# Life Science Journal

**Volume 8 - Number 1, Supplement, January 10, 2011, ISSN: 1097-8135**


Cover Page, Introduction, Contents, Call for Papers; editor@sciencepub.net

# Life Science Journal 8(S1) Full Text

## Contents

determines some socio-economic characteristics of farmers that influence the level of loan defaults. A simple random technique was used to select 160 farmers from Molopo, Rustenburg, Lichtenburg, Zeerust, Ganyesa and Kuruman. A structured questionnaire was developed based on the study objective and related literature to collect data which were analyzed using frequency count, percentages and multiple regression analysis. The result shows that farmers had a mean age of 58.5, and majority had primary education. The mean monthly income among farmers was R831 while the mean monthly was R1403. Significant determinants of loan defaults among farmers were educational level (t= 3.09), monthly expenditure (t = 5.05) amount of loan (t = 6.11) financial management scale (t= 6.26) and time of loan disbursement. This implies that the significant variables should be giving proper policy considerations in order to improve loan repayment among small scale farmers. [Life Science Journal. 2011;8(S1):11-18] (02) (ISSN: 1097 – 8135). http://www.lifesciencesite.com.

**Keywords**: small scale farmers, loan default, socio-economic characteristics, South Africa

#3

**Postural analysis of risk of neck and low back pain of adolescents in a high school in Pretoria, South Africa**

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**Abstract:** The risk of developing back and neck pain was investigated amongst 84 learners in a high school in Pretoria, South Africa. The design of this study was a cross sectional descriptive study. Ninety percent of the participants reported a high risk of developing neck pain. The findings of the study revealed that there is a high risk of back pain at age 14 (100%), with females (94%) at higher risk than their male (84%) counterparts. There was a significant association between age and risk of back pain (p = 0.019). No significant association between neck pain and age, gender, and hand dominance (p = 0.670; p = 0.286; p = 0.542 respectively), upper back pain and age, gender and hand dominance (p = 0.904; p = 0.608; p = 0.500 respectively), and lower back pain and age, gender and hand dominance (p = 0.176; p = 0.473; p = 0.675 respectively). The prevalence of neck pain was found to be 35%. [Life Science Journal. 2011;8(S1):19-23] (03) (ISSN: 1097 – 8135). http://www.lifesciencesite.com.

**Keywords:** Postural analysis; Back pain; Adolescents, Ergonomics, School furniture; Seating designs

#4

**Socio-Economic Benefits of Urban Sprawl in Mafikeng, South Africa**

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**Abstract:** The socio-economic impact of urban sprawl has been a major concern around the world. This paper reports the benefits of urban sprawl in Mafikeng, South Africa. Arc Map software was used to evaluate three spatial images of Mafikeng: 1968, 1996 and 2008. Results indicate extension of the Central Business District to the outskirts and an increase in infrastructure development. Additional benefits include growth in professional services and the migration of the service sector from the city centre. These findings have immediate policy and planning implications for urban development. [Life Science Journal. 2011;8(S1):24-28] (04) (ISSN: 1097 – 8135). http://www.lifesciencesite.com.

**Key words:** Central business district; land use planning; road network; air pollution; traffic congestion

#5

**Experiences of Nurses Caring for People Living with HIV and AIDS in Vhembe district, Limpopo Province.**

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**Abstract:** The purpose of this study was to explore and describe the experiences of nurses caring for people living with HIV and AIDS (PLWHA) in Vhembe district, Limpopo Province. A qualitative research design which was exploratory, descriptive and contextual was used, with a purposive and theoretical sample of nurses who provided care in a regional hospital in Vhembe district of Limpopo Province. Data saturation occurred after in-depth interviews with fifteen participants, field notes were also used during data collection. The findings revealed that nurses caring for PLWHA experience physical, emotional and psychological burden of caring, lack of social support by colleagues and managers and the need for education on HIV/AIDS care. Recommendations that are described focused on supporting nurses to cope in caring through provision of work-based support programmes. [Life Science Journal. 2011;8(S1):29-37] (05) (ISSN: 1097 – 8135). http://www.lifesciencesite.com.

