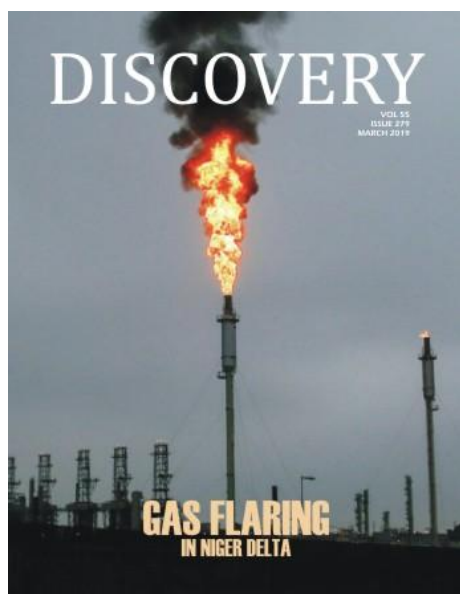


# DISCOVERY

## About the Cover



Gas flaring is one of the major problems associated with the discovery of crude oil in Delta Region of Nigeria. The government efforts to stop gas flaring through implementation of regulations and decrees have not successful as a result of lack of sufficient storage capacity. In order to solve this lingering problem, the study developed depleted underground gas storage for storing large volume of gas. The study makes use of geological information and production history of a depleted oil reservoir in OSO well, Akwa Ibom State. The data collected were used in the computation of the total storage capacity and the determination of gas losses using “C<sup>#</sup>” programming language. The results revealed that the total storage capacity of the reservoir was estimated to be 488.32Bscf and the working gas was estimated to be 244.16Bscf of the total storage capacity. Meanwhile, the quantity of gas loss when the pressure dropped from 3424.7psia to 3294.7psia was estimated to be 54.57MMscf. Therefore, the well is suitable to store gas across the Niger Delta Area of Nigeria and put an end to gas flaring across the region. Ref: Olanrewaju Clement Alaba. Development of depleted oil reservoir for gas storage to forestall gas flaring in Niger Delta region, Nigeria. *Discovery*, 2019, 55(279), 100-104).

## SOCIAL SCIENCE

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### **Impact of land use conflicts on residential development in Akure, Nigeria**

Gbenga Enisan, Adeola Ajuwon

Incompatible land-uses indicate the trend in territorial planning and generate instability and conflicts leading to degradation of the environment. The major problem encountered in most urban centers is the problem of space allocation, which is land management. Due to absence of physical development plans, city centers have developed haphazardly thereby creating various socio-economic problems which affect day to day activities of the inhabitants. Land use conflict is one of those problems resulting from careless attitude of human interaction with the physical environment. The research was borne out of the fact that, land use conflict is a serious issue which needs to be examined in order to improve the process of land use planning and management. This research focuses on land use conflict in Oke-Ijebu, Akure, Ondo State using existing spatial structures of the area. Land use conflict, factors responsible for them and their significant impact on the area were identified. In achieving the aim of this study, the use of primary as well as secondary data was adopted. Questionnaires were used to gather information on socio economic characteristics of the respondents, land use pattern, factors and effect of land use conflict. 177 questionnaires were administered, photographs were taken and stakeholders were also interviewed. Findings showed that, the rate of land use conversion in the study area was alarming, thereby giving rise to land use conflict and it requires urgent intervention in order to reduce this incidence which affects city liveability. The research suggested some recommendations and possible solutions to these problems, these includes development control for effective monitoring, development of land use guide and implementation of planning laws among others.

*Discovery*, 2019, 55(279), 88-95

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### **Influence of Lecturer-Management Conflict on Job Performance Effectiveness of University Lecturers in Cross River State, Nigeria**

Okey, Stella-Maris

This study investigated the influence of lecturer- management conflict on job performance effectiveness of university lecturers in Cross River state, with regards to research and community service. One research question and one research hypothesis were formulated to guide the study. The population comprises 1,369 lecturers. The stratified sampling technique was used to select the sample of 240 university lecturers. The survey research design was adopted for the study. Data for the study was collected using the Lecturer- Management Conflict and Job Performance Effectiveness Questionnaire (LMCJPEQ). The data was analyzed using One-way Analysis of Variance (ANOVA) statistical technique. From the result of findings, it was recommended chiefly that university management should be proactive in meeting the needs of lecturers in areas like research grants approval, conferences and training aids, payment of honorarium and so on, since these are the key areas that ignite the conflict between lecturers and management.

