support and spiritual satisfaction as they fulfill religious commitments marked by regular feast, and enables them to get together and develop social interaction among the members (Alema, 2008). As the case is for almost all parts of the country, there are voluntary urban associations in Debre Markos town. This paper discusses the three dominant of those associations (Edir, Ekub and Mahiber) which are deeply embedded in the social fabric of the everyday life of the society and their contribution for community solidarity among residents of the town.

II. Materials and Methods

Choosing a research method is not about deciding right from wrong or truth from falsehood instead the goal should be to select an approach that is suitable for the task at hand. The selection of research method depends on the nature of what we are trying to describe, the likely accuracy of our descriptions, purposes of the research and on the resources available to us. As clearly stated in Years work (2010), Methodological triangulation is the utilization of several research methods in a single investigation in order to gather relevant data for the study. So this study employed both qualitative and quantitative approaches.

a) Research design

As per the study objectives, a cross-sectional descriptive study design was used where by the data collection process was undertaken at one point in time. The rationale behind selecting this design is that it is possible and appropriate to investigate the state of voluntary urban associations and thereby community solidarity by collecting relevant data at one point in time. Hence, the entire data collection process took place from June 10 to July 15, 2014.

b) The research setting

Debre Markos is found 300 kilometers northwest of the country's capital-Addis Ababa and 265 kilometers southeast of the Amhara National Regional State capital- Bahir Dar (Esubalew 2006). Debre Markos is one of the growing towns of Ethiopia with more than 93,000 population size consisting of seven Kebeles and one worada. It was founded 161 years ago by Tedla Gualu, a ruler of Gojjam. In 1845 Dejazmach Tedla founded Menkorer, presently known by Debre Markos; and lived there for nearly three decades. In 1874 the first Church that of Saint Markos was built in Menkorer. Just a year after and onwards, the town got the name Debre Markos after the church of St Markos (Debre Markos City Service as cited in Esubalew 2006).

Regarding the occupational distribution of inhabitants in the town, there are a number of resident who are employed in the civil service, trade, small-scale industries (woodwork, metalwork and so forth), handicrafts (like weaving, and sewing) and a number of other petty businesses. A significant number of households also earn their livelihood by brewing and selling homemade beverages like Tella, Arekie, and Tej. Although Debre Markos is relatively old, historical and has been an important center of administration and commerce of Gojjam province for a long period of time, it has hardly shown any significant development. There is a saying that states "you can go and find the palace of King Teklehaimanot without any trouble" which is a clear indication of long standing stagnation of Debre Markos town. Set of reasons could be ascribed for keeping the status que of the town in its undeveloped state (Esubalew, 2006).

c) Participants of the study

The study participants are all urban residents of Debre Markos town of Easter Gojjam zonal administration, Amhara region, Ethiopia.

d) Tools of data collection

Household survey and in-depth interview were the principal data collection tools used in the study in order to collect both quantitative and rich qualitative data so that the study objectives can sufficiently be achieved.

e) Sampling Procedure

Multi-stage cluster sampling was employed in order to get the final sample households. According to the new administrative arrangement Debre Markos town has 7 Kebeles. In the first stage four (4) Kebeles were randomly selected from seven Kebeles. The Kebeles are further classified in to sub-Kebeles or 'Sefer. So in the second stage sub-Kebeles or 'Sefer' were randomly selected. This is due the fact that the exhaustive list of households is found under their sub Kebele or 'Sefer'. Accordingly there are five to eight sub-Kebeles under each Kebeles. Hence four sub Kebeles were randomly selected and included in the sample. Finally, in the third stage the households from the randomly selected sub-Kebeles or 'sefer' were included through systematic sampling technique based on the sampling frame of the households which is taken from the respective Kebeles selected in the first stage.

As it is clearly stated in Fowler (2002 as cited in Firew 2010), a standard statistical approach is important to determine the sample size which is appropriate to the study population. The equation is discussed as follows: Accordingly, the size of sample (n) was given by;

$$n=Z^2\, p\,(1\text{-}p)/d^2, \text{ Thus, } => (1.962)\ (.5*.5)/(.05)2=>\mathit{384}$$

A size of 384 samples is advisable to ensure representativeness for a certain study given that the total population ranges between 10,000 and 100,000. Therefore this sample size was adequate enough to conduct this particular study in Debre Markos town by taking entire households of the town as a unit of analysis.

f) Data analysis

The collected data was analyzed both qualitatively and quantitatively. The quantitative data collected through the household survey was analyzed using SPSS software version 20. Data entry and analysis of the survey data was done by the researcher using the SPSS software. This involved entering the questionnaire parameters into the programme and subsequently adding the information from the respondents questionnaires. The information obtained from the in depth interview was analyzed qualitatively together with the quantitative data on the basis of the objective.

g) Ethical consideration

Ethical clearance letter was obtained from Addis Ababa University. All the study participants were informed about the purpose of the study and finally their consent was obtained before interview. The information provided by each respondent was kept confidential. The dissemination of the finding did not refer specific respondent.

III. Results and Discussion

a) Socio demographic characteristics of study participants

Despite the theoretical orientation which depicts urban areas as a center of heterogeneity across different social variables such as ethnicity and religion, the case of Debre Markos town seems different. Given that Ethiopia is home of multi ethnic country with more than 80 ethnic groups, the town is a home of significantly homogeneous people in terms of ethnicity and religion, about 96.9 % and 99% are orthodox Christians and belong to Amhara ethnic group respectively. In addition to this the majority of the surveyed households have 4 to 6 members (52%) and even about 39.3% have household size of less than 3 members. The majority of surveyed households can be judged as medium sized household (whose household members are from 4-6). It is only 8.3 % of the total surveyed households whose household size is greater than seven household members.

Table 1 : Socio demographic characteristics of study participants

Variables	Category	Frequency	Percentage
Religion	Orthodox	372	96.9
	Muslim	6	1.6
	Protestant	6	1.6
	Total	**384**	**100**
Ethnicity	Amhara	380	99
	Tigre	4	1
	Total	**384**	**100**
Household size	<=3	151	39.3
	4 – 6	200	52.1
	7 – 9	23	6
	10 – 12	10	2.6
	Total	**384**	**100**

b) The state of voluntary urban associations

i. *Edir*

The finding of the survey data revealed that 83.9% of the respondents are members of Edir (burial association) and the remaining 16.1% are not. Hence the significant majority of respondents are member of Edir. Non members are those either who are living in extreme poverty or new comers who are not settled yet and familiar with the existing neighborhood interaction. Since the researcher is from this area and also confirmed by the data gathered through in depth interview the support that neighbors offer to one another upon death of a member goes beyond the scope of that Edir requires. The neighbors accompany the households whose relative is deceased for many evenings and during weekends in view of relaxing and morally supporting the household members under mourning. Studies confirmed that Edir brings together the poor and well off households although when it comes to practical things one can still see clear differentiation. The poor households involve in Edir in real sense-meeting all requirements like monthly contributions and actively participate in duties related to death and funeral. However, the wells to do people undertake everything financially such as they pay money for absence of regular meetings.

ii. *Mahiber*

Unlike membership to Edir in which most of them are members, membership to mahiber shows a large variation between members and non members. The data in the table 2 elaborates that 55.2% of the respondents are member of Mahiber where as the remaining (44.8%) are not. Regardless of the socio economic status of the households and given that the significant majority of them are orthodox Christianity religious followers, membership to Edir seems more important than Mahiber. Thus member ship to Mahiber (religious association) seems adversely affected these days since continuous feasts are dominant feature of rural areas particularly those societies who are dominantly orthodox Christians. But the changing life style of urban areas is known by its rationality in terms of the household's socio economic conditions in relation to consumption, saving and expenditure. So that feasts are mainly taken as extravagant practices.

iii. *Ekub*

Ekub can be understood as family or locality based saving associations that provide members bereavement insurance. Regarding membership to ekub, the table 2 demonstrates that almost half of the respondents are members and the rest half are not. There is only a slight difference that members are 51% and non members are 49%. When we go down and see the pattern from membership Edir, Mahiber and Ekub, the number of non members increased and it is only membership to Edir which remains very important to them. When we see Ekub, it seems that modern emerging financial institutions are playing the role of this local organization and people no more view Ekub as only one which can give financial function in this particular period of time. The possible explanation is that people are no more relay on ekub for its traditional financial function rather modern emerging financial institutions are replacing overtime. This is clearly indicated on the survey data that revealed that only half of the respondents are member of ekub. Most of those who are member of Ekub spent five to thirty birr in a weekly basis which seems that this customary voluntary institution is serving as a social function or as an expression of social tie rather than its previous economic role.

Table 2 : Membership of study participants to indigenous voluntary urban associations

Membership voluntary urban associations	Category	Frequency	Percentage
Edir	Yes	322	83.9
	No	62	16.1
	Total	384	100
Mahiber	Yes	212	55.2
	No	172	44.8
	Total	384	100
Ekub	Yes	196	51.0
	No	188	49.0
	Total	384	100

c) *Community solidarity*

Sociologists from the very beginning were concerned about the form of social order and solidarity which will come along with industrialization and urbanization process. Many, though not all, of their contributions focused on a sustained search for social reforms that countered the socially destabilizing effects of the process of urbanization and industrialization contrary to revolutionary thinkers who sought to bring a more radical. The prominent among them is that of Emile Durkheim who succulently elaborated the concept (Oosterlynck and Bouchaute, 2013).

Community solidarity can be understood by the quantity and quality of inter personal ties that a particular society reinforces among its members. These social ties reflect social resources that are instrumental in supporting psychological, physical and social well being. Having strong social ties serves as a buffer against vulnerability to risk. One of its manifestations is membership to indigenous voluntary organizations or associations. This section highlights how the residents of the town are interconnected in the form of membership to indigenous voluntary association such as Edir, Mahiber and Ekub. This will be an indicator of how indigenous voluntary associations are looking like given that the size and level of urbanization is increasing over time. In addition to this the perception of respondents regarding their relationship with their neighbors can also be one indicator of how strong their interaction is.

Table 3 : Membership of study participants to indigenous voluntary urban associations

	Category	Frequency	Percentage
Own rating neighborhood relationship	very strong	138	35.9
	Strong	75	19.5
	Medium	95	24.7
	Weak	76	19.8
	Total	384	100

Regardless of their membership to different local social organizations, most view their interaction with their neighborhood differently which indicated their sense of attachment. The data indicated in table 3 demonstrated that 35.9% of the respondents viewed their relationship with their neighbors as very strong, 19.5% view as it is strong, for 24.7% it is medium and the remaining 19.8% viewed it as weak. From these one can understand that around 80 % of the respondents perceive their relationship with their neighbors as either very strong, strong and medium. Only around 19 % of them respond as they have weak relationship with their neighbors. This might be viewed from two directions. The first is the result of high degree of homogeneity so that membership to social networks seems social responsibility and non membership might have many social costs. On the other hand, an increase in the size of the society increase impersonality and decrease the degree of contact among members of the society as one basic feature of urbanism or urban life. This statement is strongly supported by the idea of Wirth in his famous theory of urbanism as a way of life. To sum up Membership in community organizations such as Idir (funeral associations), ekub (saving/credit groups), and mahiber (religious groupings) is the basic feature of most households holding the fact that there is high degree of homogeneity in terms of religion and language. However, nowadays the changing life style started to affect some of these organizations negatively, particularly Ekub and Mahiber. Only Edir seems more important to most of the respondents except few who have resigned and cease participate in Edir due to economic factors and their failures to meet their obligations.

d) Discussion

This study, which aimed to examine the state of indigenous voluntary urban associations and thereby community solidarity, brings to light some previously unexplored issues by employing relevant theoretical orientation. Wirth (1938) asserted that urbanism or urbanization produced any of several important social consequences among people. These are impersonality and anonymity in everyday life, loss of trust among people and various forms of social disorganization, as in higher rates of crime than in rural areas. However the central focus of the theoretical argument was about the nature of urbanization, the metropolis, in particular, which might be very difficult to directly apply it on urban centers of the less developed countries including Debre Markos town. But still one can view some aspects of an urban center with the help of this theoretical ground given that the influence of globalization is very high everywhere with different magnitude. This helps to appreciate the changes observed in Debre Markos town as one manifestation of the social consequences of urbanism unlike rural settings where more or less homogeneous in every sphere of life. Particularly Ethiopian urbanization is more or less indigenous than other African countries who had had gone through some colonial experience. This helps to preserve the previous socio cultural structure. This argument is very true particularly when we look at the limitations of wirth's theory which have been pointed out by its critics. First and foremost, this theoretical school suffers from lack of cross-cultural perspective. The Chicago sociologists were responding to one kind of city. They were looking at the North American city moving into the high gear of industrialization. The neglect of historical or cross-cultural comparisons limited the significance of their work.

On the other hand wirth also argued that these variations should give rise to the spatial segregation of individuals according to color, ethnic heritage, economic and social status, tastes and preferences, may readily be inferred. Because of this the bonds of kinship, neighborliness, and the sentiments arising out of living together for generations under a common tradition are likely to be absent or, at best, relatively weak. Under such circumstances competition and formal control mechanisms furnish the substitutes for the bonds of solidarity that are relied upon to hold a folk society together. None of the above statements directed by wirth are working in Debre Markos town even though the town is far from being a metropolitan center.

The degrees of social interaction or relationship residents have with their neighbors and membership to indigenous voluntary urban associations didn't show any significant decline in relation to the growing process of urbanization. All the rest explanations in association to the special segregation based on color and ethnic group is not the characteristics of Debre Markos town due to the high degree of homogeneity and the size of the town.