**Keywords:** Caregivers, caring, HIV and AIDS; nurses

#6

**An investigation into the prevalence of *Toxoplasma gondii* among indigenous, communally reared goats in the Mafikeng area of the North West Province of South Africa.**

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**Abstract:** An enzyme-linked immunosorbent assay (ELISA) based study was conducted to determine the seroprevalance of the zoonotic infection *Toxoplasma gondii* in indigenous, communally reared goats around Mafikeng. Sera from 172 goats from 5 areas around Mafikeng in the North West Province were tested. The seroprevalence ranged between 11.1 and 14.8% (ų= 6.4%). Sixty percent of the sampled areas tested positive, so were 50% of the herds. Only 25% of the farmers had prior knowledge of toxoplasmosis. Sixty three percent of the farmers consumed goat milk, while 87.5% slaughtered goats for own consumption. The prevalence of the infection among goats raises public health concerns due to the zoonotic nature of the parasite. Health officials are encouraged to review policies that involve human exposure to the parasite as well as mount awareness campaigns about the infection. [Life Science Journal. 2011;8(S1):38-41] (06) (ISSN: 1097 – 8135). http://www.lifesciencesite.com.

**Keywords:** enzyme-linked immunosorbent assay (ELISA); infection; *Toxoplasma gondii*; toxoplasmosis; parasite

#7

**Risk assessment for *Salmonella* contamination of pig carcasses in abattoirs in the North West Province, South Africa**

Rendani V Ndou, Lebang Molefe , Blessing M Dzoma, Lebogang Motsei, Mathew Nyirenda, Francis R. Bakunzi.
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**Abstract:** One hundred and eighty blood samples were run using the ELISA method to determine the seroprevalence of *Salmonella* in slaughter pigs at various abattoirs in the North West Province of South Africa. Seroprevalence ranged from 18.8-47.4% (ų= 28.3%), while 100% of the abattoirs tested positive. Indications were that infections were occurring at farm level. Further farm level qualitative investigations are recommended in order to identify the actual factors associated with the infections. Consideration should be made for the introduction of *Salmonella* monitoring programs at farm level to assist in the prevention of contamination. [Life Science Journal. 2011;8(S1) :42-45] (07) (ISSN: 1097 – 8135). http://www.lifesciencesite.com.
**Keywords:** Abattoirs, ELISA; North West Province, pig, *Salmonella, S*eroprevalence.

#8

## Settlement structure and energy access in rural Sub-Saharan Africa

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**ABSTRACT:** The purpose of this paper is to report the results of an investigation on energy access in rural Sub-Saharan Africa. Three objectives were advance for this study: to review literature on rural energy access, comment on energy policy and planning, identify constraints to increasing rural access and finally, develop an alternative intervention for the energy sector. The methodology was based on adaptation of the shortest path model (SPM), the maximum flow (MFM) model and the minimum cost flow (MCF) model in network design. Statistics from international organisations on the energy sector, population, land use and road networks were handled using correlation analysis to identify key relationships. The results highlight serious shortfalls in energy provision, infrastructure, and policy, planning and capital investments in the energy sector. The absence of a correlation between power generation, rural energy access, population density and road density point to the inadequacy of current planning practices. Current settlement patterns appear to impose constraints on the optimization of rural energy provision in spite of immense untapped potential for renewable energy sources. An alternative integrated energy platform (EAP) based on restructuring settlement is suggested that could allow for a radical increase in energy access at national level by exploiting opportunities provided through rural settlement densification. [Life Science Journal. 2011;8(S1):46-58] (08) (ISSN: 1097 – 8135). http://www.lifesciencesite.com.

