

Paper Code: A1: **Quality Management System of Himalaya Airlines**

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Himalaya Airlines Quality Assurance (QA) and Audit Program monitor the compliance with the Part-145 and Part-M requirements and organizational procedures through internal Quality Audits of Approved Maintenance Organization (AMO) and Continuing Airworthiness Management Organization (CAMO). QA Manager is ultimately responsible for implementation of this program. Audit program ensures through internal audit that the root causes of non-conformances are identified, corrected and implemented to prevent further non-conformances. This process is further supplemented by carrying out Random Audits of aircraft Scheduled and Non-scheduled Inspections during Line and support facilities like Engineering Stores, Tools & Equipment etc.

Annual Audit Program shall cover Sections and Units of Himalaya Airlines involved in maintenance activities. The audit program also covers the activities of contracted organizations performing maintenance work under contract. The Quality Annual Audit Plan is developed on an annual basis by Quality Assurance Manager and approved by the Accountable Manager. The audit plan covers the entire maintenance activities of AMO and CAMO as described in the scope of approval. The audit plan may be revised or re-scheduled if necessary due to unforeseen circumstances and a copy will be displayed on the QA Notice Board and will be notified to respective Sections through e-mail or internal memo.

Annual and periodic quality feedback report is provided to the Accountable Manager to ensure proper and timely corrective action is taken. The feedback system has the objective of direct maintenance and support personnel involvement in reporting and enabling to correct deficiencies in the system and documentation. All staff within the organization are encouraged to report defects and non-compliances for the betterment of the system and no punitive action shall be taken.

The Quality System and associated Quality Assurance Program enable monitoring of Himalaya Airlines compliance with NCAR Part 145, NCAR Part M and other national and international requirements. It is committed to ensure that all associated Human Factors principles are adhered to and that maintenance; preventive maintenance, repairs and alterations are performed and documented in accordance with prevailing regulations and procedures described. Adequate training to its maintenance personnel is provided to enable them to work safely and effectively and to ensure they are competent and confident in the work they carry out. Similarly, Premises and work equipment is maintained to standard and that risks are effectively managed. Maintenance personnel are encouraged to report any maintenance related errors, incidents as per the requirements.

Keywords: Quality Assurance, Himalaya Airlines, Quality Audits, maintenance.

Paper Code: A2: **Quality Circle in the Past, Present and Future**

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Organisations in today's competitive environment are looking for sustainable growth and prosperity and it is only possible when people work in collaborative manner, have shared ideas, beliefs and norms further supporting mutual happiness, well-being and satisfaction. In order to achieve this quality mind set needs to be inculcated in employees who further exhibit positive attitude and behaviour. Organizations need to strategize themselves in order to gain competitive advantage and without employee's support and participation this cannot be achieved. Previously, if we look into the literature it has been found that workers performed their duties that the manager's told them to do based on the scientific principles of management given by Fredrick Taylor and benefiting both employee and employers (Robbins & Coulter, 2012).

However many researchers and activists have sought to break away from the conventional work patterns in their businesses and organisations with common focus on self-determination, empowerment and creating knowledge partnership (Ennals, 2014). Hutchins (2008, 2019) has identified Quality as an important tool for enhancing the employee's performance through empowerment and collaboration.

Quality Circle is a group of 4 – 10 members who meet and work regularly to identify, analyze and solve their own problems systematically and scientifically using Quality Circle tools, techniques and procedure for their self and mutual benefit and growth. As the employees work and move together through the Quality Circle process, they learn to build their own teams and identify the problems which are coming in the way of their own progress and devise strategies to go to the depth of the problem by using problem analysis tools and techniques to analyze the root causes of the problem they are working on. They come up with countermeasures to eliminate the causes of the problem and implement those countermeasures and evaluate its effectiveness in eliminating the problem and make it non-recurrent.

In Nepal, there has been a huge movement of students' Quality Circles in schools and colleges (Chapagain, 2006, 2013, 2019) that has achieved recognition globally and also has created a momentum for Quality as empowerment in Nepali workplaces with Quality Circles (Saud, 2019). Keeping this perspective in mind this paper presents an overview of past, present and future perspectives of Quality Circles and its positive outcomes.