IV. Conclusion

The significant homogeneity of residents in terms of religion and ethnicity reinforces strong sense of belongingness and solidarity in the urban context despite the country is known as an ethnic museum due to the existence of more than eighty ethnic groups. In addition to membership to voluntary associations, Feeling of neighborhoodness is very recommendable. Such voluntary associations are strong enough to preserve the traditional form of solidarity as a means to hold on together even though the trend is towards rapid urbanization process in the town and the influence of globalization. Other studies also confirmed that membership in community organizations such as Edir (funeral associations), Ekub (saving/credit groups) and Mahiber (religious groupings) is indispensable for low-income households because it represents a dependable social security arrangement. Due to this such associations will remain important as most are characterized as low income households.

References Références Referencias

1. Alema Woldemariam Atsbaha. 2008. Analysis of the Role of Cooperatives in Agricultural Input and Output Marketing in Southern Zone of Tigray, Ethiopia. A thesis Submitted in Partial Fulfillment of the Requirements for the Master of Science Degree in Cooperative Marketing from Mekelle University.
2. Bruce S. and Yearley S. 2006. The Sage Dictionary of Sociology. SAGE Publications Ltd.
3. Elias T., Mulumebet. Z., Henok. M., and Sibhatu, B. 2014. Participation and significance of self-help groups for social development: exploring the community capacity in Ethiopia, Springer plus 3:189.
4. Ephrem Shiferaw Wolde. 2010. "Beyond the customary view" The Role of community-based organizations in local development: A comparative study of three "Iddirs" in Addis Ababa, Ethiopia. In partial fulfillment of the requirements for obtaining the degree of MA degree in development studies from international institute of social science studies, The Hague, Netherlands.

Year 2015 21 Global Journal of Human-Social Science (H) Volume XV Issue X Version I

5. Esubalew Alehegn Tiruneh. 2006. Determinants of urban poverty in Debre Markos, Ethiopia: a household level analysis. MA thesis in regional and local development studies. Addis Ababa University. Addis Ababa.
6. Mowo J, Zenebe A, Masuki K, Lyamchai C, Tanui J, and Catacutan D,. 2011. The importance of local traditional institutions in the management of natural resources in the highlands of Eastern Africa, Working Paper nr 134, World Agro forestry Centre.
7. Nishi, M. 2008. Community-based Rural Development and the Politics of Redistribution: The Experience of the Gurage Road Construction Organization in Ethiopia. Japan Association for Nilo-Ethiopian Studies Kyoto University.
8. Oosterlynck, S, and Bouchaute, B. V. 2013. Social solidarities: the search for solidarity in sociology, OASeS Research Centre.
9. Salole, G. 1991. Not Seeing the Wood for the Trees: Searching for Indigenous Non Government Organizations in the Forest of Voluntary Self Help Associations. Journal of Social Development in Africa, 6, 1, 5-17.
10. Sawani M, and Patterson S. Nd. Informal Saving Practices in Developing Countries. Journal of International Business and Cultural Studies.
11. Tostensen A, Tvedten I, and Vaa M. 2001. Associational life in African cities: Popular Responses to the Urban Crisis. Nordiska Afrikainstitutet.
12. Turner S. Bryan. 2006. The Cambridge dictionary of sociology. Cambridge University Press.
13. Weerdt J, D., Dercon S., Bold T, and Pankhurst A,. 2007. "Membership Based Indigenous Insurance Associations in Ethiopia and Tanzania" p. 157-176 in Martha Chen, Renana Jhabvala, Ravi Kanbur and Carol Richards (eds.), Membership Based Organizations of the Poor. London: Routledge.
14. Wirth, A Lewis. 1938. Urbanism as a Way of life. American Journal of Sociology, Volume 44, Issue 11-24.
15. Yeraswork Admassie.2010. Social research methods, Published by the office of chief academic officer and vice president for research and dean of the school of graduate studies, Addis Ababa University, Addis Ababa, Ethiopia.

Global Journal of HUMAN-SOCIAL SCIENCE: H
Interdisciplinary
Volume 15 Issue 10 Version 1.0 Year 2015
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals Inc. (USA)
Online ISSN: 2249-460X & Print ISSN: 0975-587X

Marital Dissatisfaction, Coping Mechanisms, and the Likelihood of Divorce among Selected Districts of Jimma Zone, South Western Ethiopia

By Addisu Tegegne, Asabneh Molla, Dereje Wonde & Nega Jibat

Jimma University, Ethiopia

Abstract- Marital satisfaction is a mental state that portrays the person's perceived benefits and costs in ones marital relationship and has been an important area of inquiry and intervention for many researchers and practitioners. The primary quest of this empirical endeavor is determining the level of marital dissatisfaction, the coping mechanisms and its relationship with divorce in the study area. To address the desired objectives, 240 married couples were surveyed and the ENRICH Marital Satisfaction Scale to measure marital satisfaction was used as a major instrument. Key informant interview was used to collect qualitative data. Both descriptive and inferential statistics was used to analysis the quantitative data. Results indicated sizable numbers of couples are dissatisfied in their marital relationship in one way or another. In addition, it's understood that marital dissatisfaction is a necessary but not sufficient condition for the occurrence of divorce. Though couples try to negotiate among themselves to settle their marital discontent, the majority preferred the advisory of elders.

Keywords: marital dissatisfaction, coping mechanisms, divorce, jimma zone, Ethiopia.

GJHSS-H Classification: FOR Code: 160899

MARITALDISSATISFACTIONCOPINGMECHANISMSANDTHELIKELIHOODOFDIVORCEAMONGSELECTEDDISTRICTSOFJIMMAZONESOUTHWESTERNETHIOPIA

Strictly as per the compliance and regulations of:

Marital Dissatisfaction, Coping Mechanisms, and the Likelihood of Divorce among Selected Districts of Jimma Zone, South Western Ethiopia

Addisu Tegegne [α], Asabneh Molla [σ], Dereje Wonde [ρ] & Nega Jibat [Ѡ]

Abstract- Marital satisfaction is a mental state that portrays the person's perceived benefits and costs in ones marital relationship and has been an important area of inquiry and intervention for many researchers and practitioners. The primary quest of this empirical endeavor is determining the level of marital dissatisfaction, the coping mechanisms and its relationship with divorce in the study area. To address the desired objectives, 240 married couples were surveyed and the ENRICH Marital Satisfaction Scale to measure marital satisfaction was used as a major instrument. Key informant interview was used to collect qualitative data. Both descriptive and inferential statistics was used to analysis the quantitative data. Results indicated sizable numbers of couples are dissatisfied in their marital relationship in one way or another. In addition, it's understood that marital dissatisfaction is a necessary but not sufficient condition for the occurrence of divorce. Though couples try to negotiate among themselves to settle their marital discontent, the majority preferred the advisory of elders. Diverting the adverse effects of polygamous marriage, teaching and devising various family planning programs and introducing family and marriage counsellors in the area are highly recommended.

Keywords: marital dissatisfaction, coping mechanisms, divorce, jimma zone, Ethiopia.

I. Introduction

Marriage is a socially authorized long-standing mating arrangement that typically involves economic, social, and reproductive cooperation between the partners. Although the norms that preside over the choice of a spouse and the surrounding marriage ceremonies show discrepancy from culture to culture, the institution of marriage is found in all known human societies (Ponzetti 2003). Traditionally, choices and decisions about the sexual aspects of married life including when and how to initiate sexual activity, the amount and type of sex, the timing and number of children, and the use of contraception were considered as the exclusive province of the male partner (Ponzetti 2003).Ernest Burger, a prominent sociologist wrote, in 1953, "urbanization, greater mobilization, individualization, increased secularization, emancipation of women had transformed the family from an institution based on law and custom, to one based on companionship and love" (Furstenberg 1996:35 as cited in Mathews NY). Thus, these social changes like cohabitation increased the probability of dissatisfaction over marriage and divorce (Ubesekera and Luo 2008).

Marital (dis)satisfaction has continued to be an extensively researched topic on various forms of investigation on family life and marriage (Zianah *et al.* 2012; Nelson 2011; Shackelford *et al*. 2008; Bagwell 2006; Mathews NY). According to Schoen *et al*. (2002), marital satisfaction is a global evaluation of the state of one's marriage and a reflection of marital happiness and functioning. Fowers (1998) stated that marital satisfaction has for many become a yardstick to measure the success and stability of a marriage and by extension, personal fulfilment and wellbeing. The ideal of marital satisfaction is so strong that many spouses deceive themselves about the extent to which their marriage meets their particular criterion for satisfaction. Spouses engage in positive illusions about marriage by dramatically underestimating their chances of divorce and making unreasonably positive statements about their spouses. These illusions seem to help spouses to believe that their marriage approaches the ideal ones to which *they* aspire (Fowers 1998:521). However, this also complicates the task of researchers who are attempting to investigate marital satisfaction. The complex and diverse nature of marital satisfaction allows us to study only a fraction of the available variables related to this subject.

It is important to recognize that most research on marital satisfaction and other types of sexuality has been conducted with participants from industrialized western societies. Very little data are available about the marital satisfaction and sexuality of men and women in non-Western societies. There is no exception for Ethiopia and little has been done in Ethiopia and specifically in Jimma zone and one of the aim of this research is to fill the scanty of literature. Most of the time researchers give priority and attention to the issue of divorce, its cause and effect and leave untouched that of the nexus between marital dissatisfaction & divorce and the coping mechanisms that couples employ when they get dissatisfied in their marital endeavour. Thus, ultimately, the study sought to answer questions like; what looks like the level of marital dissatisfaction in the study area? Does marital dissatisfaction ultimately brings the rampancy of divorce? What are the coping

Author α σ ρ Ѡ: Jimma University, Addisu Tegegne, Jimma, Ethiopia.
e-mail: addisuteg@yahoo.com

strategies couples employ to cope up with marital dissatisfaction?

This study will provide multifaceted advantages for different groups. It will deliver concrete information concerning level of marital (dis)satisfaction, its relationship with divorce, and the multifarious coping strategies spouses deploy to handle their marital dissatisfaction. It also helps policy makers to get insightful and phenomenal ideas concerning the issue of marital dissatisfaction for further intervention. Besides, the study will also serve as a base line for further investigation.

II. Methods

A cross sectional survey research design supplemented with other qualitative research methods was employed to accomplish the study. The researchers employed both qualitative and quantitative research approaches to conduct this study. The qualitative research was used to understand the meaning spouses attach to their marriage, their experiences of marital dissatisfaction and coping mechanisms that couples use. The quantitative research was employed to determine the level of marital dissatisfaction, and reaction to marital dissatisfaction and coping strategies employed by the respondents.

Survey questionnaire was used to collect from spouses regarding their perception and level of marital satisfaction, reaction and coping strategies of marital dissatisfaction. The researchers adapted ENRICH marital satisfaction scale to assess the level of marital satisfaction of respondents. The scale has 10 marital satisfaction items representing the diverse areas of marital relationship which includes personality issues, communication, conflict resolution, financial management, leisure activities, sexual relationship, children and parenting, family and friends, equalitarian roles and religious orientation.

The researchers conducted key informant interview with elders, personalities working in justice office, workers of women and children's affairs office. From these concerned bodies a more detailed data was obtained to supplement the quantitative data. The primary data necessary for the study was collected by employing data collection techniques like questionnaire and interview guide. The secondary data was gathered from documents of various sources which already exist. The study area of the research was delimited to Jimma zone of Oromiya regional state. This area is selected because of vicinity advantage for the researchers and also absence of such an adequate study on the topic in this area was the enigma behind selecting Jimma zone (*Zone is the third layer in administrative structure of Ethiopia)* as the study setting. The researchers employed both probability and non-probability sampling techniques to select samples. From probability sampling technique, multistage cluster sampling was used. Four *Weredas* (*the second lowest administrative structure in Ethiopia*), (Jimma town &Agaro town as Urban district and Dedo & Omo Nada as rural district) were randomly selected from Jimma zone and then one Kebele (*the lowest administrative structure in Ethiopia)* was included in each *Wereda.* A total of 240 married couples were surveyed from four *Kebeles* namely Awitu Mendera, Sito, Nada Sekota, and Agaro 03. The detail for survey participants is discussed in the subsequent table.

Table 1 : Summary of the study area and participants

District	Kebele	Households size	Sample size	percent
Jimma	Awitu Mendera	1300	*52*	*21.7*
Agaro	Agaro 03 (Tigi)	1371	*61*	*25.4*
Dedo	Sito	731	*70*	*29.2*
Omon ada	Neda Sekote	550	*57*	*23.8*
Total		***3952***	***240***	***100.0***

With regard to qualitative participants, key informants were selected purposively. Accordingly, four expertise in women and children affairs, four prosecutors, and three elderly were included in the study. Descriptive and inferential statistics was used to analyse the quantitative data. To this end, frequency distribution, percentage, mean, ANOVA, T-test, chi square test were used. The qualitative data was analysed thematically and was concurrently integrated with the quantitative one. The reliability and validity of the instrument was checked appropriately. In relation to reliability, the instrument was pretested with 15 married spouses and the internal consistency was checked through Cronbach alpha. With the pre test, some items were rejected while other items were reshuffled.

The researchers maintained and observed all ethical aspects of doing research. In conducting this study, ethical considerations like securing informed consent, keeping the privacy and confidentiality of the participants, full right to withdraw at any time; to change ideas or to edit recorded materials, careful recruitment of enumerators; provision of training for data collectors regarding the objectives of the study, ethical procedures & how to interview and all administrative ethical procedures were followed.