*Discovery*, 2019, 55(279), 96-99

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## ENGINEERING

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### **Development of depleted oil reservoir for gas storage to forestall gas flaring in Niger Delta region, Nigeria**

Olanrewaju Clement Alaba

Gas flaring is one of the major problems associated with the discovery of crude oil in Delta Region of Nigeria. The government efforts to stop gas flaring through implementation of regulations and decrees have not successful as a result of lack of sufficient storage capacity. In order to solve this lingering problem, the study developed depleted underground gas storage for storing large volume of gas. The study makes use of geological information and production history of a depleted oil reservoir in OSO well, Akwa Ibom State. The data collected were used in the computation of the total storage capacity and the determination of gas losses using "C<sup>++</sup>" programming language. The results revealed that the total storage capacity of the reservoir was estimated to be 488.32Bscf and the working gas was estimated to be 244.16Bscf of the total storage capacity. Meanwhile, the quantity of gas loss when the pressure dropped from 3424.7psia to 3294.7psia was estimated to be 54.57MMscf. Therefore, the well is suitable to store gas across the Niger Delta Area of Nigeria and put an end to gas flaring across the region.

*Discovery*, 2019, 55(279), 100-104

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## ECONOMICS, BUSINESS & MARKETING

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### **Nexus of international reserve and public debt in Ghana**

Mohammed Tanko, Abdulai Abdallah, Salisu Mustapha

This paper assesses the effects of public debt on international reserve in Ghana using data from 1960 to 2015. To achieve the set objectives, the research employed secondary data sourced from the International Monetary Fund (IMF)'s World Economic Outlook (WEO), published in October 2016, World Bank, International Comparison Programme database and the Central Bank of Ghana database. Data was analysed with the support of Johansen cointegration, Granger causality and fully modified OLS using Stata and jMulTi. The empirical results indicate that public debt has a positive and significant effect on external reserve stock, both in the short and in the long run, suggesting that Ghana's debt crisis can be attributed to both exogenous and endogenous factors; however, nominal effective exchange rate shows to have weaker linkage to external reserves. This paper provides empirical implications for Ghana to adopt fixed interest payments and sufficient rescheduling period to avoid the use of international reserve to correct debt imbalances.

*Discovery*, 2019, 55(279), 105-113

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## SOCIAL SCIENCE

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### **Health problems and violence faced by adolescent girls due to child marriage at rural areas in Bangladesh**

Sajedul Islam Khan, Afrina Khan, Shahin Zerin Mostarin, Moshiha Begum Shuvra, Taslima Tanvin, Feroj All Mozahid, Md Rasel-Ud-Jaman

Bangladesh seems to be one of the highest rates of child marriages in the developing world. Child marriage is a strong social custom, particularly for girls in Bangladesh. Present study provides new evidence on the child health problems associated with child marriage in Bangladesh particularly addressing the life stages and violence faced due to child marriage at rural area. It also explores the health consequences of early mother and new born baby in Bangladesh. The study used 88 semi structure interviews of adolescent girls 04 FGDs and 10 case studies for collecting data by using in depth interview. The findings explore that early marriage creates maternal mortality with 32.95% of the sample population and almost 36% have faced unwanted pregnancy, 23.86% experienced sexual risk taking from their husband in rural areas, 25% girls are taking unsafe abortion and 26.13% respondents are the victims of severe injury due to early marriage. HIV viruses (9%) of the respondents are facing due to improper and unsafe sexual relation with multiple partners and about 36% had faced chronic pain syndrome. Almost 70% girls are doing caesarean section during their delivery and 29% are taking vaginal delivery. About 75% mothers are delivering low birth weight babies. The consequences of child marriage put the girls at risk of early pregnancies with life-threatening conditions which requires a proper attention from authority.

*Discovery*, 2019, 55(279), 114-119