Keywords: Quality Circle, empowerment, performance, mutual happiness.

Paper Code: A3: **Possible use of Value for Money Framework in Quality Management**

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Producers strive to use ‘quality’ to add value to their products. However, since quality is defined and understood in many ways it is difficult for them to decide what exactly goes into quality and in fact where does it start and end. Quality is a complex concept involving the producers, users and the environment they work and transact. There are several quality standards and management cycles like Plan Do Act Check (PDCA) for quality management. The first step in this cycle is to plan for quality. The question then is what perspectives and dimensions should be used in planning quality? An answer could be a comprehensive guiding framework that includes different aspects that affect quality. This paper explores the possible use of *Value for Money (VFM) framework* [promoted by DFID (Department for International Development of UK)] as a basic steppingstone in understanding and managing quality of products and/or services. This framework includes *Efficiency, Effectiveness, Equity and Economy* as four important considerations in creating value for money for the products or services. It attempts to add four more dimensions: *Environment, Ethics and values, E-addiction* and *Emerging trends* to accommodate changes of current time and explains the modified framework and its possible use in building quality in products or services.

Keywords: Quality, Value for Money, PDCA, quality standard.

Paper Code: A4: **LCCI Global Qualifications role in developing trained and competitive workforce: A case study**

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LCCI Global Qualifications (LCCI GQ) is an award winning and one of the leading organizations in the field of soft skills and management skills training. LCCI GQ works towards helping thousands of learners through its international, customized and local training programs. These trainings help candidates to enhance their capacity and advance in business, life skills and related fields, in a competitive and prosperous world. LCCI GQ is focused on building itself as institution of repute and to work as an emerging education and training institution globally.

Over the last few years, LCCI GQ has trained and certified hundreds of students in various soft skills and management related qualifications. LCCI GQ has been offering its programs which are customized as per local needs. LCCI GQ achieved a major milestone where our trainings along with our overall systems were validated and approved by Scottish Qualifications Authority (SQA), Scotland. This approval means that the programs which are developed and owned by LCCI GQ remains under the ownership of LCCI GQ, however, its quality is assessed by SQA. Today LCCI GQ's Registered Training Centers are spread all across different places.

Quality human resource is one of the crucial aspect in development of any country and especially country like Nepal which has large younger population within the age group of 15-35 and country at its nascent stage of development, LCCI GQ programs help to a large extent in strengthening the quality of education thereby building quality human resource and as a whole building a peaceful, vibrant and prosperous country, Nepal.

Keywords: LCCI, Quality human resources, soft skill, quality education.

Paper Code: A5: **Transformer Efficiency Improvement through Design**

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Transweld Nepal Company Pvt. Ltd. is one of leading Transformer Manufacturing Company in Nepal. It is located near to ring road at Dhapasi. It is ISO 9001(Quality Management System) certified company. Transformer is an Electrical Machine. It transforms AC voltage and current to high and low values. Its customers are Rural Electrification Projects, different Industries, Housing, and Departmental Stores etc. The company's success depends upon success of Marketing and Operations Management.

Load Loss and No load loss directly affect the efficiency of transformer. It had been noticed that our transformers losses are higher than it has to be. Higher losses are due to lack of proper raw materials and poor design. No Load loss is due to poor core and Load loss is due to not using proper size of copper. First design was improved by experienced designer to meet NEA standard low losses. The raw materials are used as per design requirement. Especially core and copper are strictly used as per design. The efficiency of transformers are improved.

Keywords: Transweld Nepal, Transformer, ISO9001, NEA standard.