III. Results

This part of the article presents the findings and discussion of the study. The data was collected from 240 survey participants and key informants from *Wereda* Justice Office, women and children affairs, and elderly people. To make clear for readers, the finding part of the paper is presented in line with the research questions posed at the very on-set of the study. Moreover, an attempt was made to relate and compare the findings with the already existing empirical endeavours.

a) Socio-demographic characteristics of study participants

Table 2 below depicts the socio-demographic profiles of survey participants. About 52.1% of the survey participants were female while 47.9% of them were males. In relation to the age distribution of respondents, 24.2%, 38.8%, 22.9%, 12.9%, and 1.3% of the participants were under the age range of 20-30, 31-40, 41-50, 51-60 and 61-70 respectively. In addition, the age of the participants of the study ranges from 20 to 67 with the mean of 39.49 and standard deviation 9.956. The table also indicates the religious affiliation of respondents. Accordingly, 78.2% of the respondents were Muslims, 13.9% were orthodox Christians, 5.8 were Protestants, and 2.5 were Catholics. From this we can witness that Islam as a religion is the most common and widely followed religion in the study area. The employment status of respondents in table 1 below portrays 31.2%, 17.9%, 13.2%, 12.8%, 11.1%, 9.8%, and 3.8% were farmers, housewives, self-employed, GO/NGO/Private sector employed, daily labourer, engaged in different activities (petty trade, animal breeding, etc.), and unemployed respectively. In relation to participants' formal educational level, the majority (35%) of them can't read and write. 22.7%, 21.3%, 10.8%, and 9.2% have primary education can read and write, tertiary school and above, and the remaining have the chance to join secondary schools. Further, table below vividly indicates 52.9% of them are living in rural setting while 47.1% of them are urbanite.

Table 2 : distribution of respondents by their socio-demographic profile

Characteristics	Response	Frequency	%	characteristics	Response	Frequency	%
Sex	Male	115	47.9	Place of Residence	Rural	126	52.5
	Female	125	52.1		Urban	112	46.7
	Total	240	100		Missing	2	0.8
Age	20-30	58	24.2		Total	240	100
	31-40	93	38.8	Wereda	Jimma	52	21.7
	41-50	55	22.9		Agaro	61	25.4
	51-60	31	12.9		Dedo	70	29.2
	61-70	3	1.3		Omonada	57	23.8
	Total	240	100		Total	240	100.0
Religious Affiliation	Orthodox	33	13.8	Educational status	can't read and write	85	35.4
	Muslim	186	77.5		can read and write	51	22.1
	Protestant	13	5.4		primary school	54	22.5
	Catholic	6	2.5		secondary school	22	9.2
	Missing	2	0.8		tertiary school and above	26	10.8
	Total	240	100		Total	238	99.2
Employment status	self-employed	31	12.9		Missing	2	0.8
	Go/Ngo/Private sector employed	30	12.5	Employment status	Farming	73	30.4
	Daily labourer	26	10.8		Other (petty trade, support from others, etc.)	23	9.6
	Unemployed	9	3.8		Total	234	97.5
	Housewife	42	17.5		Missing	6	2.5

With respect to the qualitative aspect of the study, different offices working on the issue under scrutiny and key personalities were considered in this particular study. Accordingly, four key informants from women and children affairs, four key informants injustice office, and four elderly were included in the study.

b) Level of Marital Satisfaction

To determine/measure the level of marital satisfaction of respondents, a Likert scale was prepared; having a couple of questions (10 items with a possible minimum score of 10 and a maximum of 40) within it and to rate their own marital satisfaction and dissatisfaction. The validity and reliability of the questionnaire was duly checked. The following table is all about this issue.

Table 3 : Level of Marital Satisfaction of survey participants

level of marital satisfaction	Range	Minimum	Maximum	Mean	Self-rate	Frequency	Percent
	25	15	40	25.58	high	62	25.8
					moderate	125	52.1
					Low	30	12.5
					Total	217	90.4
					Missing	23	9.6
					Total	*240*	*100.0*

Assessing marital satisfaction in research is often done through self-report surveys, in which participants respond to a variety of questions assessing their satisfaction with different facets of their marriage. The concept of marital satisfaction is not necessarily gauged by assessing a lack of dissatisfaction in the relationship; factors that lead to marital distress are not necessarily the inverse of factors that promote satisfying relationships. Factors that promote healthy relationships and are present in satisfying, long-term marriages are important to consider, as well. Thus, thorough measures of marital satisfaction assess qualities that contribute negatively, as well as uniquely positively, to the marriage (Stone and Shackelford, 2007). In this particular study, with 10 items of Likert scale, the level of marital satisfaction of respondents was evaluated. Subsequently, the mean level of marital satisfaction was 25.58 with standard deviation of 4.4 and range of 29. Respondents were also asked to rate their own marital satisfaction. The result shows that 28% of them have high satisfaction in their marital relationship. The majority, 57.6% of them, have moderate satisfaction in their marital engagement and the remaining 13.8% have low satisfaction.

Various literature stipulate that some marital couples who faced marital dissatisfaction has a tendency to wish if they hadn't married. Subsequently, in the case of this study the majority 35.8% and 34.2% of married couples said that they have rarely and never wish if they hadn't married respectively. In the contrary, 12.1% of them frequently wish if they hadn't married whereas 17.9% of them replied they occasionally wish if they hadn't engaged in marital relationship. One way ANOVA result also depict the existence of a statistically significant difference in marital satisfaction among the respondents who occasionally, frequently, rarely and never feel if they hadn't married (F=64.941 and alpha=0.000). The post hoc test too shows the difference is significant between each group. For more information, it is better to look the subsequent table.

Table 4 : Respondents thought on their Marriage

Do you ever wish if you hadn't married?	Frequency	%	ANOVA (within & Between groups)	
			F	Sig.
Frequently	29	12.1	64941	0.000
Occasionally	43	17.9		
Rarely	86	35.8		
Never	82	34.2		
Total	240	100.0		

Knowing the intention of married couples concerning their decision if their current relationship is over is one way of checking their marital dis/satisfaction. Accordingly, as clearly manifested on the table below, 40% of the surveyed responded that they are not interested to marry at all; 35% would marry the same person; and the remaining 24.6% would marry a different person. This clearly stipulates the majority of the participants (about 65%) are not pleased with their current marital relationship.

Table 5 : Respondents' decision if their life to live over

If you had your life to live over, do you think you would…	Frequency	Percent
marry the same person	84	35.0
marry a different person	59	24.6
not marry at all	97	40.4
Total	240	100.0

c) *Marital dissatisfaction and Divorce*

Some literatures support the argument that marital dissatisfaction may end up with divorce. In this regard, as shown on the upcoming table, 53.3% of the participants replied high level of marital dissatisfaction potentially lead to divorce and the remaining 46.7% were skeptical with the notion that marital dissatisfaction leads to divorce. Similarly, an elderly from Dedo Wereda stated that marital dissatisfaction rarely leads to divorce. In parental arranged and religious marriage, spouses are tied together till to their life span except especial cases are happened. They stay together in all ups and downs of life and during both happiness and sadness.

Table 6 : The nexus between marital dissatisfaction and divorce

Does marital dissatisfaction leads to divorce?	Frequency	%
Yes	128	53.3
No	112	46.7
Total	240	100

Unlike the above contradicting evidences, qualitative evidences underscored the prevalence of probabilities in which marital dissatisfaction leads to end up ones marital relationship. In this respect, most informants indicated that marital dissatisfaction may provoke continuous spouse violence/abuse, absence of love, sexual incompatibility, physical injury, unable to fulfil basic necessities and expected roles to play, inability to resolve their disagreement through council of elders and ultimately these factors may lead the couples to fall in conflict and finally lead them to dissolution of their marriage. An informant in Agaro Justice Office detailed the way on how marital dissatisfaction leads to divorce as follows:

Divorce stems from marital dissatisfaction. If there is no love among couples with respect to sex interest, economy, health, and social status of husband, there is high probability of divorce. In addition, if there is always disagreement between spouses, they may go to court and end up in marital dissolution. However, all disputes doesn't necessary leads to divorce.

Coping strategies of couples for marital dissatisfaction

Common types of coping Mechanisms

Table 8 : Distribution of respondents by coping mechanisms

Coping strategies	Responses		% of Cases
	N	%	
Negotiating each other	122	23.6%	50.8%
Presenting our issue to elders	175	33.8%	72.9%
Presenting our issue to kebele shengo/women affairs	37	7.1%	15.4%
By informing to family/relatives/friends	79	15.3%	32.9%
Present to court	73	14.1%	30.4%
Discussing with neighbourhood	32	6.2%	13.3%
Total	518	100.0%	215.8%

****multiple response analysis*

Couples, in the study area, manage their marital dissatisfaction by deploying various mechanisms. presenting to elders (*Jaarsummaa*) is the major way of addressing their marital dissatisfaction in which 33.6% of the respondents use it followed by negotiating each other (23.6%). 15.3%, 14.1%, 7.1%, and 6.2% attempted to manage their marital unhappiness through informing to families/relatives/friends, present to court, presenting to kebele shengo/women affairs and discussing neighborhood respectively.

The qualitative wing of the study has also revealed the same. One of the key informant Dedo Wereda justice office stated that:

In most cases couples resolve their marital dissatisfaction with mutual discussion. This is because couples want to sustain their life by looking their children and they do not want to exposé their issues to other person. Hence, although disagreement is normal between couples, they compromise their disputes and lead their life in normal way. However, there are situations in which couples expose their issues (disputes) to council elders.

d) The role of elders in managing Marital Dissatisfaction

As it is understood from the qualitative data, from key informants, elders, all most anywhere, are popular and knowledgeable people in society. They give decision by looking who is most affected, who should be compensated, who should be punished, what is the cause of the problem, how couples bind together and sustain their life, providing counseling and making couples understood the adverse implication of divorce Through these, elders mostly capitalize a conducive social environment among couples. In the case of resolving marital dissatisfaction among couples elders arbitrate dissatisfied couples, strengthen the bonds of couples and reunify if couples are separated. An elder in Omo Nada clearly stipulates the role of elders in managing marital discontent as follows:

…besides, elder's creates positive image in the minds of both husband and wife. They influence them to forget their past grievances (disputes).

Global Journal of Human-Social Science (H) Volume XV Issue X Version I Year 2015 27

Elders are considered as influential mediators. Hence, disrespecting elders implies disrespecting father & may expose one to curse as a result of disobedience. Therefore, their attitude and opinions are respected. In general, they have a power to influence and convince the disputing couples in terminating their dissatisfaction.

The other key informant in Jimma Zone court also reveals the same with different words. He stated that:

…elders have a great role in resolving disputes among couples through early intervention. That means before couple appeal their causes to the court office. Additionally, they also play a role after the couple appeals their case to the courts. For instance, after application, court gives three months for the disputing couples which are known as cooling period. In this period, elders see the grievance between couple, and then they discuss the root causes of disputes. And create mutual agreement between them (couples). This in turn provide a way for re- solving the disputes of couples. However, it has its own weakness in that elders pressurize women to accept their discussion in favor of men. In this case, there is a sort bias towards men.

From the data we can witness that elders are doing a pivotal role in handling marital dissatisfaction and restore it in to normal conditions. But, most of the key informants stated that elders are always in favor of the husband. Wives are expected to get silent with the decisions of elders and act accordingly though the decision is quite inconsistent to them/wives.

Couples also resolve their marital dissatisfaction with open discussion with their marital partner. From the key informants it was understood that couples settle their marital unhappiness by discussing to gather rather than through 3rd parties because they do not want to expose their secret and do not want to intervention of other people. An Elder in Omo Nada Wereda stated that "couples resolve their disputes in open way without disclosing it to other entity because they do not want to apart from each other and do not expose their children as well as themselves to different problems."

A prosecutor in Dedo Wereda Court office also underscored the same. He stated that:

In most cases couples resolve their marital dissatisfaction with mutual discussion. This because, couples want to sustain their life by looking their children and they do not want to exposé their issues to other person. Hence, although disagreement is normal between couples, they compromise their disputes and lead their life in normal way. However there are a situation in which couples expose their issues (disputes) to council elders.

Unlike others a key informant in Agaro Justice Office underscored the absence of open discussion among couples. In his own words *"…couples don't openly discuss and give solutions for their problems. Had couples have open discussions, case would never come to court and divorce could reduce. But in contrary, it is increasing and implies the existence of communication gap among couples."* Moreover, it was understood that minor conflict could only be resolved through discussing to gather.

IV. Conclusion and Implications of the Study

a) Conclusion

Based on major findings of the study, the following concluding remarks were drawn.

- The study indicated that it is only 28% of the surveyed participants who are endowed with high marital satisfaction. Form this it could be easily grasped that significant portions of couples experienced a sort of dissatisfaction and hesitation (something remains) in their marital relationship.
- The thesis that marital dissatisfaction will lead to divorce is still indefinite as per the evidences of this study. There are situations at which marital discontent compel couples to resort marital dissolution while not in other contexts.
- Couples who are discontented in their marital relationship use outlets like negotiating each other, interference of family members or beloved ones, presenting their issues e to elders, Kebele Shengo or women affairs, and finally to court.
- From literatures it was understood social workers, psychologists and family and marriage counsellors execute varied social services and assistance to improve the social and psychological functioning of families and marital partners. Many social workers are working in family consulting centers and social work clinics to help family members understand their relationships and roles in the family. Social workers work with the family to establish a healthy family dynamics, communication, and behavior patterns among family members (Rostami 2013). In this study, such functions and outlets for couples failed to exist.

b) Implications of the Study and Recommended Actions

- This study has proven the absence of family and marriage counselors and no one resort to get service from these professionals. The call for marriage and family therapist is a timely issue and professional in the area has to be produced to grapple the emerging challenges of the family institution.

