

**ASSESSING DAM INFRASTRUCTURE AND
HAPPINESS OF RURAL DWELLERS: A CASE OF
SHIRORO HYDRO ELECTRICITY DAM COMMUNITY
IN NIGERIA**

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DWELLERS: A CASE OF SHIRORO HYDRO ELECTRICITY DAM
COMMUNITY IN NIGERIA**

By

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**Thesis Submitted to
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of Doctor of Philosophy**

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ABSTRACT

Since independence, Nigeria has adopted the central planning approach to development and structural transformation as a deliberate strategy to influence and control the principal sectors of the economy in order to achieve growth and development for the well-being of the citizenry. It was in this spirit that the Shiroro Hydro Electricity Dam was installed in Shiroro village within Niger State in 1990. However, important aspects like the happiness of the host community and the internal security of the installed dam and the likely repercussions such as vandalization of the dam by the host community has often been ignored. The idea behind this research work therefore, is to ascertain the impact of the Shiroro Hydro Electricity Dam on the happiness of the Shiroro community. In order to accomplish this research objective, the study analyzed the socio-economic variables of state of mind, household per capita income, physical environment and social amenities as yardsticks of generating happiness from the treatment and control groups. The study used the Propensity Score Matching technique and the Binary Probit Model to analyze the data. The result obtained indicates that the income level of the community has increased by 18 per cent. However, the community's happiness status is found to be negative due largely to the loss of farmland, and environmental predicaments like flood and inadequate rural infrastructure amenities. Therefore, the study recommends that the government introduce a flood forecast structure of early warnings to minimize flood damage, introduce farm-education schemes to change the community's perception of their proneness to local resources opportunities, and introduce a Rural Infrastructure Trust Fund to overcome the social amenity predicament in the community. It is concluded that these support schemes would not only serve as compensation to the dam- created negative externalities but also would go a long way at reducing violence and crime, hence improving the happiness of the host community.

Keywords: happiness, infrastructure, host community, Shiroro dam

ABSTRAK

Sejak merdeka, Nigeria menerima pakai pendekatan perancangan pusat dalam pembangunan dan transformasi struktur sebagai strategi untuk mempengaruhi dan mengawal sektor ekonomi utama dalam mencapai pembangunan dan pertumbuhan ekonomi bagi tujuan kesejahteraan rakyat. Berdasarkan semangat berkenaan, Empangan Hidro Elektrik Shiroro dibina di perkampungan Shiroro di dalam negeri Niger pada tahun 1990. Bagaimanapun, aspek penting seperti isu kebahagiaan masyarakat tuan rumah dan keselamatan dalaman untuk empangan yang dipasang serta kemungkinan kesan vandalisme yang dilakukan oleh masyarakat tuan rumah ke atas infrastruktur yang dibina seringkali diabaikan. Objektif utama penyelidikan ini, adalah untuk melihat kesan Empangan Hidro Elektrik Shiroro ke atas kebahagiaan masyarakat Shiroro. Dalam usaha untuk mencapai objektif penyelidikan, kajian ini menganalisis pemboleh ubah sosio-ekonomi seperti keadaan minda, pendapatan isi rumah per kapita, persekitaran fizikal dan kemudahan sosial sebagai ukuran kebahagiaan ke atas kumpulan rawatan dan kawalan. Kajian ini menggunakan teknik skor kecenderungan sepadan dan model probit binari dalam menganalisis data. Hasil kajian menunjukkan bahawa paras pendapatan masyarakat telah meningkat sebanyak 18 peratus. Bagaimanapun, status kebahagiaan masyarakat adalah berkurangan, sebahagian besarnya disebabkan oleh masalah kehilangan ladang, masalah alam sekitar seperti banjir dan masalah kemudahan infrastruktur luar bandar yang tidak mencukupi. Oleh itu, kajian ini mencadangkan agar pihak kerajaan memperkenalkan struktur amaran awal peramalan banjir bagi meminimumkan kesan kerosakan banjir, mengadakan skim pendidikan ladang bagi mengubah persepsi masyarakat daripada kawasan bencana kepada peluang sumber tempatan dan memperkenalkan tabung dana amanah infrastruktur luar bandar bagi mengatasi masalah kemudahan sosial di luar bandar. Kesimpulannya, kesemua skim sokongan ini bukan sahaja dapat menampung ganti rugi disebabkan oleh pembinaan empangan tetapi juga membantu dalam mengurangkan jenayah dan keganasan dan seterusnya meningkatkan tahap kebahagiaan masyarakat tuan rumah.