Paper Code: B1: **Status of Food Quality Regulation of Nepal from Federal Perspective**

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Nepal has a history of initiation and development of Food Quality Control Activities through various Periodic Plans. Currently Government of Nepal is implementing Agriculture Development Strategy (ADS) and Food Quality regulation is also covered within this sector. After the accession of Nepal to Federal System, Government of Nepal (GON) has prepared its roadmap to address the various functions on three tier (Federal, Province and Local Level) in line with Federal Constitution of Nepal 2015. In this connection, this paper briefly presents the status of Food Quality Regulation System of Nepal mentioning recent GON priority on pesticide residue regulation campaign.

Keywords: Periodic Plan, Food Quality, ADS, Pesticide Residue, Three Tier, Federal System.

Paper Code: B2: **Honey bees mites cause low quality and quantity of honey production**

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Honey bees are important in pollination of plants and for honey production. The honey bees mites (Acari) feed haemolymph of honey bees as a consequence, high mortality of young honey bees. The objective of this study was to determine the relation of mites infestation rate and quality of honey production (*Apis cerana* and *Apis mellifera*). In total, 250 bees/species were directly collected from beekeepers, kaski and Nawalparasi district of Nepal. All samples were preserved in 70% ethyl alcohol. Each honey bees were individually dissected removed trachea and examined for tracheal mites under stereomicroscope (Olympus SZ2-ILST). *Tropilaelaps* and *varroa* mites were also examined directly under the stereomicroscope. Infestation rates of *Acarapis woodi* in *Apis cerana* (4.40%) was more than *Apis mellifera* (0%). Infestation of *A. woodi* between *Apis cerana* and *Apis mellifera* was significantly different (One-way ANOVA, F: 5.719, df: 2, Sig: 0.004). However, the infestation rate of *varroa* destructor was not significantly different (One-way ANOVA, F: 1, df: 1, Sig: 0.318). *Tropilaelaps* mites were highly infested *A. mellifera* colonies all over the country. Nepalese *A. mellifera* beekeepers use several types of mitacides such as Acaricides, Synthesis Acaricides, Thymol, Organic acid, formic acids to control of the mites. All these chemicals are accumulated in honey and beeswax. In conclusion, honey bee mites, external parasitic mite, not only kill the brood of honey bees, but also cause low quantity and quality of honey production.

Key words: honey bees, mites, infestation, honey quantity and quality.

Paper Code: B3: **Constraints for Implementation of ISO 22000 - Food Safety Management Systems in Nepali Food Industries**

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Food safety is a global concern as it has severe impact on health. Safe food is a foundation of nutritious diet whereas unsafe food containing harmful bacteria, viruses, parasites or chemical substances can cause more than 200 diseases - ranging from diarrhoea to cancers. In addition to safeguarding the well-being of consumers, food safety is also crucial in order to support national economies, trade and stimulating sustainable development. Despite the huge efforts made by the food safety authorities, experts and industries, food safety still remains critical across the world and issues related to food safety are often in limelight. Ensuring food safety is becoming increasingly important in the context of changing food habits, popularization of mass catering establishments and the globalization of our food supply. With an aim to harmonize the requirements for food safety management within the food chain on a global level, International Standard – ISO 22000 (Food Safety Management Systems – Requirements for any organization in the food chain) has been developed by ISO technical committee. ISO 22000 standard is intended to address aspects of food safety concerns only and for application by organizations in the food chain that seek a focused, coherent and integrated food safety management system in order to ensure that food is safe at the time of human consumption. More than 100 food industries of Nepal have acquired the ISO 22000 - food safety management systems certification till date. This study is based on a sample of forty ISO 22000 certified food industries of Nepal. In-depth interviews with top management, quality managers & Food Safety Team Leaders and semi-structured questionnaires elicited information on different constraints for implementation of food safety management systems in the industries. Findings indicated that the major constraint for implementation of ISO 22000 is lack of knowledge regarding the requirements of food safety management systems. Furthermore, cost associated with resources and hiring of competent

personnel for its implementation is identified to be significant constraint. This paper reveals the constraints for implementation of food safety management system in Nepali food industries which will assist food safety experts and policy makers to take appropriate actions for assuring food safety.