- An ongoing awareness creation on the significance and pertinence of love based marriage has to be made in the area.
- Religious heterogamy is one of the scenario which is experienced in urban settings. A detailed qualitative inquiry need to be done concerning the patterns and marital satisfaction of such marriage typology.

V. Acknowledgments

The researchers would like to thank Jimma University for its financial support to the realization of the study which this article is drawn. Special thanks to data collectors and informants.

References Références Referencias

1. Arian Rostami (2013). Marital satisfaction in relation to social support, coping, and quality of life in medical staff in Tehran, Iran.
2. Bagwell, Elizabeth K., "Factors Influencing Marital Satisfaction with a Specific Focus on Depression" (2006). *Senior Honors Theses.*
3. Bradbury .T. Fincham. S. Beach. F. 2000. Nature and Determinants of Marital Satisfaction: A Decade in Review. Journal of family and marriage 964–980. Los Angeles USA.
4. Bradbury, T.N., Fincham, F.D. & Beach, S.R.H. (2000). Research on the Nature and Determinants of Marital Satisfaction: A Decade in Review. Journal of Marriage & the Family, 62(4), 964-980.
5. Clements, R. & Swensen, C.H. (2000). Commitment to one's spouse as a Predictor of marital quality among older couples. Current Psychology, 19(2), 110-120.
6. Dempsey, K. (1997). Women's perceptions of fairness and the persistence of an unequal division of housework. Family Matters, (58), 15-20.
7. *Faulkner. R. 2002.* Gender-Related Influences on Marital Satisfaction and Marital Conflict over Time for Husbands and Wives. University of Georgia, Athens, Georgia. Dissertation.
8. Fower, B. J., & Olson, D. H. (1993). ENRICH Marital Satisfaction Scale: A brief research and clinical tool. *Journal of Family Psychology*, *7*(2), 176-185. http://dx.doi.org/10.1037/0893-3200.7.2.176
9. Furstenberg. F 1996. The future of marriage. American demographics. University of Pennsylvania Philadelphia.
10. Guo, B., & Huang, J. (2005). Marital and sexual satisfaction in Chinese families: Exploring the Moderating Effects. *Journal of Sex and Marital Therapy*, *31*(1), 21-29. http://dx.doi.org/10.1080/-00926230590475224
11. Laurenceau, J. P., Barrett, L. F., & Rovine, M. J. (2005). The interpersonal process model of intimacy in marriage: A daily-diary and multilevel modeling approach. *Journal of Family Psychology*.
12. Locke, H.J. & Wallace, K.M. (1959) Short marital adjustment and prediction tests: Their reliability and validity. *Marriage and Family Living*, 21, 251-255.
13. Mathews. M. (N.Y). A Study of Factors Contributing to Marital Satisfaction. A Masters Thesis. University Of Zululand.
14. Nelson, Samantha J., "Housing Factors Associated with Marital Satisfaction" (2011). *All Graduate Theses and Dissertations.* Paper 960. http://digital-commons.usu.edu/etd/960
15. Orthner, D., Barnett-Morris, L., & Mancini, J. (1993). Leisure and family over the life cycle. In L'Abate, L. (Ed.), *Handbook of Developmental Family Psychology and Psychopathology* (pp. 176-201). New York: Wiley.
16. *Parson. T. and Bales. R. (1955) Family, socialization and Interaction Process. The free press: a division of Macmillan publishing co.Inc. New York.*
17. Ponzetti J. James. 2003. International encyclopedia of marriage and family. Vol.3 *University of British Columbia.* Macmillan reference USA.
18. Schoen, R., Astone, N. M., Rothert, K., Standish, N. J., & Kim, Y. J. (2002). Women employment, marital happiness and divorce. Journal of *Social Forces*, vol 81. Oxford university press.
19. *Spanier, G. B. (1976). Measuring dyadic adjustment: New scales for assessing the quality of marriage and similar dyads. Journal of Marriage and the Family, 38, 15–28.*
20. Stevens, D., Kiger, G. & Riley, P.J. (2001). Working Hard and Hardly Working: Domestic Labour and marital Satisfaction among Dual-Earner Couples. Joumal of Marriage & the Family, 63(2), 514-526.
21. Ubesekera and Luo. J, 2008. Marriage and Family Life Satisfaction: A Literature Review Vol 8. Sabaramuwa University Journal. Sri Lanka.
22. Young, M., Denny, G., Young, T. & Luquis, R. (2000). Sexual satisfaction among married women. American Journal of Health Studies, 16(2), 73-85.
23. Zabriskie, R., & McCormick, B. (2001). The influences of family leisure patterns on perceptions of family functioning. *Family Relations, 50,* 281-289.
24. Zianah et al. 2012 Effects of Demographic Variables on Marital Satisfaction. University of Kebangsaan Malaysia. Retrived on june July 16, 2012.doi:10.-5539/ass.v8n9p46 URL: http://dx.doi.org/10.5539/-ass.v8n9p46. accessed on August 20, 2013.

This page is intentionally left blank

Global Journal of HUMAN-SOCIAL SCIENCE: H
Interdisciplinary
Volume 15 Issue 10 Version 1.0 Year 2015
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals Inc. (USA)
Online ISSN: 2249-460X & Print ISSN: 0975-587X

What Marketing Strategy for Sacred Geometry to Make Archaeotourism Work?

By Isa Mulaj
Institute for Economic Policy Research and Analyses (INEPRA), Albania

Abstract- Archaeotourism can take place in two main forms: i) on site or locations of discoveries; and ii) assembling the discoveries into museums or exhibitions. Given that the first option in Kosovo has not proven viable, a marketing strategy went on to be explored for the latter in broad terms by taking into account Bronze Age artifacts with engravings from the sacred geometry discovered by the Author of this paper during 2013-14, which were the work of ancient Illyrians. Yet, the results suggesta third alternative of archaeotourism development, and that is the interest by respective foreign scholars, institutions, and foundations by using Long Tail marketing approach. The paper interprets some astrological metaphors of sacred geometry in literature review, but draws conclusions from archeological discoveries.

Keywords: *kosovo, bronze age, sacred geometry, archaeotourism, marketing strategy.*

GJHSS-H Classification: *FOR Code: 430207*

WHATMARKETINGSTRATEGYFORSACREDGEOMETRYTOMAKEARCHAEOTOURISMWORK?

Strictly as per the compliance and regulations of:

What Marketing Strategy for Sacred Geometry to Make Archaeotourism Work?

Isa Mulaj

Abstract- Archaeotourism can take place in two main forms: i) on site or locations of discoveries; and ii) assembling the discoveries into museums or exhibitions. Given that the first option in Kosovo has not proven viable, a marketing strategy went on to be explored for the latter in broad terms by taking into account Bronze Age artifacts with engravings from the sacred geometry discovered by the Author of this paper during 2013-14, which were the work of ancient Illyrians. Yet, the results suggesta third alternative of archaeotourism development, and that is the interest by respective foreign scholars, institutions, and foundations by using Long Tail marketing approach. The paper interprets some astrological metaphors of sacred geometry in literature review, but draws conclusions from archeological discoveries.

Keywords: kosovo, bronze age, sacred geometry, archaeotourism, marketing strategy.

I. Methodology and Approach

The methodology relied on the work and experience by the Author as a discoverer in respective field, associated with: i) behavior of state institutions; ii) visiting foreign museums to understand the importance of archaeotourism in income generation; iii) analysis of engravings and symbols from the sacred geometry; and iv) explaining the meaning of the symbols. Of special importance were some Ahnenerbe files, a copy of which I obtained through unofficial channels. The point of reminding the ancient symbols by evidence of the time is not to mystify anything but understand their enormous impact in our modern daily life.

II. Literature Review

Sacred geometry is about how the universe is shaped, exists, functions, human life organization and civilization on earth. Lawlor (1982 [2002]) described it as a metaphor of universal order, which Carroll (2013) viewed as the blueprints through physical and thoughtful evidence. Thoughtful or religious beliefs are considered compatible with modern science explanation of physical evidence on ancient civilization remains. Despite often contradicting each other, the divine reality remains in unity.

The foundation of sacred geometry is the circle. The circle has 360 degrees, a measurement inherited from the practice of 360 deities, one for each day, placed in and around the Kaaba in Mecca, of pagan origin, most likely from ancient Babylonians and/or Sumerians. It is used as a cycle of the year consisting of four seasons, four sides of the world with the lines of latitudes and longitudes amounting to exactly 360 degrees each; 180 east plus 180 west, 90 from equator to the northern and 90 to the southern pole, plus the other side of the earth with the same number of degrees. Two intersecting circles form the Vesica Piscis, a shape found in human body organs such as eyes, mouth, ears, nose holes, vagina, and so on. It also could denote, be used and understood as a union between a man and a woman, just as it is still used in mathematics as an interaction between two elements or entities. Tripod featured the three gods in Egyptian mythology: Osiris, Isis, and Horus. Horus was the son of the sun god – Osiris, and of the moon goddess – Isis (Windsor, 2003). It later was adopted and reinterpreted in Christianity for the Father, the Son, and the Holy Spirit, and in Islam as there is no God but Allah, and that Muhammad is His Messenger. In the real world, it may mean: the Father, the Son (or the Daughter) and the Mother (the Holy Spirit). Cross is a pagan symbol, not of Christianity. Christmas is not related to any personality or Jesus alternatively called the Star in the East – Sun, the Light – Sun, but is an astrological interpretation of the Sun to Earth when it “dies in the cross” for three days (December 22-24, the shortest daylights) and “resurrects” on 25th,practically the first day of the year. The symbol of flower with four and five petals may be the fourth and fifth days in the process of creation. The Five-pointed star (pentagram) has its origin from the Earth, from anything in the sky. The Six-pointed star (hexagram), widely known the Star of David, by evidence is not of David at all. In fact, it was the modern Zionism who chose this non-Jewish symbol to relate modern Jews with the glory of ancient Israelites, and was adopted as an official symbol in Israel’s flag only from 1948 (Sholem, 1949).

Ancient physical evidence about the symbol of six petals flower can be found in many parts of the world, but its origin remains unknown. The Bible notes that God created the universe in seven days (6 working, plus 1 resting). Melchizedek (1999) embraced this view as the Flower of Life, representing core aspects of space and time through seven interlacing circles forming the symbol. One day off is inherited by Judaism (Saturday), Christianity (Sunday), and Islam (Friday). Aside from spiritual beliefs, this symbol of circles is used

Author: Institute for Economic Policy Research and Analyses (INEPRA), Pristina, Republic of Kosovo. e-mail: isa.mulaj@gmail.com

as a blueprint in technical developmentse.g.tires, engines, rotors, generators, propellers, DNA, music, computers, which are the essence of human life organization and work.

One circle in the center and twelve others around it on six sides by two in a snowflake shape was interpreted by Melchizedek (2000) as the Fruit of Life. Number 12 represented many fundamental aspects, e.g. 12 Tribes of Israel, 12 Gods of Ancient Greece, 12 Apostles of Jesus Christ, 12 months of the year, 12 hours of the day. This system of 12 formed the basis of political rule (Government) through 12 ministries (apostles/ministers) and a Prime Minister (Zeus or Jesus Christ) at the center, originating from the cycle of moon movements, 12 signs of the zodiac respectively. 12as the number of zodiac is formed by 3 (months) x 4 (seasons), and 7 is the number of planets or the first complete order (Shimmel, 1993). Modern humanity has got thousands of different spoken and written languages, all having in common the sacred geometry expressed through engravings, symbols, shapes and numbers. The numbers tended to evolve along different written languages (like in the Latin world), but later were internationally standardized from the Arabic style.

How much we understand archaeology is a matter of promotion, exhibitions, and research apparatus (Dallas, 2007). Museum complexes in large developed cities such as New York, Tokyo, Shanghai, Paris, London, become attractive business through exhibitions that are visited by large number of visitors (Art Newspaper, 2014). In Istanbul, in Top Kapi Museum based on my own observation in June 2013, during the day on average one tourist entered every second. The fee of entry per individual was 30 Turkisht Liras or €10. That is €36 000 per hour in one intensive summer day where the frequency of visitors is the densest.

Archaeology tends to be used for nationalist purposes, defending of identity, and identification with some greatness of the past (Baram and Rowan, 2004). Perhaps, the best examples of such identification are the issue of Jews and Palestinians in the Middle East, and disputes between Serbs and Albanians in the Balkans. The findings of this paper do not have that aim (promoting the heritage for a nationalist cause) but on archaeotourism. Kosovo has no strategy for archaeotourism. An idea of it on sites of the discoveries, withered away as the institutions had no initiatives, funding, and expertise on how to use the discoveries to make money – archaeotourism (Mulaj, 2014). Preparing and implementing a strategy for tourism development should have at its disposal resources, core competences, comparative advantage, organization, and carry out promotional activities. Resources are tangible and intangible such as physical, human, financial, operational, and knowledge (Evanset al, 2003). Historically, archaeology in itself had become a matter of interest by different countries, and often as one of the main inspirations to invade. Hamilakis and Duke (2007) viewed archaeology as a motivation serving capitalism to conquer territories and seize their material past. Croucher and Lindsay (2011) examined the interplay between colonialism, capitalist development and post colonialism. Colonial power, capital formation, interpreting and using of archaeological remains, affected altering the history or its meaning. Though capitalism is seen as a system evolving on its own principles, many technical innovations were inspired by intensive studies on ancient language of symbols, engravings and geometry. In modern times, in addition to the use for tourism as it is preserved, archaeology may be applicable for extracting the knowledge to produce something useful. In a more spectacular move, the evidence of ancient civilizations can be manipulated to materialize advanced technological innovations. The most notable example was the Nazi society Ahnenerbe where the results of its research were unprecedented, especially in the war machinery.