**Keywords:** Installed capacity; grid network; generation; transmission; distribution; renewable energy; biomass energy

#9

## Applications of Remote Sensing and GIS Techniques in Analyzing the Effects of Rainfall Variability on Crop Acreage

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**Abstract:** Climate change is a global concern and has a major impact on overall economic development. This is even more prominent in developing countries, especially in Sub-Saharan Africa. As one of the major elements of climatic change, rainfall variability is one the most unpredictable factor and a common cause of failure in agricultural production. The impact and the pattern of the variation in crop acreage changes in this region are investigated with particular reference to the semi-arid parts of Southern Africa. Satellite images of Mafikeng municipal area, North West Province, South Africa, are used to detect changes since 1988 with an image processing tool (ERDAS-Imagine). The resulting output allows for change detection and image classification for different land cover classes. The GIS package (Arc Map9.3) was used for mapping and visualizing the results on the screen and paper. The findings indicate that the periodic variation and irregularity of rainfall in the region does not have a

particular negative effect on the size of crop land in the study area. The insights have direct policy and planning implications for dry land agriculture in the face of current climatic variations. [Life Science Journal. 2011;8(S1):59-67] (09) (ISSN: 1097 – 8135). http://www.lifesciencesite.com.

Key words: Climate change; satellite images; land cover change; Mafikeng

#10

**Seasonal weather events and their impact on buildings around Mafikeng, North West Province, South Africa**

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**Abstract**: The study used time series analysis of climatic data (1978 to 2009) of rainfall, temperature and wind to investigate the impact of extreme weather events on buildings and their surroundings in Mafikeng, South Africa. Questionnaires were administered on 100 households in order to establish residents' experiences on seasonal weather events. Mafikeng and its environs, belong to arid climate regions; it features a long term mean seasonal rainfall of approximately 76mm and it receives a unimodal rain season which starts in October and end in April of the following year. In this study, the results reveals that Mafikeng experienced the highest rainfall during the 1997 with a seasonal rainfall mean of 117 mm and the lowest rainfall was experienced during the 1991 season (32 mm). The 1997 rainfall resulted into waterlogging and leaking of roofs in the homes. Extreme temperatures were experienced in the area during 1992 summer season where the highest mean maximum temperature of $37^0$C was recorded. Usually the maximum temperature in Mafikeng range between $25^0$C and $32^0$C. The lowest minimum temperature ($-7.5^0$C) was observed in 1994 during the cold season. The study identified that the extreme weather events in Mafikeng are associated with building fatigue, which resulted into structural damages such as cracked walls, windblown roofs, dust accumulating indoors from dust storms and noise pollution. The study highlights the need for maintaining appropriate building standards, designs and regular review of standards in Mafikeng and its surroundings in order to address climate extreme and the climate change issues. [Life Science Journal. 2011;8(S1):68-73] (10) (ISSN: 1097 – 8135). http://www.lifesciencesite.com.

**Keywords**: Seasonal weather events, Climate change, Mafikeng.

#11

**General knowledge and utilization of Indigenous Leafy Vegetables by villagers in the Mafikeng area of South Africa.**

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**Abstract:** The role of wild indigenous leafy vegetables (ILVs) for nutritional and medicinal purposes, and in food security is recognized in African countries; however, their use and consumption in South Africa is diminished since they can be associated with poverty and low self-esteem among rural people. This study was conducted to investigate villagers' general knowledge and utilisation of ILVs through a survey conducted among thirty randomly selected households in each of three villages (Lokaleng, Moshawane and Tsetse) in the Mafikeng area of South Africa. Data was collected using a structured questionnaire administered face to face (personal interview) with the researcher completing the questionnaire as each villager responded. The results show that all villagers have knowledge of the most common ILVs. The most common ILVs recognized and used were *Amaranth, V.uinguiculata, C.maxima C.gynandra* and *C.album.* However, *Amaranth, C.gynandra* and *C.album* were identified as the three

most commonly used ILVs as sources of food. Most participants (67%) cited that in the presence of both ILVs and exotic vegetables, they would prefer ILVs for food. This preference of ILVs versus exotic vegetables was age specific but not gender specific. The youngest age group of <20 years was the only group which preferred exotic vegetables (63%). Additionally, it was determined that ILVs were simply used as found in the wild and were not domesticated. [Life Science Journal. 2011;8(S1):74-79] (11) (ISSN: 1097 – 8135). http://www.lifesciencesite.com.