Kata kunci: kebahagiaan, infrastruktur, masyarakat tuan rumah, empangan Shiroro

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LIST OF ABBREVIATIONS

AHI	Average Happiness Index
ATE	Average Treatment Effect
ATT	Average Treatment effect on the Treated
ATU	Average Treatment effect on the Untreated
BC	Before Christ
CHI	Chinese Happiness Inventory
ECN	Electricity Corporation of Nigeria
FCT	Federal Capital Territory
GDP	Gross Domestic Product
GHN	Gross National Happiness
GNP	Gross National Product
GPP	Global Poverty Project
HDI	Human Development Index
HHY	Household Per Capita Income
ILO	International Labour Organisation
KGM	Kernel Gaussian matching
LGA	Local government Area
MHS	Marital Happiness Scale
NDA	Niger Dam Authority
NDP	National Development Plan
NEEDS	National Economic Empowerment and Development Strategy
NEPA	National Electric Power Authority
NESCO	Nigerian Electric Supply Company
NNNPC	Nigerian National Petroleum Corporation
NNM	Nigerian Electric Supply Company

NSG	Niger State Government
OECD	Organization for Economic Co-operation and Development
OHI	Oxford happiness Inventory
PEV	Physical Environment
PHCN	Power Holding Company of Nigeria
PSM	Propensity Score Matching
QOL	Quality Of Life
RM	Radius Matching
SAP	Structural Adjustment Program
SIA	Social Impact Assessment
SOM	State Of Mind
UNICEF	United Nations International Children's Emergency Fund
USA	United States of America
WDR	World Development Report
UK	United Kingdom

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CHAPTER INTRODUCTION

1.1 Introduction

“All men seek happiness. There are no exceptions. However different the means they may employ, they all strive towards this goal. The reason why some go to war and some do not is the same desire in both, but interpreted in two different ways. They will never take the least step except to that end. This is the motive of every act of every man, including those who go and hang themselves” - Alexander Pope in (Ahmed, Teferra, Yuya, & Melese, 2014; Kesebir & Diener, 2009).

Early man began his keen economic desires wandering all day for survival on natural resources. The act of wandering for livelihood came to a halt when he realized fruit seeds grow around his immediate environment. This marked the beginning of farming, formation of city-states and man’s attempt to dominate earth – technology and growth.

Infrastructure is one of the major pilots of growth in every economy. The services provided by infrastructural capital stock are fundamental to global political economy as it provides social and economic benefit to the global community (Ness, 2007). The impact of infrastructure on economic growth has been marvellously spelt out by some past studies in some big economies of the world like UK, Japan, USA etc (WDR, 1994), that investment in this aspect leads to reduced cost of production which translates to economic growth.

Global political economy is the relations of economy to broader social conditions, including the distribution of power (and its sources) and the ways by which individual lives are bring together to the demands of social transformation. Hence, Political economy at all times work toward growth and development, which is important within broader contexts of social and economic change. Of course, it is

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REFERENCES

- Adenikinju, A. F. (2005). *Analysis of the cost of infrastructure failures in a developing economy: The case of the electricity sector in Nigeria* (Vol. 148): African Economic Research Consortium.
- Adetola, A., Goulding, J., & Liyanage, C. (2010). A Critical Appraisal of Road Transport Infrastructure Management in Nigeria. *Public Private Partnerships*, 77 - 88..
- Adomi, E. E., Ayo, B. T., & Nakpodia, E. (2007). A better response rate for questionnaires: Attitudes of librarians in Nigerian University Libraries. *phylosophy and Practce*, 1 - 7.
- Agénor, P.-R. (2010). A theory of infrastructure-led development. *Journal of Economic Dynamics and Control*, 34(5), 932-950.
- Ahmed, M. H., Teferra, A. T., Yuya, B. A., & Melese, K. A. (2014). Impact of Soil Conservation on Farm Efficiency of Maize Growers in Arsi Negelle, Central Rift Valley of Ethiopia. *International Journal of Economics and Empirical Research (IJEER)*, 2(2), 36-43.
- Ahuvia, A. C. (2002). Individualism/collectivism and cultures of happiness: A theoretical conjecture on the relationship between consumption, culture and

- subjective well-being at the national level. *Journal of Happiness Studies*, 3(1), 23-36.
- Ai, C., & Norton, E. C. (2003). Interaction terms in logit and probit models. *Economics letters*, 80(1), 123-129.
- Akinwale, A. A. (2010). The menace of inadequate infrastructure in Nigeria. *African Journal on Science, Technology, Innovation and Development*, 2(3), 208-229.
- Aleseye, M., Rephann, T., & Isserman, A. (2003). The Local Economic Effects of Large Dam Reserviors: U.S Experience 1975 - 95. *Revised version published in Review of Urban and Regional Development Studies.*, 10(2), 91 - 108.
- Anderson, D. R., Sweeney, D. J., & Williams, T. A. (2011). *Statistics for Business and Economics*. Mason, USA: South-Western, Cengage Learning.
- Anielski, M. (2007). *The economics of happiness: Building genuine wealth*. Gabriola Island, Canada: New Society Publishers.
- Anwana, E. (2010). Impact of Oil Exploitation on Sustainable Development and Green Economy in Nigeria: The Niger Delta Case.
- Argyle, M. (2001). *The psychology of happiness*. East Sussex: Routledge.
- Askarov, M. (2012). The Significance of Being Downstream: Uzbek Concerns Over the Rogun Dam. *Research in Social Problems and Public Policy*, 20, 65-74.
- Ayilla, M. (1990). IBB Commissions Shiroro Dam, *New Nigerian Newspaper*, p. 1 and 3.