Dealing with archaeology can be a business from supply and demand point of view. For example, recent trends in British archaeology suggest a decline in activity as a sector. A survey by Aitchison and Rocks-Macqueen (2013) of British archaeological institutions and organizations, found annual turnover to have slightly declined over 2009 to 2011 , employment was reported down by 30% in 2012-2013 compared to 2007-2008, earnings in archaeology on average were slightly lower than in all occupations, 60% of archaeological organizations (of the answers received) reported the profit margin less than 5%, and 45% of the respondents expected the market in this sector to deteriorate. Where this trend can be backtracked? Aitchison (2004) who investigated the difference between university degrees in archeology and archaeological workforce in the United Kingdom, argued that, although university degrees in respective field (archaeology) are a prerequisite to enter the archaeological workforce, they were not sufficient for professional work. The remark against the university departments received the answer that it was not the responsibility by the universities to produce professional archaeologists, but a kind of education that can be utilized for employment even in workplaces outside archaeology. "Outside sectors" in a given time are known how they operate and their development can be predicted in short to medium term. Innovations in commercial business such as technology may more or less be anticipated, many people soon become familiar with, pass the knowledge and practice to others, but some archaeological discoveries may be quite unexpected for which the archaeologists do not have any standard knowledge ready, or even a clue at the beginning of certain discoveries. That is why the knowledge of many discoveries in the course of historical events is lost or destroyed. Aware of this deficiency, in 1945 the United Nations Educational, Cultural, Scientific and Cultural Organization (UNESCO) was established as a vanguard, with a mission to promote and contribute to international education, preserving of cultural heritage, cooperation and universal respect of justice.

The demand for tourism as Butler (2006) maintained, is volatile but it also has a great stability where the changes in the short term occur only in specific types of tourism, e.g. in international travel. Market segmentation as one of the most important concepts of marketing, has a considerable, if not decisive impact on tourism by making use of information and communication technologies (ICT). Pasonen (2013) explored the impact of ICT, which has intensified since the 1980s, on market segmentation in Finnish rural tourism, and found that online information produces more distinctive motivation than the segment in motivating the travel due to the ease of doing many tourism related activities through the internet. An earlier approach by Lew (2008) admitted the crucial tendency of ICT in this respect, and emphasized the importance of Long Tail marketing in tourism, which he defined it as an internet based economy where a company or an institution can provide highly specialized products and services not in large quantities or volume, but the demand for them is driven by their high value. By this token, a larger number of tourists often run after few things that are unique in value. Without referring to any example, it is the knowledge and interpretation that makes some products and services in this sector appear as unique, as the following section tries to make few of them from archaeological discoveries.

III. Resesearch and Results

Many sacred geometry symbols discussed in previous section are available as physical evidence in our discoveries from the Bronze Age in Western Kosovo. Their naming and meaning, however, despite many similarities with the mainstream theory, is to some extent unique due to a different cultural heritage and use in modern times by Albanians. Although ancient Illyrians are not known to have produced written history through any alphabet as at the time that the artifacts belong to (the Bronze Age) writing as we witnessed later after the Roman conquest of the area in the 2nd century BC did not exist, they left something more accessible to be understood – precise engravings from the sacred geometry. It was this kind of activity that has given rise to (different) languages development, and not the other way around. We may write and tell many stories about an automobile, engine, construction engineering and so on, but once we have them at our disposal or as a Chinese proverb puts it a picture is worth thousands of words, it shows the advantage of making use of geometry versus words.

The pictures below are made by the Author of this paper, who is also the discoverer of the artifacts featured. The five-pointed star is known as Luljeta (Loo-li-yeta, literally the Flower of Life). Luljeta, a personal given name among Albanian women, is featured in geometry as the flower of five petals, rarely found anywhere in the world as in Picture 1. Unlike popular beliefs, the five-pointed star has its origin from the earth and not of anything from the sky. In Albanian, this is the true Flower of Life. Most fruit trees and vegetables emerge from this type of flower. In antiquity people did not have chocolates and cakes, but fruits as the main food. The symbol next to Luljeta which looks like a natural tree, i.e. the Tree or Fruit of Life (engraved twice in Picture 1), further supports this claim. We were unable to decipher or find the corresponding reality of the flower with four petals in the far right of Picture 1, but have something unique to explain about the figure in the middle.

Picture 1 : Illyricum Sacrum circa 2 500 BC. Dimensions: 1m long, 30cm wide and thick

If the Star of David indeed is not proven to be of David, then how the Illyrians much earlier used and what did they represented by it? The six-pointed star is Illyricum Sacrum. Why Illyricum, and why Sacrum? First, it is the work of Illyrians. Second, sacrum is a large triangular bone located in the pelvis of human body, the one connecting the backbone with the pelvis. Men's sacrum is narrower and longer while that of the women is shorter and wider, and becomes wider after they give birth. This is one of the main distinctive bones by which the anatomists can distinguish the gender of human skeletons. Also, in live humans, the pelvis of women generally looks wider in part due to the wider sacrum. As it is wider, a woman was represented by the triangle upside down, to denote the opposite sex from the man who is featured by the triangle of a pyramid shape. When the two triangles are merged, they form the hexagram known as Illyricum Sacrum, i.e. the union between man and woman. The eye in the middle of hexagram may have its origin from Ancient Egypt, the Eye of Horus respectively, by which the Illyrians symbolized a supreme deity overlooking human activities on earth. In modern times it was adopted by the Freemasonry who unlike ancient beliefs and representation of God in the heaven, is used as a kind to feature the monitoring of people by an elite of the people. We were unable to find any evidence about the purpose of the flower with four petals (the symbol far right in Picture 1) used by ancient Illyrians, nor do we come across any use of it by Albanians in modern times. The evidence from elsewhere in the world may help to explain its purpose and meaning, though it cannot necessarily be attributed to have been understood in the same way by the Illyrians, just as we saw in the case of hexagram, the five-pointed star, tree of life, and will see with yet another very important symbol from sacred geometry like in the picture below.

Picture 2 : Two stones forming the cross, each with inner and outer engraving of Lulija. Dimensions of each stone: 70 cm long, 28cm wide, and 20 cm thick

The flower with six petals, known worldwide as the Flower of Life, is used for ages by Albanians as Lulija (pronounced as Looliya, literally the Flower). Lulija is also a personal given name among Albanian women, but less common than Luljeta. However, it is the most used name as a cult (goddess) of beauty, love, harmony and happiness. The songs about Lulija have monopoly in Albanian popular music, and this leaves a doubt that music was born from the sacred geometry. The everlasting hit is dulLulijatebunari, oh sa fort mëkishmarrëmalli (Lulija went out to the well, oh how much I was missing her). How sacred geometry is used in the emergence and evolution of music from Illyrians to Albanians we still do not know, but the pentagram or five-pointed star (Luljeta) is also the name of five lines forming four fields in the text of music. Popular songs about Lulija are very old, and no one knows who might have originated them. During the ottoman rule until 1950s, the most popular name among Albanian Muslim women was Gjyla, a variant of Persian-Ottoman Gül, meaning rose. Gjyla is still used by Albanians as the loan name of flowers with multiple petals, or the blossom.

Picture 3 : The Moon and/or Sun eclipse

Moon eclipse, found ten miles away to the west from the artifacts in Picture 1 and 2, is dated from the 4th century A.D. According to my visit on site, this stone was taken from the ruins of a temple or castle which is reported to have been destroyed in the 9 -10th century A.D. The site is known for similar archaeological findings of the 4th century, a period which corresponds with early Christianity when it was legalized by the Roman emperor of Illyrian origin Constantine the Great, but this piece of work most likely is neither Christian nor of Islam which came much later and who moon crescent and five-pointed star is adopted from the symbols like this one in Picture 3. Apart from exact or approximate age, the crucial importance of this artifact relies in the engraving of moon eclipse, which has got an ellipse shape. This is important to remember how long time ago before inquisition, people knew that the shape of earth and moon is elliptic as opposed to medieval inquisition which maintained of round but flat shape of the earth.

Despite such cultural heritage at disposal, Kosovo's institutions and scholars have not shown any specific interest in promoting them for their own benefits. Kosovo and the Western Balkans except Croatia, did not submit reports on the state and profile of their museums to European Group on Museum Statistics – EGMUS (2004). EGMUS is a good guide to scholars and potential interested visitors. Still worse, Kosovo's Ministry of Culture in its budget for 2015 does not envisage a single penny for cultural tourism, let alone archaeotourism as a subdivision. Anorganized research apparatus does not exist. Comprehensive research papers as promotion are scarce. Actually, there is no any NGO and civil society groups specialized in archaeological research except those claiming to preserve the cultural heritage with aim to attract visitors, but do not undertake anything to make it happen. The respective state institutions continue their work in excavating for archaeological discoveries and assemble the artifacts into museums. Yet, they do not know what further to do about them. Expert visitors may have more knowledge about the artifacts exposed. What the visitors would be mostly interested in, is what specific use and meaning the artifacts had from already known elsewhere, which as we showed, to some degree diverges from the standard theory, but it may be more correct understanding.

With no supportive resources, poor expertise and researchers, but rich cultural and archaeological heritage, the second alternative for archaeotourism or through museums and exhibitions, also falls out of consideration. We cannot have a plan and implement it for something that has no bases of organizing too many needed resources, or consuming some of them without generating benefits. Knowledge is the driving force behind the potential success. Often, many people and employees consume a bulk of resources without capabilities to provide something for consumption, e.g. to make archaeotourism work. If that is the reality of commitment, do we have at least an idea how to promote the discoveries in question or make them more value-added. Figure below shows a conceptual design of a marketing strategy options for archaeotourism.

Global Journal of Human-Social Science (H) Volume XV Issue X Version I Year 2015

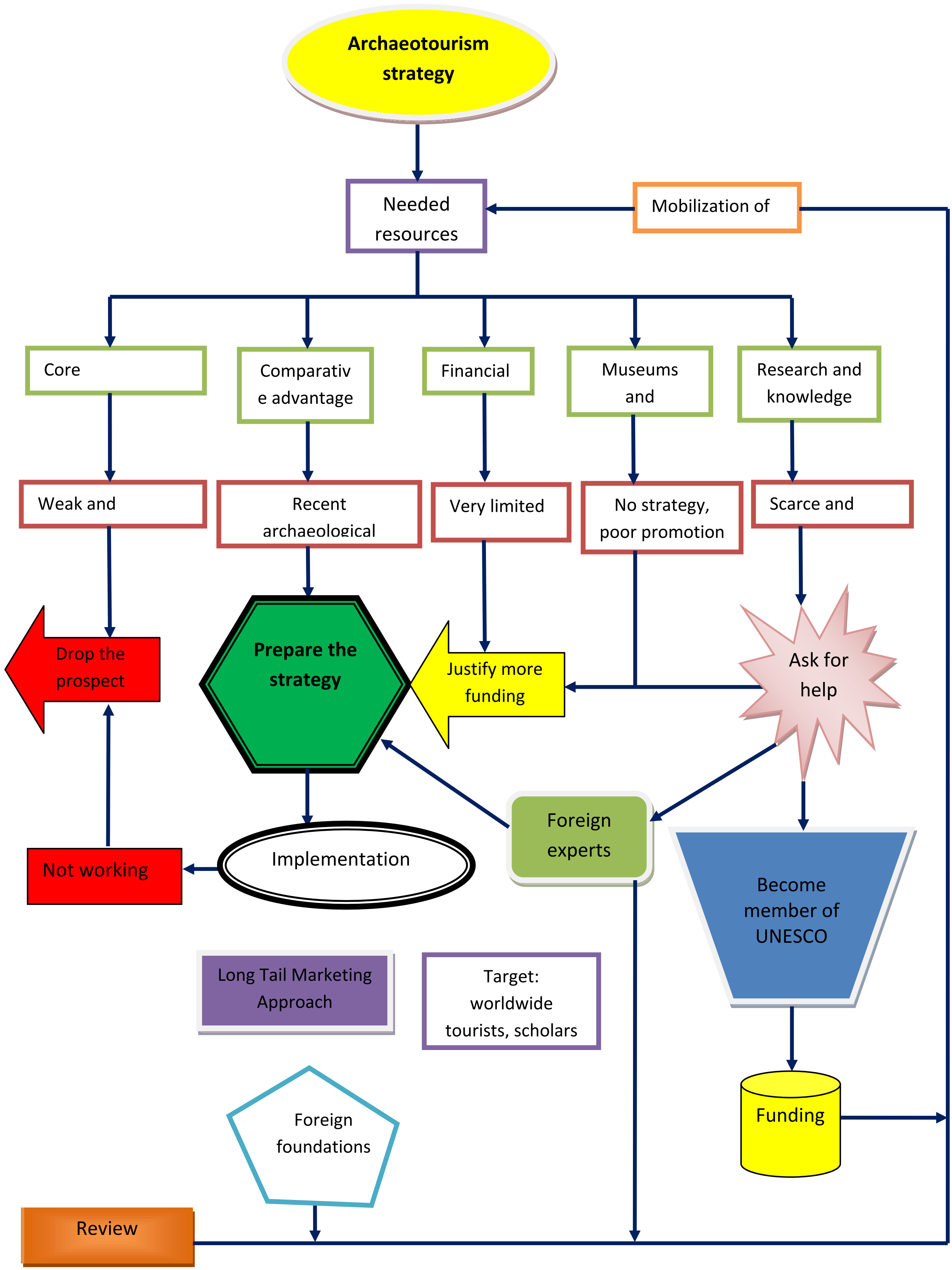


Figure 1 : Conceptual design of marketing strategy for archaeotourism in Kosovo

Given that the options from the figure above at present cannot be implemented in Kosovo due to very limited resources and skills, it is left as a recommendation to be dealt with by foreign scholars, researchers and foundations. And here we are not leaving them to think much what to do about archaeotourism in respective case from which at current we have given up the development. An archaeoutourism strategy, its implementation and expected results is a very broad and sophisticated undertaking which this paper has no space to go into details. The basic concept is presented as an urgent need under the circumstances when majority in Kosovo is not familiar with the area of archaeotourism, let alone how it works. Will it work and what approach should be followed? All notes and boxes from Figure 1 require more analysis and discussion that should be dealt with separately from this paper, of which we are focusing on the one deemed as the most important - Long Tail marketing – which is feasible as it can make use few but unique discoveries. Although similar discoveries are found elsewhere, the way how they were used by the Illyrians and inherited by modern Albanians make them different from so far mainstream theory. First, the approach takes into consideration the discoveries that challenge many views of core elements from the sacred geometry as used by the Illyrians. Second, the time which the artifacts belong to, imply a different origin of some symbols such as the Star of David. Third, the unknown origin of the Flower of Life may not be of any deficiency as its crucial importance relies on how the Illyrians have used it, what representation featured, and how it has survived as Lulija. Fourth, no matter how much massive and almost standardized the theory on the flower with six petals is across the world is, it may be an accident how few scholars decided to call and interpret it whilst the rest of the world embraced that view. It makes sense to represent the human time arrangement through seven days to which modern society has remained a hostage. However, the Illyrians used the five petals flower (Luljeta) as the true Flower of Life from which majority of fruits emerge and were the life for humans. Last but not least, the Eye of Horus along with many other pagan symbols and mythologies, proves that the bulk of Abrahamic religions originating in the vicinity of Ancient Egypt and Babylonia, are simply adoptions, recycling, and even deterioration of the things, events, and phenomena that existed, in which God had no hand in them.