**Keywords:** knowledge; indigenous leafy vegetables (ILVs); rural villagers; utilisation

#12

**The effects of cattle manure and harvesting frequency on the growth and yield of Cleome gynandra**

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**Abstract:** A study was conducted to determine the effects of cattle manure and harvesting frequency on the growth and yield of *C. gynandra*. The experimental design was a RCB with four replicates. A factorial experiment of 4 x 3 combinations was used. Treatment combinations consisted of four manure application rates (0 ton $ha^{-1}$, 15 tons $ha^{-1}$, 30 tons $ha^{-1}$ and 45 tons $ha^{-1}$) and three harvesting frequencies (weekly, bi-weekly and at termination). Results indicated that cattle manure application had a significant effect on growth and yield parameters (dry weight, leaf number, plant height). The highest yield (1.73 g/pot) was obtained with a 45 tons $ha^{-1}$ application rate which was not significantly different from the 30 tons $ha^{-1}$(1.51 g/pot). The highest leaf number (180) was obtained with a rate of 45 tons $ha^{-1}$, which was not significantly different from 30 tons $ha^{-1}$ (173). The greatest plant height (55.1cm) was recorded for 45 tons $ha^{-1}$. There was no significant difference in plant height for 0, 15 and 30 tons $ha^{-1}$ (43cm, 49cm and 51.2cm, respectively). Harvesting frequency had a significant effect only on dry weight. There was no significant difference for yield recorded for weekly or bi-weekly harvests. In conclusion, the study recommends that farmers use cattle manure at a 30 tons $ha^{-1}$ application rate and harvest bi-weekly. Results established that soil properties (pH, organic carbon, organic matter, and available phosphorus) increased with an increase in manure application and may be a cause of the observed increased yield and growth of *C. gynandra*. [Life Science Journal. 2011;8(S1):80-88] (12) (ISSN: 1097 – 8135). http://www.lifesciencesite.com.

**Keywords**: cattle manure; *Cleome gynandra;* harvesting frequency; indigenous leafy vegetables**.**

#13

**Do chemical structures of flavonoids have potential in predicting intake and relative palatability indices?**

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**Abstract:** The main aim of this study was to test the potential of chemical structures of flavonoids in predicting intake and relative palatability indices. Six pedi male goats were used in a completely randomized design to determine intake and relative palatability indices of *Acacia karroo*, *Acacia nilotica*, *Acacia sieberiana*, *Acacia*

*tortilis*, *Acacia rhemniana* and hay. Chemical structures were also isolated from Acacia species using nuclear magnetic resonance. Correlation analyses were done to establish the relationship between chemical structure, intake and relative palatability indices. The null hypothesis for the study was chemical structures of flavonoids will have a potential in predicting intake and relative palatability indices. *Acacia sieberiana* had the highest intake and relative palatability indices as compared to *A.rhemniana*. Leaves from acacia contained carbohydrates, flavan-3-ols, flavanols and glycosilated flavones. Methyl gallate, epigallocatechin and catechin gallate had highest correlations with intake and palatability whilst sucrose and glucose were weakly negatively correlated to both intake and relative palatability indices. Luteolin -7-glucoside, rutin and catechin gallate were not correlated to intake and relative palatability indices. The results indicated that chemical structures of flavonoids have potential in predicting intake and relative palatability indices. [Life Science Journal. 2011;8(S1):89-97] (13) (ISSN: 1097 – 8135). http://www.lifesciencesite.com.

**Keywords:** Flavonoids, intake, relative palatability indices, nutritive value

#14

**Consumers Willingness To Pay For Safety Labels On Gari (Cassava Roasted Granules) In South Western Nigeria**

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**Abstract**: This paper examines consumers' willingness to pay for safety labels on gari in south western Nigeria because of reported cases of hydrogen cyanide residue leading to food poisoning. The type of gari processing technique used determines the amount of cyanide residues. It is important therefore that gari is labeled based on the processing techniques. The use of labels as in other food products will however require additional payment by consumers. From a total of 15 major gari markets, seven were randomly selected through which 200 gari consumers were randomly selected for the study. Data were collected using a structure questionnaire and analyzed using frequency counts, percentages and probit regression model. The probit regression model is significant ($\chi^2$ = 2255 df $_{189}$, $p < 0.05$). The model reveals that the probability of willingness to pay more for safety labels in gari is positively affected by the prior individual knowledge of safety labels, income level, education level, household size and frequency of consumption. However, it is negatively affected by price and perception of health risks due to cyanide. [Life Science Journal. 2011;8(S1):98-103] (14) (ISSN: 1097 – 8135). http://www.lifesciencesite.com.