- Ayogu, M. D. (2000). *The political economy of infrastructure investments in Nigeria*. Paper presented at the Annual Bank Conference on Development Economics Washington, DC.
- Babatunde, O., Afees, S. A., & Olasunkanmi, O. I. (2012). Infrastructure and Economic Growth in Nigeria: A multivariate Approach. *Research Journal of Business Management and Accounting* 1(3), 30-39.
- Barrow, R. (2012). *Happiness* (Vol. 131). New York: Routledge.
- Becerril, J., & Abdulai, A. (2010). The impact of improved maize varieties on poverty in Mexico: a propensity score-matching approach. *World Development*, 38(7), 1024-1035.
- Beck, M. W., Claassen, A. H., & Hundt, P. J. (2012). Environmental and Livelihood Impacts of Dams: Common Lessons across Development Gradients that Challenge Sustainability. *International Journal of River Basin Management*, 10(1), 73-92.
- Becker, S. O., & Ichino, A. (2002). Estimation of average treatment effects based on propensity scores. *The stata journal*, 2(4), 358-377.
- Bekhet, A. K., Zauszniewski, J. A., & Nakhla, W. E. (2008). Happiness: Theoretical and Empirical Considerations. *Nursing Forum*, 43(01), 12-23.
- Bentham, J. (1781). *An Introduction to the Principles of Morals and Legislation*, reprint: Kitchener : Batoche Books.
- Biswas-Diener, R. (2008). Material wealth and subjective well-being. In M. Eid & R. J. Larsen (Series Eds.), *The science of subjective well-being* (pp. 307-322).

- Blanchflower, D. G., & Oswald, A. J. (2004). Well-being over time in Britain and the USA. *Journal of public Economics*, 88(7), 1359-1386.
- Boniwell, I. (2008). *Positive psychology in a nutshell: A balanced introduction to the science of optimal functioning*: Personal Well-Being Centre.
- Boswell, T., & Dixon, W. J. (1993). Marx's theory of rebellion: A cross-national analysis of class exploitation, economic development, and violent revolt. *American sociological review*, 681-702.
- Brown, S., Taylor, K., & Wheatley Price, S. (2005). Debt and distress: Evaluating the psychological cost of credit. *Journal of economic psychology*, 26(5), 642-663.
- Bruni, L. (2006). *Civil Happiness: Economics and Human Flourishing in Historical Perspective*: New York: Routledge.
- Bruni, L. (2007). The 'Technology of Happiness' and the Tradition of Economic Science L. Bruni & P. L. Porta (Eds.), *Handbook on the Economics of Happiness*
- Bruni, L., & Stanca, L. (2006). Income aspirations, television and happiness: Evidence from the world values survey. *Kyklos*, 59(2), 209-225.
- Bryceson, D. F., Bradbury, A., & Bradbury, T. (2008). Roads to poverty reduction? Exploring rural roads' impact on mobility in Africa and Asia. *Development policy review*, 26(4), 459-482.
- Burnett, S. (2011). *The Happiness Agenda: A Modern Obsession*: Palgrave Macmillan.

- Caliendo, M., & Kopeinig, S. (2008). Some practical guidance for the implementation of propensity score matching. *Journal of Economic Surveys*, 22(1), 31-72.
- Carolyn, H., Maffioli, A., & Vazquez, G. (2010). Impact Evaluation Guidelines: A premier for applying Propensity Score Matching (pp. 1 - 56): Inter-America Development Bank.
- CBN. (2000). *The Changing Structure of Nigerian Economy and the Implication for Development*. Lagos: Real Communication Ltd.
- Chandra, A., & Thompson, E. (2000). Does public infrastructure affect economic activity?: Evidence from the rural interstate highway system. *Regional Science and Urban Economics*, 30(4), 457-490.
- Chirwa, T. G. (2010). Program evaluation of agricultural input subsidies in Malawi using treatment effects: Methods and practicability based on propensity scores *Millennium Challenge Account - Malawi*: Munich Personal RePEc Archive (MPRA).
- Choy, Y. K. (2004). Sustainable Development and the Social and Cultural Impact of a Dam-Induced Development Strategy-the Bakun Experience. *Pacific Affairs*, 50-68.
- Christopher J. Boyce1, Wood, A. M., Banks, J., Clark, A. E., & Brown, G. D. A. (2013). Money, Well-Being, and Loss Aversion: Does an Income Loss Have a Greater Effect on Well-Being Than an Equivalent Income Gain? *Psychological Science* 24(12), 2557–2562.

- Cluver, L., Boyes, M., Orkin, M., Pantelic, M., Molwena, T., & Sherr, L. (2013). Child-focused state cash transfers and adolescent risk of HIV infection in South Africa: a propensity-score-matched case-control study. *The lancet global health*, 1(6), e362-e370.
- Collier, P., & Hoeffler, A. (2004). Greed and grievance in civil war. *Oxford economic papers*, 56(4), 563-595.
- Costley, C., Friend, L., Meese, E., Ebbers, C., & Wang, L. J. (2011). Happiness, Consumption and Being. *Research in Consumer Behavior*, 11, 209-240.
- Coulmas, F. (2010). The Quest for Happiness in Japan. *関西学院大学先端社会研究所紀要= Annual review of the institute for advanced social research*(2), 1-25.
- Curini, L., Jou, W., & Memoli, V. (2014). How moderates and extremists find happiness: Ideological orientation, citizen–government proximity, and life satisfaction. *International Political Science Review*, 35(2), 129-152.
- Datta, G., & Meerman, J. (1980). Household Income or Household Income Per Capita in Welfare Comparisons. *Review of Income and Wealth*, 26(4), 401-418.
- De Vries, M. F. K. (2009). *Sex, Money, Happiness, and Death: The Quest for Authenticity*. Hampshire: Palgrave Macmillan.
- Di Tella, R., & MacCulloch, R. (2008). Gross national happiness as an answer to the Easterlin Paradox? *Journal of Development Economics*, 86(1), 22-42.