IV. Discussion and Conclusions

We may argue that Albanians have not descended from ancient Illyrians. Many other people might have, but what Albanians alone have inherited from the Illyrians, which can be proven by the convergence between archaeological discoveries and modern cultural practice, is more than of the rest combined. This does not apply to overwhelming evidence on sacred geometry found worldwide, but it does in the specific meaning how the Illyrians used it.

Modern civilization is an evolution from the orders of sacred geometry, with some different meanings and interpretation across the world. It may not be the best practical order. An easier and simpler order would be if Sunday, 31 May, 2015 is written as151: 2014, i.e. 151st day of 2015, rather than repeating the same name 52 times for each different day. The location of our archaeological discoveries is 42°48' 41.50"N 20°34' 16.00" E, easier to be found than through the names of villages, towns, cities, hills or woods in a different time frame. New York, Riad, Saint Petersburg, Hiroshima have not existed in ancient times, and will dissapear in a distant future. Similarly, at one given time or at present, we have very different names for one country within geographical borders such as Germany (English), Deutschland (German), Alemania (French), Njemačka (Serbo-Croatian), and so on. Geometry and numbers are made common for the mankind, or one for all. Thousands of languages are further diversifying.

The ancient Illyrians left remarkable records of sacred geometry, the importance of which might have not been understood for ages due to our evolution towards adopting and being addicted to written texts in different alphabetic characters. We may blame the Illyrians for not leaving peer reviewed papers in English! English, Arabic, Greek, Chinese style of writings, literature and characters may be beneficiary famous for many people, yet the Japanese technology relies on working with something else – by doing things. We would more prefer to drive the car rather than writing or talking about driving it. Similarly, the Illyrians left the written records about genesis pattern, the union of man and woman, human trinity and many more in well engraved symbols. They certainly were not aware what will follow centuries latter through monotheist religions, nations and nationalism.

Archaeological graduates and scholars from the universities may be specialists compared to the rest having no such respective education. The certified specialists act upon some knowledge which they take as a standard theory, thus whenever they come across any discovery like in our case in this paper, they immediately know what is it about. For instance, the flower with six petals they will blindly call it the flower of life as it is intensively used and standardized in the world terminology of sacred geometry. How the ancient and modern people have been calling and use it, makes a difference. Luljeta, as this paper finds, is the true name for the Flower of Life. The six petals flower with many uses and meanings in sacred geometry worldwide known as the Flower of Life, among Albanians is used as a personal name (Lulija), cult of beauty and love, mostly in popular songs for an anonymous (or every) beautiful woman, and as a decorative symbol. The Star

Global Journal of Human-Social Science (H) Volume XV Issue X Version I Year 2015

of David, which is not of David at all, is found to be Illyricum Sacrum. Their use by modern Albanians is still spontaneous with no any research on the origin. We should report exactly how modern Albanians have been calling and using them, and this makes our archaeological findings unique from the same findings elsewhere.

Archaeotourism development on site was dropped due to a lack of interest, resources and expertise. The second alternative to assemble the artifacts in museums and exhibitions in Kosovo that this paper went to recommend also has no perspective. Where is the knowledge to persuade the tourists that a priceless piece of sacred geometry from the Bronze Age is available in Kosovo? Therefore, we recommend the third alternative, and that is the interest by respective foreign scholars, institutions, and foundations. The rationale of this recommendation rests in Long Tail Marketing for the discoveries in question, the core of which should be preceded by good and provocative papers and publications. The Staff of Moses and the King's David sword in the Top Kapi Museum in Istanbul locked behind glass cases (which may not be of the referred persons at all) attract too many visitors and money from across the world thanks to Long Tail marketing of two books only (the Bible and the Qur'an) and almost nothing else. This suggests that to make archaeotourism work through the Long Tail marketing, we should first of all have Long Tail research and publications, the importance of which this paper has tried to identify and explore.

References Références Referencias

1. Aitchison, K. (2004). "Supply, demand and a failure of understanding: addressing the culture clash between archaeologists' expectations for training and employment in 'academia' versus 'practice'", World Archaeology, Vol. 36, No. 2, pp. 203-19.
2. Aitchison, K. & Rocks-Macqueen, D. (2013), Archaeology Labour Market Intelligence: Profiling the Profession 2012-2013, Mountain View: Landward Research Ltd.
3. Art Newspaper (2014). Visitor Figures 2013: Exhibition and Survey Attendance Survey, Events, Politics and Economics Monthly, (23) 256, Allemandi: U. & Co Publishing.
4. Baram, U. & Rowan, Y. (2004). Archaeology after Nationalism: Globalization and the Consumption of the Past. In U. Baram & Y. Rowan (eds.). Marketing Heritage: Archaeology and the Consumption of the Past (pp. 3-21). Oxford: Altamirapress.
5. Butler, R. (2006), "Volatile demand for tourism?: We can only market effectively to what we know, rather to what we imagine", in Keller, P. & Bieger, T. eds., Marketing Efficiency in Tourism: Coping with Volatile Demand, International Association of Scientific Experts in Tourism, Berlin: Erich Schmidt Verlag, pp. 13-22.
6. Carroll, D. B. (2013). Sacred Geometry and Spiritual Symbolism: The Blueprint for Creation. Virginia: 4th Dimension Press.
7. Croucher, S. K. & Lindsay, W. (2011) eds., The Archeology of Capitalism in Colonial Context: Postcolonial Historical Archaeologies, New York: Springer.
8. Dallas, C. (2007). Archaeological Knowledge, Virtual Exhibitions and the Social Construction of Meaning. InP. Moscati (ed.). Virtual Museums and Archaeology: The Contribution of the Italian National Research Council (pp. 31-63), 6th ed., Firenze: All' Insegnagiglio.
9. Evans, N., Campbell, D. & Stonehouse, G. (2003). Strategic Management for Travel and Tourism. Oxford: Routledge.
10. EGMUS (2004). A Guide to European Museum Statistics, Hagedorn-Saupe, M. and Ermert, Salex eds., Berlin: EGMUS.
11. Hamilakis, Y. and Duke, P. (eds.) (2007). Archaeology and capitalism: from ethics to politics, Walnut Creek: Left Coast Press.
12. Lawlor, R. (1982[2002]). Sacred Geometry: Philosophy and Practice. London: Thames & Hudson Ltd.
13. Lew, A. A. (2008), "Long Tail Tourism: New Geography for Marketing Niche Tourism Products", Journal of Travel & Tourism Marketing, Vol. 25, No. 3-4, pp. 409-419.
14. Melchizedek, D. (1999). The Ancient Secret of Flower of Life, (1), Flagstaff, AZ: Light Technology Publishing.
15. Melchizedek, D. (2000). The Ancient Secret of Flower of Life, (2), Flagstaff, AZ: Light Technology Publishing.
16. Mulaj, I. (2014). Why Archaeological Tourism does not Work?: Evidence from Two Discoveries in Kosovo. In N. Kozak & M. Kozak (eds.), 3rd Interdisciplinary Tourism Research Conference (pp.207-2013). 03 - 07 June 2014, Istanbul, Ankara: Anatolia.
17. Pasonen, Juho (2013), Developing Market Segmentation in Tourism: Insights from a Finnish Rural Tourism Study, Dissertation in Social Sciences and Business Studies No. 59, Joensu: University of Eastern Finland.
18. Shimmel, A. (1993).The Mystery of Numbers, New York: Oxford University Press.
19. Sholem, G. (1949). "The Curious History of the Six-pointed Star: How the 'Magen David' became the Jewish Symbol?", Commentary, Vol. 8, pp. 243-251.
20. Windsor, R. R. (2003).From Babylon to Timbuktu: A History of the Ancient Black Races Including the Black Hebrews.19th ed., Atlanta, GA: Windsor Golden Series.

Global Journal of Human-Social Science (H) Volume XV Issue X Version I Year 2015

Global Journals Inc. (US) Guidelines Handbook 2015

www.GlobalJournals.org

Fellows

FELLOW OF ASSOCIATION OF RESEARCH SOCIETY IN HUMAN SCIENCE (FARSHS)

Global Journals Incorporate (USA) is accredited by Open Association of Research Society (OARS), U.S.A and in turn, awards "FARSHS" title to individuals. The 'FARSHS' title is accorded to a selected professional after the approval of the Editor-in-Chief/Editorial Board Members/Dean.

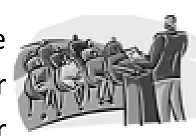
- The "FARSHS" is a dignified title which is accorded to a person's name viz. Dr. John E. Hall,Ph.D., FARSS or William Walldroff, M.S., FARSHS.

FARSHS accrediting is an honor. It authenticates your research activities. After recognition as FARSHS, you can add 'FARSHS' title with your name as you use this recognition as additional suffix to your status. This will definitely enhance and add more value and repute to your name. You may use it on your professional Counseling Materials such as CV, Resume, and Visiting Card etc.

The following benefits can be availed by you only for next three years from the date of certification:

FARSHS designated members are entitled to avail a 40% discount while publishing their research papers (of a single author) with Global Journals Incorporation (USA), if the same is accepted by Editorial Board/Peer Reviewers. If you are a main author or co-author in case of multiple authors, you will be entitled to avail discount of 10%.

Once FARSHS title is accorded, the Fellow is authorized to organize symposium/seminar/conference on behalf of Global Journal Incorporation (USA). The Fellow can also participate in conference/seminar/symposium organized by another institution as representative of Global Journal. In both the cases, it is mandatory for him to discuss with us and obtain our consent.

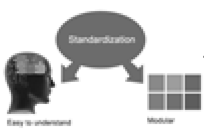


You may join as member of the Editorial Board of Global Journals Incorporation (USA) after successful completion of three years as Fellow and as Peer Reviewer. In addition, it is also desirable that you should organize seminar/symposium/conference at least once.

We shall provide you intimation regarding launching of e-version of journal of your stream time to time.This may be utilized in your library for the enrichment of knowledge of your students as well as it can also be helpful for the concerned faculty members.

The FARSHS can go through standards of OARS. You can also play vital role if you have any suggestions so that proper amendment can take place to improve the same for the benefit of entire research community.

As FARSHS, you will be given a renowned, secure and free professional email address with 100 GB of space e.g. johnhall@globaljournals.org. This will include Webmail, Spam Assassin, Email Forwarders,Auto-Responders, Email Delivery Route tracing, etc.



The FARSHS will be eligible for a free application of standardization of their researches. Standardization of research will be subject to acceptability within stipulated norms as the next step after publishing in a journal. We shall depute a team of specialized research professionals who will render their services for elevating your researches to next higher level, which is worldwide open standardization.

The FARSHS member can apply for grading and certification of standards of the educational and Institutional Degrees to Open Association of Research, Society U.S.A. Once you are designated as FARSHS, you may send us a scanned copy of all of your credentials. OARS will verify, grade and certify them. This will be based on your academic records, quality of research papers published by you, and some more criteria. After certification of all your credentials by OARS, they will be published on your Fellow Profile link on website https://associationofresearch.org which will be helpful to upgrade the dignity.

The FARSHS members can avail the benefits of free research podcasting in Global Research Radio with their research documents. After publishing the work, (including published elsewhere worldwide with proper authorization) you can upload your research paper with your recorded voice or you can utilize chargeable services of our professional RJs to record your paper in their voice on request.

The FARSHS member also entitled to get the benefits of free research podcasting of their research documents through video clips. We can also streamline your conference videos and display your slides/ online slides and online research video clips at reasonable charges, on request.

The FARSHS is eligible to earn from sales proceeds of his/her researches/reference/review Books or literature, while publishing with Global Journals. The FARSHS can decide whether he/she would like to publish his/her research in a closed manner. In this case, whenever readers purchase that individual research paper for reading, maximum 60% of its profit earned as royalty by Global Journals, will be credited to his/her bank account. The entire entitled amount will be credited to his/her bank account exceeding limit of minimum fixed balance. There is no minimum time limit for collection. The FARSS member can decide its price and we can help in making the right decision.