**Keywords**: Willingness to pay, Gari, Food Labels, Nigeria, cyanide residues.

#15

**PCR and sequencing assays targeting *mdh* and *gapA* genes for *Escherichia coli* and *Klebsiella* bacteria species identification in river water from the North West Province of South Africa.**

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**Abstract:** Rivers carry a significant number of pathogenic bacteria mostly of faecal origin from untreated sewage that result in faecal contamination of the natural environment. This study, being the first of its kind to be reported from the study area, aimed at performing and evaluating standard PCR and sequencing assays based on the use of *mdh* and *gapA* genes for *E. coli* and *Klebsiella* species identified in the major rivers in the North West Province of South Africa. A total of 54 water samples were collected between November 2007 and March 2008 from the Crocodile, Elands, Hex, Mooi, Vaal, Molopo, Groot Marico, Harts and Skoonspruit rivers and cultured on selective

media to isolate *E. coli* and *Klebsiella* species using the standard spread-plate method. Molecular characterisation of suspected isolates by PCR was performed to amplify an intragenic segment of the *mdh* and *gapA* genes, which detected *E. coli* and *Klebsiella* with a prevalence of 44% and 29%, respectively among the samples. The presence of these pathogens, amongst others, in these rivers indicates faecal contamination. This suggests that the use of untreated water from these rivers for drinking by humans may pose serious health problems, including diarrhoea and other water-borne diseases. The study emphasizes the need to provide potable water supplies particularly in rural areas, as well as routine monitoring for the presence of pathogens in these rivers and effective management of river catchments. [Life Science Journal. 2011;8(S1):104-112] (15) (ISSN: 1097 – 8135). http://www.lifesciencesite.com.

**Keywords:** *E. coli*, *gapA*, *Klebsiella*, *mdh*, polymerase chain reaction, human health, and untreated water

#16

**Coliform flora in faeces of dogs presented to the Animal Health Clinic of North West University, Mafikeng Campus, South Africa**

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**Abstract:** The purpose of this study was to investigate the coliform flora present in dog feces and their role as a reservoir of antimicrobial resistance. A total of thirty-one rectal swabs were randomly obtained from sixty client-owned dogs brought to the Animal Health Clinic of the North West University, Mafikeng Campus, during the month of June 2010. The dogs were presented with complaints varying from routine vaccination to anorexia and diarrhea. Samples were subjected to routine microbial culture and isolation procedures, followed by biochemical characterization and antimicrobial susceptibility testing of obtained isolates. Results showed the presence of *E.coli spp* (9.5%), *Salmonella spp* (4.8%), *Klebsiella spp* (33.3%), *Enterobacter spp* (19%), *Pasteurella multocida* (4.8%), *Proteus spp* (14.3%), *Vibrio spp* (4.8%) and *Serratia spp* (9.5%). All the isolates were resistant to at least two of the antibiotics tested. The antibiotics include ampicillin (10 µg), chloramphenicol (30 µg), cefuroxime (30 µg), cotrimoxasole (25 µg), tetracycline (30 µg), sulphadiazine (200 µg) and clindamycin (2 µg). The results suggest that dog feces could pose a zoonotic risk to humans and could also act as reservoir of antimicrobial resistance genes. It is recommended that dog owners and health workers particularly immunocompromised persons should exercise care when handling dog feces. [Life Science Journal. 2011;8(S1):113-118] (16) (ISSN: 1097 – 8135). http://www.lifesciencesite.com.