- Diener-Ed, & Martin, S. (2009). Beyond Money: Toward an Economy of Well-being. In E. Diener (Ed.), *The Science of Well-Being* (pp. 201-265). New York: Springer.
- Diener, E. (2000). Subjective Well-being: The Science of Happiness and a Proposal for a National Index. *American psychologist*, 55(1), 34.
- Diener, E., & Biswas-Diener, R. (2002). Will money increase subjective well-being? *Social indicators research*, 57(2), 119-169.
- Diener, E., & Biswas-Diener, R. (2005). Psychological empowerment and subjective well-being. *Measuring empowerment: Cross-disciplinary perspectives*, 125-140.
- Diener, E., & Seligman, M. E. P. (2009). The Science of Well-being Social Indicator Research Series 37, E. Diener (Ed.) *Beyond Money: Toward an Economy of Well-Being* (pp. 201-265).
- Dipietro, W. R., & Anoruo, E. (2006). GDP per capita and its challengers as measures of happiness. *International Journal of Social Economics*, 33(10), 698-709.
- Dolan, P., Peasgood, T., & White, M. (2008). Do we really know what makes us happy? A review of the economic literature on the factors associated with subjective well-being. *Journal of economic psychology*, 29(1), 94-122.
- Dotson, T. (2012). Technology, choice and the good life: Questioning technological liberalism. *Technology in Society*, 34(4), 326-336.

- Drakopoulos, S., & Karayiannis, A. (2007). Human Needs Hierarchy and Happiness: Evidence from the Late Pre-Classical and Classical Economics. In B. Luigino & P. P. Luigi (Eds.), *Handbook on the Economics of Happiness* (pp. 53-67). Cheltenham, UK:: Edward Elgar Publishing.
- Duflo, E., & Pande, R. (2005). Dams: National Bureau of Economic Research.
- Easterlin, R. A. (1995). Will raising the incomes of all increase the happiness of all? *Journal of Economic Behavior & Organization*, 27(1), 35-47.
- Easterlin, R. A. (2005). Building a Better Theory of Wellbeing L. B. a. P. L. Porta (Ed.) *Economics and Happiness: Framing the Analysis*
- Easterlin, R. A. (2006). Life cycle happiness and its sources: Intersections of psychology, economics, and demography. *Journal of economic psychology*, 27(4), 463-482.
- Ebrahimnejad, S., Mousavi, S. M., & Seyrafianpour, H. (2010). Risk identification and assessment for build–operate–transfer projects: A fuzzy multi attribute decision making model. *Expert Systems with Applications*, 37(1), 575-586.
- Estache, A. (2008). Infrastructure and development: A survey of recent and upcoming issues. *Rethinking infrastructure for development*, 2, 47.
- Etiosa, U. (2006). Dams are Unrenewable: A Discussion Paper. Community Research and Development Centre, Nigeria.
- Ezeazu, E. (1998). 15 Years is Enough: Shiroro Communities Fight Back. *Community: The Quarterly Publication of Community Action for Popular Participation*, 03, 16-18.

- Faiz, A., Faiz, A., Wang, W., & Bennett, C. (2012). Sustainable Rural Roads for Livelihoods and Livability. *Procedia-Social and Behavioral Sciences*, 53, 1-8.
- Floyd, D. (2011). Do traditional measures of economic performance really satisfy the needs of citizens for a better society? *International Journal of Social Economics*, 38(3), 218-223.
- Foster, V., & Pushak, N. (2011). Nigeria's infrastructure: a continental perspective *Policy Research Working Paper Series: World Bank*.
- Fourie, J. (2006). Economic infrastructure: a review of definitions, theory and empirics. *South African Journal of Economics*, 74(3), 530-556.
- Frank, R. H. (2005). Does Absolute Income Matter? I. Brune & P. L. Porta (Eds.), *Economics and Happiness: Framing the Analysis*
- Frankfort-Nachmias, C., & Nachmias, D. (2007). *Research methods in the social sciences*: Worth Publishers.
- Frey, B. (2008) Happiness: A revolution in Economics. *Munich lectures in Economics*. London: The MIT Press.
- Frey, B., & Stutzer, A. (2000). Maximising happiness? *German Economic Review*, 1(2), 145-167.
- Frey, B., & Stutzer, A. (2002a). The economics of happiness. *World Economics*, 3(1), 1-17.
- Frey, B., & Stutzer, A. (2002b). *Happiness and economics: How the economy and institutions affect human well-being*. New Jersey: Princeton University Press.

