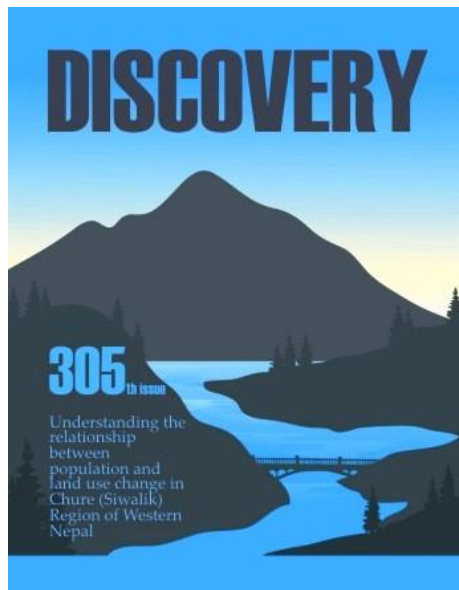


DISCOVERY

About the Cover



The Chure region has distinct geographical and biophysical characteristics and lies within the foothills of the Himalayan range. It is the youngest mountain chain within the world and suffers from mass erosion, landslides, and alternative environmental issues, that create the region susceptible to degradation of the watershed, lowering of the underground water, and disturbing the ecological niche in and around the region makes more sensitive and fragile. The main purpose of this study is, therefore, to analyse land-use and land-cover change and trace out the relationship between population growth and the local resources in the Chure region during the period 1978-2018 by using maps and images, field observations, and community interactions. Forest is the dominant land-use category. However, over the last three decades, there has been a tremendous change in land use and land cover in the study area. The conversion of dense forest into bushes-shrubs and cultivation has resulted in degraded land in the region. Illegal timber collection, open and uncontrolled grazing, extraction of riverbed deposits, rural road construction, forest fire are major causes of land-use/land-cover change in the study area. Population growth and infrastructure development are also a cause of decreasing forest area in the study area. This analysis shows that the increasing population in the Chure region of western Nepal has not sufficiently affected the local environment (particularly forest coverage and cultivation area). (Ref: Dahal K. Understanding the relationship between population and land use change in Chure (Siwalik) Region of Western Nepal. *Discovery*, 2021, 57(305), 422-432).

Relative comparison of impact of humanure on selected soil heavy metals at vegetative and reproductive stages of water melon in Owerri Nigeria

Ekpe II, Oti NN, Uju EU, Mgbeahuru CI, Nwankwo VC, Iheka WC, Okoli NA

A study was conducted at the Centre for Agricultural Research and Extension, Federal University of Technology Owerri, to evaluate the impact of humanure on selected soil heavy metals at 45days after planting and at post-harvest in Owerri Nigeria. The treatments comprised of T1=Control (0t/ha), T2=NPK (240kg/ha), T3=Humanure (10t/ha), T4= Humanure (15t/ha) and T5= Humanure (20t/ha). The experiment was laid in a Randomized Complete Block Design (RCBD) with treatments replicated three (3) times to give a total of fifteen (15) plots. Data collected on selected soil heavy metals were: Cadmium (Cd), lead (Pb), Copper (Cu), Chromium (Cr), Nickel (Ni) and Zinc (Zn). Raw data obtained was analyzed using analysis of variance (ANOVA) and significant means were separated using Fisher least significant difference (F-LSD) at probability level of P=0.005. The results obtained indicated that application of humanure at 10t/ha, 15t/ha and 20t/ha did not increase the concentration of selected soil heavy metals beyond the FEPA and WHO standard at 45days after planting and at post-harvest. The result of selected heavy metals (Cd, Pb, Cu, Cr, Ni and Zn) declined at post-harvest compared to the result at 45days after planting. This could be as a result of soil decomposing the degraded humanure in a form of chemical reaction that lead to its deformation and subsequent reduction in concentration. Therefore humanure could be regarded as a good source of organic manure and farmers should use it as humanure has proved to be a good replacement to mineral fertilizer.

Discovery, 2021, 57(305), 395-402

Comparative Study of Energy Consumption Pattern in Three Regions of Degraded Forest Area of Central India

Garima Tiwari

Present study had been conducted in nine villages of central Chhattisgarh. Out of these villages three villages are having forest committees and remaining six villages have less 5% forest cover. Firewood consumption have been examined according to distance from the forest. The analysis has clearly shown that the distance from forest has significant effect on total and per capita firewood consumption. Easy availability of firewood increases its consumption. Therefore firewood saving services should be thrust in areas near the forest to decrease the firewood consumption. Firewood Consumption have been examined according to distance from the forest. The analysis has clearly shown that the distance from forests has significant effect on total and per capita firewood consumption.

Discovery, 2021, 57(305), 403-408

Utilization of Paper Mill Fly Ash for Sustainable Crop Production: Effect on the growth of Corn (*Zea mays* L.) and Soil Properties

Pankaj Kumar Jena, Tanuja Panigrahi, Bitu Mohanty, Madhusmita Das, Manoj Kumar Dash, Rahas Bihari Panda

The analysis of soil quality before cultivation and after cultivation in control plot and treated plot were presented in the report. The experimental plots also showed the growth rate of production.