**Key words:** Faeces, dogs, coliforms, antimicrobial resistance, human, reservoir

#17

**Efficacy of nonfeed deprivation methods for molt induction in layers**

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**Abstract** This study was aimed at comparing the efficacy of different nonfeed deprivation molting methods with feed withdrawal in terms of body weight loss, ovarian regression and post molt layer performance. A total of 384 Dekalb white laying hens, aged 72 weeks, were used in this study. Birds, which were kept in a 50 x 46 x 45 cm battery cage system, were randomly divided into four experimental groups. Feed was completely withdrawn from

hens in group one for nine days (FW). Birds in group two were fed alfalfa meal (AM) for nine days and birds in group three were fed layer ration containing 20,000 ppm of zinc as ZnO (DZ) for nine days. From day 10, birds in groups one to three consumed cracked corn diet until day 28. Birds in the fourth group consumed cracked corn diet (CC) *ad libitum* for the 28 days. All the groups were then returned to normal layer diet *ad libitum*. Results indicate that body weight loss and reproductive tract regression in AM group was quite comparable to that of FW group. These were significantly lower in CC group. Short-term post molt egg production revealed significantly higher production in CC group than FW. There was however no significant difference between treatments in post molt egg quality, rate of deterioration of stored eggs, weights of liver, heart and spleen and bird mortality. In summary, alfalfa meal appears to be the most efficient molt induction method, comparable with feed withdrawal. However, long-term post molt performance of all the methods employed in this study, needs to be evaluated in order to draw comprehensive conclusions. [Life Science Journal. 2011;8(S1):119-124] (17) (ISSN: 1097 – 8135). http://www.lifesciencesite.com.

**Keywords:** Molt induction, layer, egg production, egg quality, nonfeed deprivation

#18

## The evaluation of sodium bicarbonate and hydroxy-βeta-cyclodextrin as treatments for organophosphor and carbamate poisoning in poultry

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**Abstract:** Organophosphorus and carbamates are used world wide on a large scale and accidental poisonings are often seen. The objective of the trials was to evaluate newer antidotes, using chickens as experimental animals. Pilot trials were done to establish the lethal dosages of each poison. In Study 1, fourteen broilers were dosed orally with diazinon at 8 mg/kg and seven broilers were also given sodium bicarbonate at 504 mg/kg by intravenous route 30 minutes later. In Study 2, fourteen broilers received coumaphos orally at 25 mg/kg and 30 minutes later sodium bicarbonate was administered intravenously at a dosage of 504 mg/kg to seven broilers. In Study 3, fourteen broilers received aldicarb at 4 mg/kg and 30 minutes later seven broilers also received hydroxypropyl-β-yclodextrin at 250 mg/kg intravenously. In all the studies, the controls also received sterile, de-ionized water intravenously 30 minutes after dosing as a placebo. The results indicated that sodium bicarbonate had made a significant difference ($P < 0.05$) to the survival times of broilers in trial 1 and trial 2. Hydroxypropyl-β-yclodextrin treated broilers also had significant longer survival times ($P < 0.05$) than the controls in trial 3. The final conclusion is that sodium bicarbonate has the potential to inactivate organophosphors, while hydroxypropyl-β-cyclodextrin can be useful for lipid-soluble insecticides with a molecular weight below 250 Daltons. The recommendation is to administer these compounds as adjunctive treatments together with the standard antidotes to improve the outcome of organphosphor or carbamate poisoning. [Life Science Journal. 2011;8(S1):125-129] (18) (ISSN: 1097 – 8135). http://www.lifesciencesite.com.

**Keywords:** Organophosphors, carbamates, sodium bicarbonate, cyclodextrins

#19

## Soil Physical and Biological Properties as Influenced by the Incorporation of Leaf Litter Biomass from Three Sub-tropical Fruit Trees at Nelspruit, Mpumalanga Province, South Africa