- Frey, B., & Stutzer, A. (2005a). *Economics and Happiness: Framing the Analysis: Framing the Analysis*: Oxford University Press.
- Frey, B., & Stutzer, A. (2005b). *Testing Theories of Happiness*. New York: Oxford University Press.
- Frey, B., & Stutzer, A. (2008). The thirst for happiness. *Journal of International Business Ethics Vol.1 No.1 2008, 01(02), 07 - 17.*
- Frey, B. S. (2011). Peace, war and happiness: Bruder Klaus as wellbeing facilitator. *International Journal of Wellbeing, 1(2).*
- Frey, B. S., & Stutzer, A. (2007). The Thirst for Happiness. *International Journal of Business Ethic, 01(01), 07-17.*
- Frischmann, B. M. (2005). An economic theory of infrastructure and commons management. *bepress Legal Series, 609.*
- Fu, B.-J., Wu, B.-F., Lü, Y.-H., Xu, Z.-H., Cao, J.-H., Niu, D., . . . Zhou, Y.-M. (2010). Three Gorges Project: Efforts and challenges for the environment. *Progress in Physical Geography.*
- Gaillard, R. (2010). Nigeria: capacity Bulding for PPP Infrastructure. In M. M. M Hassan, E Negash (Ed.), *Project Appraisal Report: African Development Fund.*
- Gajigo, O., & Lukoma, A. (2011). Infrastructure and Agricultural Productivity in Africa. *Market Brief, 23 November, 2011.* Retrieved from www.adb.org website:

- Gavin, J. H., & Mason, R. O. (2004). The value of happiness in the workplace. *Organizational Dynamics*, 33(4), 379-392.
- GPP. (2012). Global Poverty Info Bank. *Conflict and poverty*. Retrieved from http://www.globalpovertyproject.com/pages/contact_us
- Graham, C. (2009). *Happiness around the world: The paradox of happy peasants and miserable millionaires*: Oxford University Press.
- Greene, W. (2010). Testing hypotheses about interaction terms in nonlinear models. *Economics Letters*, 107(2), 291-296.
- Guardiola, J., González-Gómez, F., García-Rubio, M., & Lendechy-Grajales, Á. (2013). Does Higher Income Equal Higher Levels of Happiness in Every Society? The Case of the Mayan People. *International Journal of Social Welfare*, 22(1), 35-44.
- Hafsaas-Tsakos, H. (2011). Ethical implications of salvage archaeology and dam building: The clash between archaeologists and local people in Dar al-Manasir, Sudan. *Journal of Social Archaeology*, 11(1), 49-76.
- Haybron, D. M. (2001). Happiness and Pleasure. *Philosophy and Phenomenological Research*, LXII,(03), 501 - 528.
- Haybron, D. M. (2005). On Being Happy or Unhappy. *Philosophy and Phenomenological Research*, 71(2), 287-317.
- Haybron, D. M. (2008a). Philosophy and Science of Well being. In M. Eid & R. J. Larsen (Eds.), *The Science of Subjective Well Being* (pp. 17 - 43). New York: The Guilford Press.

- Haybron, D. M. (2008b). *The Pursuit of Unhappiness: The Elusive Psychology of Well-Being*. New York: Oxford University Press Inc.
- Headey, B. (2007). The set-point theory of well-being needs replacing: on the brink of a scientific revolution? : Discussion papers//German Institute for Economic Research.
- Hefferon, K., & Boniwell, I. (2011). *Positive Psychology: Theory, Research and Applications* (First ed.). England: Open University Press.
- Heinrich, C., Maffioli, A., & Vazquez, G. (2010). A primer for applying propensity-score matching: Inter-American Development Bank.
- Helliwell, J., Layard, R., & Sachs, J. (2013). World happiness report.
- Helliwell, J. F. (2003). How's life? Combining individual and national variables to explain subjective well-being. *Economic Modelling*, 20(2), 331-360.
- Helliwell, J. F. (2006). Well-Being, Social Capital and Public Policy: What's New? *The Economic Journal*, 116(510), C34-C45.
- Helliwell, J. F., & Huang, H. (2006). *How's Your Government?: International Evidence Linking Good Government and Well-being*: Cambridge Univ Press.
- Hurst, M., Dittmar, H., Bond, R., & Kasser, T. (2013). The relationship between materialistic values and environmental attitudes and behaviors: A meta-analysis. *Journal of Environmental Psychology*, 36, 257-269.
- Iacono, M., & Levinson, D. (2012). Rural Highway Expansion and Economic Development: Impacts on Private Earnings and Employment.

- Iganiga, B., & Unemhilin, D. (2011). The Impact of Federal Government Agricultural Expenditure on Agricultural Output in Nigeria.
- Inoni, O. (2009). Effect of road infrastructure on agricultural output and income of rural households in Delta State, Nigeria. *Agricultura Tropica et Subtropica*, 42 - 32.
- Iwayemi, A. (2008). *Nigeria's Dual Energy Problems: Policy Issues and Challenges*. Paper presented at the Proceedings of 31st International Conference of International Association for Energy Economics.
- Kacapyr, E. (2008). Cross-country determinants of satisfaction with life. *International Journal of Social Economics*, 35(6), 400-416.
- Kaun, D. E. (2005). Income and happiness: earning and spending as sources of discontent. *The Journal of Socio-Economics*, 34(2), 161-177.
- Kavetsos, G., & Koutroumpis, P. (2011). Technological affluence and subjective well-being. *Journal of economic psychology*, 32(5), 742-753.
- Kesebir, P., & Diener, E. (2009). In pursuit of happiness: Empirical answers to philosophical questions *The Science of Well-Being* (pp. 59-74): Springer.
- Kessides, C. (1993). *The contributions of infrastructure to economic development: A review of experience and policy implications* (Vol. 213): World Bank Publications.
- Khan, M. T., Islam, M., Chattha, T. H., & Hayat, R. (2011). Impacts of Mini Dams on Socioeconomic Development of Farmers of Rainfed Region. *Journal of Agriculture and Social Sciences*, 7 - 18.