The FARSHS member is eligible to join as a paid peer reviewer at Global Journals Incorporation (USA) and can get remuneration of 15% of author fees, taken from the author of a respective paper. After reviewing 5 or more papers you can request to transfer the amount to your bank account.

MEMBER OF ASSOCIATION OF RESEARCH SOCIETY IN HUMAN SCIENCE (MARSHS)

The ' MARSHS ' title is accorded to a selected professional after the approval of the Editor-in-Chief / Editorial Board Members/Dean.

The “MARSHS” is a dignified ornament which is accorded to a person’s name viz. Dr John E. Hall, Ph.D., MARSHS or William Walldroff, M.S., MARSHS.

MARSHS accrediting is an honor. It authenticates your research activities. Afterbecoming MARSHS, you can add 'MARSHS' title with your name as you use this recognition as additional suffix to your status. This will definitely enhance and add more value and repute to your name. You may use it on your professional Counseling Materials such as CV, Resume, Visiting Card and Name Plate etc.

The following benefitscan be availed by you only for next three years from the date of certification.

MARSHS designated members are entitled to avail a 25% discount while publishing their research papers (of a single author) in Global Journals Inc., if the same is accepted by our Editorial Board and Peer Reviewers. If you are a main author or co-author of a group of authors, you will get discount of 10%.

As MARSHS, you willbe given a renowned, secure and free professional email address with 30 GB of space e.g. johnhall@globaljournals.org. This will include Webmail, Spam Assassin, Email Forwarders,Auto-Responders, Email Delivery Route tracing, etc.

We shall provide you intimation regarding launching of e-version of journal of your stream time to time.This may be utilized in your library for the enrichment of knowledge of your students as well as it can also be helpful for the concerned faculty members.

The MARSHS member can apply for approval, grading and certification of standards of their educational and Institutional Degrees to Open Association of Research, Society U.S.A.

Once you are designated as MARSHS, you may send us a scanned copy of all of your credentials. OARS will verify, grade and certify them. This will be based on your academic records, quality of research papers published by you, and some more criteria.

It is mandatory to read all terms and conditions carefully.

Institutional Fellow of Open Association of Research Society (USA) - OARS (USA)

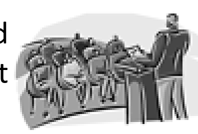
Global Journals Incorporation (USA) is accredited by Open Association of Research Society, U.S.A (OARS) and in turn, affiliates research institutions as "Institutional Fellow of Open Association of Research Society" (IFOARS).

The "FARSC" is a dignified title which is accorded to a person's name viz. Dr. John E. Hall, Ph.D., FARSC or William Walldroff, M.S., FARSC.

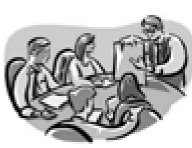
The IFOARS institution is entitled to form a Board comprised of one Chairperson and three to five board members preferably from different streams. The Board will be recognized as "Institutional Board of Open Association of Research Society"-(IBOARS).

The Institute will be entitled to following benefits:

The IBOARS can initially review research papers of their institute and recommend them to publish with respective journal of Global Journals. It can also review the papers of other institutions after obtaining our consent. The second review will be done by peer reviewer of Global Journals Incorporation (USA)
The Board is at liberty to appoint a peer reviewer with the approval of chairperson after consulting us.
The author fees of such paper may be waived off up to 40%.



The Global Journals Incorporation (USA) at its discretion can also refer double blind peer reviewed paper at their end to the board for the verification and to get recommendation for final stage of acceptance of publication.

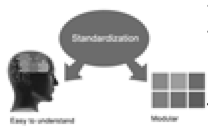


The IBOARS can organize symposium/seminar/conference in their country on behalf of Global Journals Incorporation (USA)-OARS (USA). The terms and conditions can be discussed separately.

The Board can also play vital role by exploring and giving valuable suggestions regarding the Standards of "Open Association of Research Society, U.S.A (OARS)" so that proper amendment can take place for the benefit of entire research community. We shall provide details of particular standard only on receipt of request from the Board.

The board members can also join us as Individual Fellow with 40% discount on total fees applicable to Individual Fellow. They will be entitled to avail all the benefits as declared. Please visit Individual Fellow-sub menu of GlobalJournals.org to have more relevant details.

We shall provide you intimation regarding launching of e-version of journal of your stream time to time. This may be utilized in your library for the enrichment of knowledge of your students as well as it can also be helpful for the concerned faculty members.



After nomination of your institution as "Institutional Fellow" and constantly functioning successfully for one year, we can consider giving recognition to your institute to function as Regional/Zonal office on our behalf.
The board can also take up the additional allied activities for betterment after our consultation.

The following entitlements are applicable to individual Fellows:

Open Association of Research Society, U.S.A (OARS) By-laws states that an individual Fellow may use the designations as applicable, or the corresponding initials. The Credentials of individual Fellow and Associate designations signify that the individual has gained knowledge of the fundamental concepts. One is magnanimous and proficient in an expertise course covering the professional code of conduct, and follows recognized standards of practice.

Open Association of Research Society (US)/ Global Journals Incorporation (USA), as described in Corporate Statements, are educational, research publishing and professional membership organizations. Achieving our individual Fellow or Associate status is based mainly on meeting stated educational research requirements.

Disbursement of 40% Royalty earned through Global Journals : Researcher = 50%, Peer Reviewer = 37.50%, Institution = 12.50% E.g. Out of 40%, the 20% benefit should be passed on to researcher, 15 % benefit towards remuneration should be given to a reviewer and remaining 5% is to be retained by the institution.

We shall provide print version of 12 issues of any three journals [as per your requirement] out of our 38 journals worth $ 2376 USD.

Other:

The individual Fellow and Associate designations accredited by Open Association of Research Society (US) credentials signify guarantees following achievements:

- The professional accredited with Fellow honor, is entitled to various benefits viz. name, fame, honor, regular flow of income, secured bright future, social status etc.

- In addition to above, if one is single author, then entitled to 40% discount on publishing research paper and can get 10%discount if one is co-author or main author among group of authors.
- The Fellow can organize symposium/seminar/conference on behalf of Global Journals Incorporation (USA) and he/she can also attend the same organized by other institutes on behalf of Global Journals.
- The Fellow can become member of Editorial Board Member after completing 3yrs.
- The Fellow can earn 60% of sales proceeds from the sale of reference/review books/literature/publishing of research paper.
- Fellow can also join as paid peer reviewer and earn 15% remuneration of author charges and can also get an opportunity to join as member of the Editorial Board of Global Journals Incorporation (USA)
- • This individual has learned the basic methods of applying those concepts and techniques to common challenging situations. This individual has further demonstrated an in–depth understanding of the application of suitable techniques to a particular area of research practice.

Note :

"

- In future, if the board feels the necessity to change any board member, the same can be done with the consent of the chairperson along with anyone board member without our approval.
- In case, the chairperson needs to be replaced then consent of 2/3rd board members are required and they are also required to jointly pass the resolution copy of which should be sent to us. In such case, it will be compulsory to obtain our approval before replacement.
- In case of "Difference of Opinion [if any]" among the Board members, our decision will be final and binding to everyone.

"

Process of submission of Research Paper

The Area or field of specialization may or may not be of any category as mentioned in 'Scope of Journal' menu of the GlobalJournals.org website. There are 37 Research Journal categorized with Six parental Journals GJCST, GJMR, GJRE, GJMBR, GJSFR, GJHSS. For Authors should prefer the mentioned categories. There are three widely used systems UDC, DDC and LCC. The details are available as 'Knowledge Abstract' at Home page. The major advantage of this coding is that, the research work will be exposed to and shared with all over the world as we are being abstracted and indexed worldwide.

The paper should be in proper format. The format can be downloaded from first page of 'Author Guideline' Menu. The Author is expected to follow the general rules as mentioned in this menu. The paper should be written in MS-Word Format (*.DOC,*.DOCX).

The Author can submit the paper either online or offline. The authors should prefer online submission.<u>Online Submission</u>: There are three ways to submit your paper:

(A) (I) First, register yourself using top right corner of Home page then Login. If you are already registered, then login using your username and password.

(II) Choose corresponding Journal.

(III) Click 'Submit Manuscript'. Fill required information and Upload the paper.

(B) If you are using Internet Explorer, then Direct Submission through Homepage is also available.

(C) If these two are not conveninet , and then email the paper directly to dean@globaljournals.org.

Offline Submission: Author can send the typed form of paper by Post. However, online submission should be preferred.

MANUSCRIPT STYLE INSTRUCTION (Must be strictly followed)

Page Size: 8.27" X 11'"

- Left Margin: 0.65
- Right Margin: 0.65
- Top Margin: 0.75
- Bottom Margin: 0.75
- Font type of all text should be Swis 721 Lt BT.
- Paper Title should be of Font Size 24 with one Column section.
- Author Name in Font Size of 11 with one column as of Title.
- Abstract Font size of 9 Bold, "Abstract" word in Italic Bold.
- Main Text: Font size 10 with justified two columns section
- Two Column with Equal Column with of 3.38 and Gaping of .2
- First Character must be three lines Drop capped.
- Paragraph before Spacing of 1 pt and After of 0 pt.
- Line Spacing of 1 pt
- Large Images must be in One Column
- Numbering of First Main Headings (Heading 1) must be in Roman Letters, Capital Letter, and Font Size of 10.
- Numbering of Second Main Headings (Heading 2) must be in Alphabets, Italic, and Font Size of 10.

You can use your own standard format also.
Author Guidelines:

1. General,

2. Ethical Guidelines,

3. Submission of Manuscripts,

4. Manuscript's Category,

5. Structure and Format of Manuscript,

6. After Acceptance.

1. GENERAL

Before submitting your research paper, one is advised to go through the details as mentioned in following heads. It will be beneficial, while peer reviewer justify your paper for publication.

Scope

The Global Journals Inc. (US) welcome the submission of original paper, review paper, survey article relevant to the all the streams of Philosophy and knowledge. The Global Journals Inc. (US) is parental platform for Global Journal of Computer Science and Technology, Researches in Engineering, Medical Research, Science Frontier Research, Human Social Science, Management, and Business organization. The choice of specific field can be done otherwise as following in Abstracting and Indexing Page on this Website. As the all Global

Journals Inc. (US) are being abstracted and indexed (in process) by most of the reputed organizations. Topics of only narrow interest will not be accepted unless they have wider potential or consequences.

2. ETHICAL GUIDELINES

Authors should follow the ethical guidelines as mentioned below for publication of research paper and research activities.

Papers are accepted on strict understanding that the material in whole or in part has not been, nor is being, considered for publication elsewhere. If the paper once accepted by Global Journals Inc. (US) and Editorial Board, will become the copyright of the Global Journals Inc. (US).

Authorship: The authors and coauthors should have active contribution to conception design, analysis and interpretation of findings. They should critically review the contents and drafting of the paper. All should approve the final version of the paper before submission

The Global Journals Inc. (US) follows the definition of authorship set up by the Global Academy of Research and Development. According to the Global Academy of R&D authorship, criteria must be based on:

1) Substantial contributions to conception and acquisition of data, analysis and interpretation of the findings.

2) Drafting the paper and revising it critically regarding important academic content.

3) Final approval of the version of the paper to be published.

All authors should have been credited according to their appropriate contribution in research activity and preparing paper. Contributors who do not match the criteria as authors may be mentioned under Acknowledgement.

Acknowledgements: Contributors to the research other than authors credited should be mentioned under acknowledgement. The specifications of the source of funding for the research if appropriate can be included. Suppliers of resources may be mentioned along with address.

Appeal of Decision: The Editorial Board's decision on publication of the paper is final and cannot be appealed elsewhere.

Permissions: It is the author's responsibility to have prior permission if all or parts of earlier published illustrations are used in this paper.

Please mention proper reference and appropriate acknowledgements wherever expected.

If all or parts of previously published illustrations are used, permission must be taken from the copyright holder concerned. It is the author's responsibility to take these in writing.

Approval for reproduction/modification of any information (including figures and tables) published elsewhere must be obtained by the authors/copyright holders before submission of the manuscript. Contributors (Authors) are responsible for any copyright fee involved.

3. SUBMISSION OF MANUSCRIPTS

Manuscripts should be uploaded via this online submission page. The online submission is most efficient method for submission of papers, as it enables rapid distribution of manuscripts and consequently speeds up the review procedure. It also enables authors to know the status of their own manuscripts by emailing us. Complete instructions for submitting a paper is available below.

Manuscript submission is a systematic procedure and little preparation is required beyond having all parts of your manuscript in a given format and a computer with an Internet connection and a Web browser. Full help and instructions are provided on-screen. As an author, you will be prompted for login and manuscript details as Field of Paper and then to upload your manuscript file(s) according to the instructions.

To avoid postal delays, all transaction is preferred by e-mail. A finished manuscript submission is confirmed by e-mail immediately and your paper enters the editorial process with no postal delays. When a conclusion is made about the publication of your paper by our Editorial Board, revisions can be submitted online with the same procedure, with an occasion to view and respond to all comments.

Complete support for both authors and co-author is provided.

4. MANUSCRIPT'S CATEGORY

Based on potential and nature, the manuscript can be categorized under the following heads:

Original research paper: Such papers are reports of high-level significant original research work.

Review papers: These are concise, significant but helpful and decisive topics for young researchers.

Research articles: These are handled with small investigation and applications

Research letters: The letters are small and concise comments on previously published matters.