Discovery, 2021, 57(305), 409-415

Bioremediation of toxic Cr- VI from effluent of electroplating industries by immobilized microbes

Pradnya R Ingle, Ramling S Saler

Microbes like CRS *StaphylococcusSeLB4* and *Bacillus megaterium* isolated from the sludge of Electroplating industry Satpur Nashik, Maharashtra are found highly effective for bioreduction of carcinogenic Cr(VI) present in effluent of electroplating Industry. In present study investigation and optimization of conditions for effective bioremediation of Chromium-VI from electroplating industrial effluent has been done.

Discovery, 2021, 57(305), 416-421

Understanding the relationship between population and land use change in Chure (Siwalik) Region of Western Nepal

Kedar Dahal

The Chure region has distinct geographical and biophysical characteristics and lies within the foothills of the Himalayan range. It the youngest mountain chain within the world and suffers from mass erosion, landslides, and alternative environmental issues, that create the region susceptible to degradation of the watershed, lowering of the underground water, and disturbing the ecological niche in and around the region makes more sensitive and fragile. The main purpose of this study is, therefore, to analyses land-use and land-cover change and trace out the relationship between population growth and the local resources in the Chure region during the period 1978-2018 by using maps and images, field observations, and community interactions. Forest is the dominant land-use category. However, over the last three decades, there has been a tremendous change in land use and land cover in the study area. The conversion of dense forest into bushes-shrubs and cultivation has resulted in degraded land in the region. Illegal timber collection, open and uncontrolled grazing, extraction of riverbed deposits, rural road construction, forest fire are major causes of land-use/land-cover change in the study area. Population growth and infrastructure development are also a cause of

decreasing forest area in the study area. This analysis shows that the increasing population in the Chure region of western Nepal has not sufficiently affected the local environment (particularly forest coverage and cultivation area).

Discovery, 2021, 57(305), 422-432

MEDICINE

Early detection practice of breast cancer and associated factors among Women in Bahir Dar city, North West Ethiopia

Gebiyaw Wudie Tsegaye, Fekade Getachew Hailu, Minychile Genet

Background: world health organization recommends breast self-examination for raising awareness of women about breast cancer. Monthly breast self-examination which is Secondary preventive activity is an efficient way to limit the increasing occurrence of breast cancer. Breast cancer is the most common cancer among women in Sub-Saharan Africa and globally. There is limited evidence related to breast cancer screening practice among women in Ethiopia. Method: A community based cross sectional study was conducted from March 12 to March 30, 2020 at randomly selected kebeles of Bahir Dar city. A total of 617 women were interviewed using semi-structured questionnaire. The data were checked, cleaned, and entered into EPIDATA version 3.1 and exported to SpSS version23 statistical software for analysis. Both descriptive statistics-such as simple frequencies, and Analytic statistics such as bivariate and multivariable binary logistic regression analysis were done. P-value and 95% CI for the AOR were used to find out the associations between independent variables and early detection practice. Hosmer and lemschow goodness of fit model was used to check the model fitness. Results: A total of 617 women were participated in the study with 100% response rate. From the total respondents, only 200 [(32.4%), 95%CI (28.5, 36.1) of them had practiced breast self-examination, Good knowledge [AOR=5.01, 95%CI (2.84-8.82], good perception [3.96, 95%CI (2.39- 6.55)],source of information [4.09, 95%CI (2.24- 7.48)], marital status [3.55,95%CI (1.84-6.68)] occupational status [6.25,95%CI(2.464 -15.74)] and family history of breast cancer were found to be statistically significant predictors of breast cancer self-examination. Conclusion: breast self-examination practice was low in the study area.Knowledge of women on breast cancer practice, perception of women towards breast cancer; women's source of information, family history of breast cancer; marital status and occupation were significantly associated with breast self-examination.

Discovery, 2021, 57(305), 433-443

SOCIAL SCIENCE

Migration as a factor of urbanisation in Udu local government area of delta state, Nigeria

Jomata Lucky Igben

This study investigated the contribution of migration to urbanization in Udu Local Government Area of Delta state, Nigeria within the migration-urbanisation nexus. It is aimed at ascertaining the size of migrants, and assessing their investment in the physical development of the study area. Primary data were obtained from research questionnaires administered on a sample of 700 household heads randomly selected from one settlement, chosen from four identified urban settlements in the study area. The questions included social, economic and demographic characteristics of migrants in line with the Social Area Analysis (SAA) model of measuring urban society. Focus Group Discussion (FCD) with five community leaders was held to complement data collection. Data were analysed using descriptive statistics. The study shows that 43.6% of sampled population were migrants from various ethnic nationalities, with 68.2% being males. Majority of 259 migrants' household heads or 84.9 % had investments such as dwelling units, hotels, shops, commercial vehicles and other business ventures, 18.0% of which was valued at over N2,500, 000, thus, contributing to the urbanization process. A comprehensive planning of the area is recommended to cope with the rapid population increase and physical development caused by urbanization.

Discovery, 2021, 57(305), 444-453