- Khandker, S. R., Koolwal, G. B., & Samad, H. A. (2010). Handbook on Impact Evaluation : Quantitative Methods and Practices
- Kimball, M., & Willis, R. (2006). Utility and happiness. *University of Michigan*.
- Kotrlik, J. W. K. J. W., & Higgins, C. C. H. C. C. (2001). Organizational research: Determining appropriate sample size in survey research appropriate sample size in survey research. *Information technology, learning, and performance journal, 19*(1), 43.
- Kumudu, G., William, A., & Lakshmanan, T. (2008). Highway-induced development: evidence from Sri Lanka. *World Development, 36*(11), 2371-2389.
- MacKerron, G. (2012). Happiness economics from 35 000 feet. *Journal of Economic Surveys, 26*(4), 705-735.
- MacKerron, G., & Mourato, S. (2013a). Happiness is Greater in Natural Environments. *Global Environmental Change, 23* (5), 992-1000.
- MacKerron, G., & Mourato, S. (2013b). Happiness is greater in natural environments. *Global Environmental Change, 23*(5), 992-1000.
- Mahadea, D., & Rawat, T. (2008). Economic growth, income and happiness: An exploratory study. *South African Journal of Economics, 76*(2), 276-290.
- Mahanta, C. (2010). India's North East and Hydropower Development Future Security Challenges. *South Asian Survey, 17*(1), 131-146.

- Marcellus, I. O. (2009). Development planning in nigeria: reflections on the national economic empowerment and development strategy (NEEDS) 2003-2007. *J. Soc Sci*, 20(3), 197-210.
- Martin, M. W. (2012). *Happiness and the good life*: Oxford University Press.
- Masood, A., Ellahi, N., & Batool, Z. (2012). International Journal of Basic and Applied science.
- McCabe, S., & Johnson, S. (2013). The Happiness Factor in Tourism: Subjective Well Being and Social Tourism. *Annals of Tourism Research*, 41, 42-65.
- McMahon, D. M. (2008). The Pursuit of Happiness in History. In M. Eid & R. J. Larsen (Eds.), *The Science of Subjective Well-being* (pp. 80-93). New York: Guilford Press.
- Melgar, N. (2012). Interaction effects in probit models, reinterpreting the impact of education on attitudes towards immigrants and free-trade. *Journal of Reviews on Global Economics*, 1, 82-88.
- Mohit, M. A. (2013). Quality of Life in Natural and Built Environment—An Introductory Analysis. *Procedia-Social and Behavioral Sciences*, 101, 33-43.
- Morgan, S., & Winship, C. (2007). *Counterfactuals and Causal Inference: Methods and Principles for Social Research*. Cambridge: Cambridge University Press.
- Mudzengi, B. K., Ejide, B., Tamuno, S. O., Iroh, W. O., Muchenje, F., Moruff, M., . . . Salam, A. (2012). An Assessment of the Socio-Economic Impacts of the Construction of Siya Dam in the Mazungunye Area: Bikita District of Zimbabwe. *Journal of Sustainable Development in Africa*, 14(4), 1-17.

- Mullen, J. (2007). Productivity growth and the returns from public investment in R&D in Australian broadacre agriculture. *Australian Journal of Agricultural and Resource Economics*, 51(4), 359-384.
- Nelson, J. P. (2004). Meta-analysis of airport noise and hedonic property values. *Journal of Transport Economics and Policy (JTEP)*, 38(1), 1-27.
- Ness, D. (2007). Sustainable infrastructure: Doing more with less by applying eco-efficiency principles. *Sustainable Infrastructure in Asia*, 87.
- Nettle, D. (2005). *Happiness: The science behind your smile*. New Yorks: Oxford University Press.
- NewsWatch. (2011). Crisis Waiting For Opportunity'
- Nordenfelt, L. (1996). *Quality of life, Health and Happiness*. Hants: Avebury - Ashgate Publishing Limited.
- Norton, E. C., Wang, H., & Ai, C. (2004). Computing interaction effects and standard errors in logit and probit models. *Stata Journal*, 4, 154-167.
- NPC. (2010). *Population Distribution by Sex, States, LGAs, and Senatorial Districts*. Abuja: Federal Republic of Nigeria.
- NSG, N. S. G. (2011). Niger State Vision 3:2020. In M. K. Yahaya (Ed.), (pp. 1 - 344): Niger State Government.
- Nussbaum, M. (2005). Mill between Aristotle and Bentham L. Bruni & P. L. Porta (Eds.), *Economics and Happiness: Framing The Analysis*