5.STRUCTURE AND FORMAT OF MANUSCRIPT

The recommended size of original research paper is less than seven thousand words, review papers fewer than seven thousands words also.Preparation of research paper or how to write research paper, are major hurdle, while writing manuscript. The research articles and research letters should be fewer than three thousand words, the structure original research paper; sometime review paper should be as follows:

Papers: These are reports of significant research (typically less than 7000 words equivalent, including tables, figures, references), and comprise:

(a)Title should be relevant and commensurate with the theme of the paper.

(b) A brief Summary, "Abstract" (less than 150 words) containing the major results and conclusions.

(c) Up to ten keywords, that precisely identifies the paper's subject, purpose, and focus.

(d) An Introduction, giving necessary background excluding subheadings; objectives must be clearly declared.

(e) Resources and techniques with sufficient complete experimental details (wherever possible by reference) to permit repetition; sources of information must be given and numerical methods must be specified by reference, unless non-standard.

(f) Results should be presented concisely, by well-designed tables and/or figures; the same data may not be used in both; suitable statistical data should be given. All data must be obtained with attention to numerical detail in the planning stage. As reproduced design has been recognized to be important to experiments for a considerable time, the Editor has decided that any paper that appears not to have adequate numerical treatments of the data will be returned un-refereed;

(g) Discussion should cover the implications and consequences, not just recapitulating the results; conclusions should be summarizing.

(h) Brief Acknowledgements.

(i) References in the proper form.

Authors should very cautiously consider the preparation of papers to ensure that they communicate efficiently. Papers are much more likely to be accepted, if they are cautiously designed and laid out, contain few or no errors, are summarizing, and be conventional to the approach and instructions. They will in addition, be published with much less delays than those that require much technical and editorial correction.

The Editorial Board reserves the right to make literary corrections and to make suggestions to improve briefness.

It is vital, that authors take care in submitting a manuscript that is written in simple language and adheres to published guidelines.

Format

Language: The language of publication is UK English. Authors, for whom English is a second language, must have their manuscript efficiently edited by an English-speaking person before submission to make sure that, the English is of high excellence. It is preferable, that manuscripts should be professionally edited.

Standard Usage, Abbreviations, and Units: Spelling and hyphenation should be conventional to The Concise Oxford English Dictionary. Statistics and measurements should at all times be given in figures, e.g. 16 min, except for when the number begins a sentence. When the number does not refer to a unit of measurement it should be spelt in full unless, it is 160 or greater.

Abbreviations supposed to be used carefully. The abbreviated name or expression is supposed to be cited in full at first usage, followed by the conventional abbreviation in parentheses.

Metric SI units are supposed to generally be used excluding where they conflict with current practice or are confusing. For illustration, 1.4 l rather than 1.4 × 10-3 m3, or 4 mm somewhat than 4 × 10-3 m. Chemical formula and solutions must identify the form used, e.g. anhydrous or hydrated, and the concentration must be in clearly defined units. Common species names should be followed by underlines at the first mention. For following use the generic name should be constricted to a single letter, if it is clear.

Structure

All manuscripts submitted to Global Journals Inc. (US), ought to include:

Title: The title page must carry an instructive title that reflects the content, a running title (less than 45 characters together with spaces), names of the authors and co-authors, and the place(s) wherever the work was carried out. The full postal address in addition with the e-mail address of related author must be given. Up to eleven keywords or very brief phrases have to be given to help data retrieval, mining and indexing.

Abstract, used in Original Papers and Reviews:

Optimizing Abstract for Search Engines

Many researchers searching for information online will use search engines such as Google, Yahoo or similar. By optimizing your paper for search engines, you will amplify the chance of someone finding it. This in turn will make it more likely to be viewed and/or cited in a further work. Global Journals Inc. (US) have compiled these guidelines to facilitate you to maximize the web-friendliness of the most public part of your paper.

Key Words

A major linchpin in research work for the writing research paper is the keyword search, which one will employ to find both library and Internet resources.

One must be persistent and creative in using keywords. An effective keyword search requires a strategy and planning a list of possible keywords and phrases to try.

Search engines for most searches, use Boolean searching, which is somewhat different from Internet searches. The Boolean search uses "operators," words (and, or, not, and near) that enable you to expand or narrow your affords. Tips for research paper while preparing research paper are very helpful guideline of research paper.

Choice of key words is first tool of tips to write research paper. Research paper writing is an art.A few tips for deciding as strategically as possible about keyword search:

- One should start brainstorming lists of possible keywords before even begin searching. Think about the most important concepts related to research work. Ask, "What words would a source have to include to be truly valuable in research paper?" Then consider synonyms for the important words.
- It may take the discovery of only one relevant paper to let steer in the right keyword direction because in most databases, the keywords under which a research paper is abstracted are listed with the paper.
- One should avoid outdated words.

Keywords are the key that opens a door to research work sources. Keyword searching is an art in which researcher's skills are bound to improve with experience and time.

Numerical Methods: Numerical methods used should be clear and, where appropriate, supported by references.

Acknowledgements: Please make these as concise as possible.

References

References follow the Harvard scheme of referencing. References in the text should cite the authors' names followed by the time of their publication, unless there are three or more authors when simply the first author's name is quoted followed by et al. unpublished work has to only be cited where necessary, and only in the text. Copies of references in press in other journals have to be supplied with submitted typescripts. It is necessary that all citations and references be carefully checked before submission, as mistakes or omissions will cause delays.

References to information on the World Wide Web can be given, but only if the information is available without charge to readers on an official site. Wikipedia and Similar websites are not allowed where anyone can change the information. Authors will be asked to make available electronic copies of the cited information for inclusion on the Global Journals Inc. (US) homepage at the judgment of the Editorial Board.

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.

Preparation of Electronic Figures for Publication

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.

Color Charges: It is the rule of the Global Journals Inc. (US) for authors to pay the full cost for the reproduction of their color artwork. Hence, please note that, if there is color artwork in your manuscript when it is accepted for publication, we would require you to complete and return a color work agreement form before your paper can be published.

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.

6. AFTER ACCEPTANCE

Upon approval of a paper for publication, the manuscript will be forwarded to the dean, who is responsible for the publication of the Global Journals Inc. (US).

6.1 Proof Corrections

The corresponding author will receive an e-mail alert containing a link to a website or will be attached. A working e-mail address must therefore be provided for the related author.

Acrobat Reader will be required in order to read this file. This software can be downloaded

(Free of charge) from the following website:

www.adobe.com/products/acrobat/readstep2.html. This will facilitate the file to be opened, read on screen, and printed out in order for any corrections to be added. Further instructions will be sent with the proof.

Proofs must be returned to the dean at dean@globaljournals.org within three days of receipt.

As changes to proofs are costly, we inquire that you only correct typesetting errors. All illustrations are retained by the publisher. Please note that the authors are responsible for all statements made in their work, including changes made by the copy editor.

6.2 Early View of Global Journals Inc. (US) (Publication Prior to Print)

The Global Journals Inc. (US) are enclosed by our publishing's Early View service. Early View articles are complete full-text articles sent in advance of their publication. Early View articles are absolute and final. They have been completely reviewed, revised and edited for publication, and the authors' final corrections have been incorporated. Because they are in final form, no changes can be made after sending them. The nature of Early View articles means that they do not yet have volume, issue or page numbers, so Early View articles cannot be cited in the conventional way.

6.3 Author Services

Online production tracking is available for your article through Author Services. Author Services enables authors to track their article - once it has been accepted - through the production process to publication online and in print. Authors can check the status of their articles online and choose to receive automated e-mails at key stages of production. The authors will receive an e-mail with a unique link that enables them to register and have their article automatically added to the system. Please ensure that a complete e-mail address is provided when submitting the manuscript.

6.4 Author Material Archive Policy

Please note that if not specifically requested, publisher will dispose off hardcopy & electronic information submitted, after the two months of publication. If you require the return of any information submitted, please inform the Editorial Board or dean as soon as possible.

6.5 Offprint and Extra Copies

A PDF offprint of the online-published article will be provided free of charge to the related author, and may be distributed according to the Publisher's terms and conditions. Additional paper offprint may be ordered by emailing us at: editor@globaljournals.org .

Before start writing a good quality Computer Science Research Paper, let us first understand what is Computer Science Research Paper? So, Computer Science Research Paper is the paper which is written by professionals or scientists who are associated to Computer Science and Information Technology, or doing research study in these areas. If you are novel to this field then you can consult about this field from your supervisor or guide.

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.

4. Make blueprints of paper: The outline is the plan or framework that will help you to arrange your thoughts. It will make your paper logical. But remember that all points of your outline must be related to the topic you have chosen.

5. Ask your Guides: If you are having any difficulty in your research, then do not hesitate to share your difficulty to your guide (if you have any). They will surely help you out and resolve your doubts. If you can't clarify what exactly you require for your work then ask the supervisor to help you with the alternative. He might also provide you the list of essential readings.

6. Use of computer is recommended: As you are doing research in the field of Computer Science, then this point is quite obvious.

7. Use right software: Always use good quality software packages. If you are not capable to judge good software then you can lose quality of your paper unknowingly. There are various software programs available to help you, which you can get through Internet.

8. Use the Internet for help: An excellent start for your paper can be by using the Google. It is an excellent search engine, where you can have your doubts resolved. You may also read some answers for the frequent question how to write my research paper or find model research paper. From the internet library you can download books. If you have all required books make important reading selecting and analyzing the specified information. Then put together research paper sketch out.

9. Use and get big pictures: Always use encyclopedias, Wikipedia to get pictures so that you can go into the depth.

10. Bookmarks are useful: When you read any book or magazine, you generally use bookmarks, right! It is a good habit, which helps to not to lose your continuity. You should always use bookmarks while searching on Internet also, which will make your search easier.

11. Revise what you wrote: When you write anything, always read it, summarize it and then finalize it.

12. Make all efforts: Make all efforts to mention what you are going to write in your paper. That means always have a good start. Try to mention everything in introduction, that what is the need of a particular research paper. Polish your work by good skill of writing and always give an evaluator, what he wants.

13. Have backups: When you are going to do any important thing like making research paper, you should always have backup copies of it either in your computer or in paper. This will help you to not to lose any of your important.

14. Produce good diagrams of your own: Always try to include good charts or diagrams in your paper to improve quality. Using several and unnecessary diagrams will degrade the quality of your paper by creating "hotchpotch." So always, try to make and include those diagrams, which are made by your own to improve readability and understandability of your paper.

15. Use of direct quotes: When you do research relevant to literature, history or current affairs then use of quotes become essential but if study is relevant to science then use of quotes is not preferable.

16. Use proper verb tense: Use proper verb tenses in your paper. Use past tense, to present those events that happened. Use present tense to indicate events that are going on. Use future tense to indicate future happening events. Use of improper and wrong tenses will confuse the evaluator. Avoid the sentences that are incomplete.

17. Never use online paper: If you are getting any paper on Internet, then never use it as your research paper because it might be possible that evaluator has already seen it or maybe it is outdated version.

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.

20. Use good quality grammar: Always use a good quality grammar and use words that will throw positive impact on evaluator. Use of good quality grammar does not mean to use tough words, that for each word the evaluator has to go through dictionary. Do not start sentence with a conjunction. Do not fragment sentences. Eliminate one-word sentences. Ignore passive voice. Do not ever use a big word when a diminutive one would suffice. Verbs have to be in agreement with their subjects. Prepositions are not expressions to finish sentences with. It is incorrect to ever divide an infinitive. Avoid clichés like the disease. Also, always shun irritating alliteration. Use language that is simple and straight forward. put together a neat summary.

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.

32. Never oversimplify everything: To add material in your research paper, never go for oversimplification. This will definitely irritate the evaluator. Be more or less specific. Also too, by no means, ever use rhythmic redundancies. Contractions aren't essential and shouldn't be there used. Comparisons are as terrible as clichés. Give up ampersands and abbreviations, and so on. Remove commas, that are, not necessary. Parenthetical words however should be together with this in commas. Understatement is all the time the complete best way to put onward earth-shaking thoughts. Give a detailed literary review.

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 definite statistics - 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.

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.

The Administration Rules

Please carefully note down following rules and regulation before submitting your Research Paper to Global Journals Inc. (US):

Segment Draft and Final Research Paper: You have to strictly follow the template of research paper. If it is not done your paper may get rejected.

- The **major constraint** is that you must independently make all content, tables, graphs, and facts that are offered in the paper. You must write each part of the paper wholly on your own. The Peer-reviewers need to identify your own perceptive of the concepts in your own terms. NEVER extract straight from any foundation, and never rephrase someone else's analysis.
- Do not give permission to anyone else to "PROOFREAD" your manuscript.
- Methods to avoid Plagiarism is applied by us on every paper, if found guilty, you will be blacklisted by all of our collaborated research groups, your institution will be informed for this and strict legal actions will be taken immediately.)
- To guard yourself and others from possible illegal use please do not permit anyone right to use to your paper and files.

Criterion for Grading a Research Paper (Compilation) by Global Journals Inc. (US)

Please note that following table is only a Grading of "Paper Compilation" and not on "Performed/Stated Research" whose grading solely depends on Individual Assigned Peer Reviewer and Editorial Board Member. These can be available only on request and after decision of Paper. This report will be the property of Global Journals Inc. (US).

Topics	Grades		
	A-B	**C-D**	**E-F**
Abstract	Clear and concise with appropriate content, Correct format. 200 words or below	Unclear summary and no specific data, Incorrect form Above 200 words	No specific data with ambiguous information Above 250 words
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

save our planet

Global Journal of Human Social Science

Visit us on the Web at www.GlobalJournals.org | www.SocialScienceResearch.org
or email us at helpdesk@globaljournals.org

ISSN 975587