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**ABSTRACT** The majority of small-scale farmers in sub-Saharan Africa rely on organic inputs to replenish soil nutrients. The sub-tropical climate of Mpumalanga Province in South Africa favours the growth of tropical and sub-tropical fruit trees that produces relatively low quality litter that can be used to manage soil fertility. A pot experiment was conducted to assess the effects of incorporating leaf litter from avocado (*Persea americana*), mango (*Mangifera indica*) and litchi (*Litchi chinensis*) on soil properties. The treatments were a factorial combination of leaf litter types (avocado, mango and litchi), application rates (0, 1.6, and 3.3 t $ha^{-1}$) and incubation periods (0, 6 and 12 months) laid in a randomised complete block design with five replicates. Soils that were amended with avocado leaf litter had significantly higher ($p<0.05$) particulate organic matter (1.53%) than mango (1.35%) and litchi (1.35%). The stability of aggregates was significantly higher ($p<0.05$) in soil amended with mango and litchi than avocado leaf litter. There were positive and significant correlations between soil organic carbon and particulate organic matter ($r=0.62$, $p<0.05$), microbial biomass carbon and microbial biomass nitrogen ($r=0.73$, $p<0.05$), particulate organic matter and microbial biomass carbon ($r=0.66$, $p<0.05$) and particulate organic matter and microbial biomass nitrogen ($r=0.65$, $p<0.05$). It is suggested that the amount of leaf litter applied was not large enough to make significant changes on soil quality over the period of incubation. The results suggest the need to increase the application and incubation time of litter with low quality in order to allow for decomposition of the organic materials to take place. This has practical implication for farmers who manage such leaf litter for increasing crop productivity. [Life Science Journal. 2011;8(S1):130-139] (19) (ISSN: 1097 – 8135). http://www.lifesciencesite.com.

**KEYWORDS:** Incubation period. Leaf litter biomass. Litter application. Soil quality

#20

**Settlement, Location and Rural Production: an alternative configuration for growth in Sub-Saharan Africa**

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**ABSTRACT:** Studies of rural production systems, economic growth and poverty reduction across developing countries consistently take settlement for granted. This paper reports the results of a study centred on the spatial ramifications of settlement, location and production as an alternative platform in understanding variations in local and regional economic growth. The study is based on a survey of contemporary literature on rural poverty and production and corresponding statistics on regional performance with reference to infrastructure, services and the economy. The resulting information gaps are identified and used to design an interaction matrix in which settlement, location, and production are superimposed to produce an alternative growth model. This is then discussed in the context of empirical evidence, limitations and as a potentially more viable vehicle than contemporary approaches in economic growth and poverty reduction in Sub-Saharan Africa. [Life Science Journal. 2011;8(S1):140-146] (20) (ISSN: 1097 – 8135). http://www.lifesciencesite.com.

**Key Words.** Economic growth; human settlements; agglomeration; land use planning

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**Coping with HIV/AIDS Stigma by Women who lost their Partners to AIDS in the North West Province**

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**Abstract:** The aim of this article is to explore and describe how women who lost their partners to the Acquired Immune Deficiency Syndrome (AIDS) in the North West Province, cope with the stigma of the disease. A phenomenological design was used. The sampling was purposive and the sampling size was determined by data saturation, with fifteen participants. The data was collected by means of a single open-ended phenomenological question. Data analysis was done by means of the technique of content analysis by Tesch. From the results the following conclusions could be drawn: Women whose partners died of AIDS cope by focusing on the problem which includes positive and negative strategies such as undergoing voluntary counseling and testing, disclosure of their HIV status, seeking social support, adopting a healthy lifestyle, non-disclosure, expression of grief and hurt and threatening lawsuits against perpetrators of the stigma. Regarding coping by focusing on emotions, strategies that arose from data analysis included coping by self acceptance, support by the family members, the emotional, social and the material support from families, friends, neighbors and social welfare; seeking of spiritual comfort, de-individualization of the disease, ignoring negative remarks and attitudes and forgiving, blaming their late partner or other people for their HIV status, and coping by using defense mechanisms. The recommendations were made in the form of strategies to assist these women to cope effectively with the stigma. [Life Science Journal. 2011;8(S1):147-154] (21) (ISSN: 1097 – 8135). http://www.lifesciencesite.com.

**Key words**: Coping, stigma, stigmatization, partner, HIV/AIDS

1/10/2011

Zhengzhou University; Marsland Press

100 Science Road Zhengzhou, Henan 450001, China

P.O. Box 180432, Richmond Hill, New York 11418, the United States

http://www.lifesciencesite.com; http://www.sciencepub.net

editor@sciencepub.net; sciencepub@gmail.com
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