- O'Brien, C. (2008). Sustainable happiness: How happiness studies can contribute to a more sustainable future. *Canadian Psychology/Psychologie canadienne*, 49(4), 289.
- O'Brien, C. (2010). Sustainability, happiness and education. *Journal of Sustainability Education*, 1.
- Oguzor, N. S. (2011). A spatial analysis of infrastructures and social services in rural Nigeria: Implications for public policy.
- Ogwude, I. (2011). Transport Infrastructure and Mobility in Nigeria. *Journal of International Development*, 9(1), 456 - 467.
- Oishi, S., Graham, J., Kesebir, S., & Galinha, I. C. (2013). Concepts of happiness across time and cultures. *Personality and Social Psychology Bulletin*, 39(5), 559-577.
- Olaseni, M., & Alade, W. (2012). Vision 20: 2020 and the Challenges of Infrastructural Development in Nigeria. *Journal of Sustainable Development*, 5(2), p63.
- Olukanni, D. O., & Salami, A. W. (2012). Assessment of Impact of Hydropower Dams Reservoir Outflow on the Downstream River Flood Regime–Nigeria's Experience. *Hydropower-Practice and Application*, 61-82.
- Oyefusi, A. (2007). Oil-dependence and Civil conflict in Nigeria.
- Oyefusi, A. (2008). Oil and the probability of rebel participation among youths in the Niger Delta of Nigeria. *Journal of Peace Research*, 45(4), 539-555.

- Pacek, A. C. (2009). Politics and Happiness: An Empirical Ledger. In A. K. Dutt & B. Radcliff (Eds.), *Happiness, Economics and Politics: Towards A Multi-disciplinary Approach* (pp. 231-255). Cheltenham: Edward Elgar
- Paki, F., & Ebiefa, K. (2011). Militant Oil Agitations in Nigeria's Niger Delta and the Economy. *International Journal of Humanities and Social Science*, 1(5), 140-145.
- Pasinetti, L. (2005a). Paradoxes of happiness in economics. *Economics & Happiness: Framing the Analysis*, Oxford University Press, Oxford, 336-343.
- Pasinetti, L. (2005b). Paradoxes of happiness in economics L. Bruni & P. L. Porta (Eds.), *Economics and Happiness: Framing the analysis*
- Pearlstein, A. (2012). Pursuit of Happiness and Resolution of Conflict: An Agenda for the Future of ADR. *Pepperdine Dispute Resolution Law Journal*, 12(215), 215-351.
- Peiro, A. (2006). Happiness, satisfaction and socio-economic conditions: Some international evidence. *The Journal of Socio-Economics*, 35(2), 348-365.
- Poff, N. L., & Hart, D. D. (2002). How Dams Vary and Why It Matters for the Emerging Science of Dam Removal: An ecological classification of dams. *BioScience*, 52(8), 659-668.
- Porta, P. L., & Scazzieri, R. (2007). 5 Public happiness and civil society. *Handbook on the Economics of Happiness*, 95.
- Rankin, W. J. (2009). Infrastructure and the international governance of economic development, 1950–1965. *Internationalization of Infrastructures*, 61.

- Read, D. (2004). Utility theory from jeremy bentham to daniel kahneman.
- Rehdanz, K., & Maddison, D. (2005). Climate and happiness. *Ecological Economics*, 52(1), 111-125.
- Rephann, T., Dalton, M., Stair, A., & Isserman, A. (1997). Casino gambling as an economic development strategy. *Tourism Economics*, 3(2), 161-183.
- Robertson, I., & Cooper, C. (2011). *Well-Being, Productivity and Happiness at work*. New York: Palgrave Macmillan.
- Ryan, R. M., & Deci, E. L. (2001). On happiness and human potentials: A review of research on hedonic and eudaimonic well-being. *Annual review of psychology*, 52(1), 141-166.
- Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of personality and social psychology*, 57(6), 1069.
- Ryff, C. D., & Keyes, C. L. M. (1995). The structure of psychological well-being revisited. *Journal of personality and social psychology*, 69(4), 719.
- Sekaran, U., & Roger, B. (2010). *Research methods for business: A skill building approach*: John Wiley & Sons.
- Sen, A. (1993). *Capability and well-being*: na.
- Sengupta, R., Coondoo, D., & Rout, B. (2007). Impact of a Highway on the Socio-economic Well-being of Rural Households Living in Proximity. *Contemporary Issues and Ideas in Social Sciences*, 3(3).

- Serrano-Domingo, G., & Requena-Silvente, F. (2013). Re-examining the migration–trade link using province data: An application of the generalized propensity score. *Economic Modelling*, 32, 247-261.
- Shehu, A., & Sidique, S. F. (2014). A propensity score matching analysis of the impact of participation in non-farm enterprise activities on household wellbeing in rural Nigeria. *UMK Procedia*, 1, 26-32.
- Sheldon, K. M., & Lyubomirsky, S. (2007). Is it possible to become happier?(And if so, how?). *Social and Personality Psychology Compass*, 1(1), 129-145.
- Sizer, L. (2010). Good and Good For You: An Affect Theory of Happiness1. *Philosophy and Phenomenological Research*, 80(1), 133-163.
- Sophie, N. (2007). Addressing the Social Impacts of Large Hydropower Dams. *Journal of International Policy Solutions*, 7, 11-17.
- Start, D. (2001). The Rise and Fall of the Rural Non-farm Economy: Poverty Impacts and Policy Options. *Development policy review*, 19(4), 491-505.
- Stryker, D., Camera, A., Pokrel, P., & Raisman, M. (2008). Nigeria: Economic Performance Assessment: United State Agency for International Development (USAID).
- Stuart, E. A., Lee, B. K., & Leacy, F. P. (2013). Prognostic score–based balance measures can be a useful diagnostic for propensity score methods in comparative effectiveness research. *Journal of clinical epidemiology*, 66(8), S84-S90. e81.

- Stutzer, A., & Frey, B. S. (2006). Does marriage make people happy, or do happy people get married? *The Journal of Socio-Economics* (35), 326–347.
- Tan, Y., Hugo, G., & Potter, L. (2005). Rural women, displacement and the Three Gorges Project. *Development and Change*, 36(4), 711-734.
- Tavits, M. (2007). Principle vs. pragmatism: policy shifts and political competition. *American Journal of Political Science*, 51(1), 151-165.
- Tay, L., Morrison, M., & Diener, E. (2014). Living Among the Affluent Boon or Bane? *Psychological science*, 0956797614525786.
- Tenaglia, S. (2007). Testing theories on happiness: A questionnaire: Working paper, University of Tor Vergata–Roma.
- Tian, G., & Yang, L. (2005). A Formal Economic Theory for Happiness Studies: A Solution to the Happiness-Income Puzzle: Mimeo, Texas A&M University.
- Tilt, B., Braun, Y., & He, D. (2009). Social impacts of large dam projects: A comparison of international case studies and implications for best practice. *Journal of environmental management*, 90, S249-S257.
- Torrise, G. (2009). Infrastructures and economic performance: a critical comparison across four approaches.
- Tumbare, M. J. (2008). Managing Lake Kariba sustainably: threats and challenges. *Management of Environmental Quality: An International Journal*, 19(6), 731-739.

- Tyson, S. (2006). *Essentials of Human Resource Management* (Fifth ed.). New York: Routledge.
- UNICEF. (2001). Children's and Women's Rights in Nigeria: A Wake-up Call— Situation Assessment and Analysis 2001. *National Planning Commission and UNICEF, Abuja.*
- Ura, K., Alkire, S., Zangmo, T., & Wangdi, K. (2012). *A Short Guide to Gross National Happiness Index*. Thimphu: The Centre for Bhutan Studies.
- Usman, A., & Ifabiyi, I. (2012). Socio-Economic Analysis of the Operational Impacts of Shiroro Hydropower Generation in the Lowland Areas of Middle River Niger. *International Journal of Academic Research in Business and Social Sciences* 2(4), 57 -76.
- Veenhoven, R. (1991). Is Happiness Relative? *Social Indicators Research*, 24(1), 1-34.
- Veenhoven, R. (1994). Is happiness a trait? *Social indicators research*, 32(2), 101-160.
- Veenhoven, R. (2000). Well-being in the welfare state: Level not higher, distribution not more equitable. *Journal of Comparative Policy Analysis: Research and Practice*, 2(1), 91-125.
- Veenhoven, R. (2009). How do we assess how happy we are? Tenets, implications and tenability of three theories. *Happiness, economics and politics*, 45-69.
- Venetoklis, T. (2004). *An Evaluation of Wage Subsidy Programs to SMEs Utilising Propensity Score Matching*: Government Institute for Economic Research.

- WDR. (1994). World Development Report: Infrastructure for Development A. Rowley (Ed.) *World Development Indicators* Retrieved from http://wdronline.worldbank.org/worldbank/a/c.html/world_development_report_1994/abstract/WB.0-1952-0992-3.abstract.sec1
- Webber, M. (2011). The Political Economy of the Three Gorges Project. *Geographical Research*.
- Weinhold, D. (2012). The happiness-reducing costs of noise pollution. *Journal of regional science*, 20(10), 1-12.
- Welsch, H. (2008). The social costs of civil conflict: evidence from surveys of happiness. *Kyklos*, 61(2), 320-340.
- Wilmsen, B., Webber, M., & Duan, Y. (2011). Involuntary Rural Resettlement Resources, Strategies, and Outcomes at the Three Gorges Dam, China. *The Journal of Environment & Development*, 20(4), 355-380.
- Wooldridge, J. M. (2010). *Econometric analysis of cross section and panel data*: MIT press.
- Wren-Lewis, S. (2010). Towards a complete account of psychological happiness. *Praxis*, 2(2), 58-81.
- Yahaya, M. K. (2002). Development and challenges of Bakolori irrigation project in Sokoto State, Nigeria. *Nordic Journal of African Studies*, 11(3), 411-430.
- Zaid, Y. A., & Popoola, S. (2010). Quality of Life among rural Nigerian women: The role of information.

- Zarma, I. H. (2006). *Hadro Power Resources in Nigeria*. Paper presented at the Second Hydro Power for Today Conference, International Centre on Small Hydro Power (IC-SHP) Hangzhou China.
- Zauszniewski, J., & Nakhla, W. (2008). Happiness: Theoretical and Empirical Considerations. *Nursing Forum*, 43(01).
- Zelenski, J. M., & Nisbet, E. K. (2014). Happiness and Feeling Connected The Distinct Role of Nature Relatedness. *Environment and Behavior*, 46(1), 3-23.
- Ziri, R. (1996). 15 years is Enough; Shiroro Communities Fight back. *Community: Quaterly Publication Of Community Action for Perticipation* 03, 16 - 18.
- Zurick, D. (2006). Gross National Happiness and Evironmental Status in Bhutan. *Geographical Review*, 96, 657-681.