Keywords: food safety, food safety management system, food chain, implementation

Paper Code: B4: **Comparative study on drying characteristics of soaked(s) and control(c) sample of Masyeura**

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Masyeura is traditional, ethnic, partially fermented legume based dried food product prepared and consumed by the Nepalese. It is a hollow, brittle and friable product and is one of the lesser-known fermented legume based foods consumed as a condiment. Ash gourd is an oval shaped pumpkin like vegetable which is rich in vitamins and minerals specially vitamins B complex. It is uncommon in the town areas whereas it is used as vegetable and Masyeura in village areas mostly terai region. Sun drying is one of the traditional method. There is no temperature and quality control during the exposure of product in open atmosphere. Ash gourd Masyeura is usually prepared using only its pulp that is obtained by squeezing of the ash gourd cuts where the juice is totally discarded. Therefore, this research is carried out, where ash gourd juice is utilized as soaking medium for black gram using the modern cabinet drying method to enhance the overall quality of Masyeura.

The objective of the study is to compare the drying behavior, physicochemical properties and ash content of ash gourd- black gram Masyeura of sample which is prepared by soaking the black gram in ash gourd juice with the sample prepared without soaking.

The black gram and ash gourd were brought from local market of Kathmandu. Ash gourd was washed, peeled and cut into small cubes while black gram was sorted, cleaned and washed. The ash gourd cubes were grinded in mixture to separate the juice and pulp. For soaked sample (S), the juice was utilized for soaking the properly washed black gram for 20 hours and the black gram was grinded along with the juice to make a thick paste. For non-soaked or control sample(C), the washed black gram was directly grinded. Then the mixture of black gram paste and ash gourd pulp was mixed to prepare small balls like lumps spread in trays which was then subjected to dry in cabinet drier at various temperatures 50, 60 and 70 °C. Then the dried sample was analyzed for different physicochemical properties like moisture content, pH, water holding capacity and oil holding capacity, ash content and drying behavior. The comparison of all these properties were studied in accordance with type of sample; soaked and control and temperature; 50, 60 and 70 °C.

The results showed that moisture content, water holding capacity, oil holding capacity and ash content of soaked sample was higher than that of control sample whereas, the pH was lower for control one. The drying behavior of both the samples were similar but for every temperature, the characteristics were slightly different.

The temperature played vital role in drying characteristics of samples. The total drying time of soaked and control sample for 50, 60 and 70 °C was estimated as 14, 12 and 10 hours. The final moisture content of both samples were higher at 50 °C which decreased as temperature increased.

This type of research is not only important to commercialize the indigenous foods like Masyeura but also helps in enhancement of quality of the product as the Masyuera gets enriched with vitamins and minerals. Ash gourd is one of the underused yet nutritious vegetable which has high shelf-life (2-6 months) therefore it can be utilized to prepare such products which are the representation of typical Nepali foods like Masyeura.

Keywords: indigenous food, vegetables, drying time, quality.

Paper Code: B5: **Study on the quality control activities of selected Green tea factories**

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Nepali green tea is a beverage made from the fine leaves of tea plants grown in hills of Nepal. This pilot scale study is an attempt to explore the operating process of the green tea factory, understand the awareness on quality improvement of green tea, exploring the processes employed for checking degradation of quality and to study the consumer behaviour of tea. The study has been conducted in the one factory of each Dhankuta and Ilam district. In each objectives of the study, factory of Ilam was found superior than that of Dhankuta. The study reveals various aspects like GMP demanding immediate attention for the quality control activities.

Key words: Tea factory, quality, consumer behaviour, quality control, GMP.

Paper Code: B6: **Formulation and process optimization of whey based grapes drink**

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Whey is a by-product of dairy industries, obtained during paneer and cheese making process. The presence of lactose, minerals, protein and water-soluble vitamins make whey a highly nutritious product. This was utilized to formulate whey based grapes drink. Black/purple grapes (*Vitis vinifera*) juice is considered to have health promoting properties due to the presence of rich amounts of antioxidants, phenolic and flavonoids.

The objective of the study is to utilize one of the dairy by-product, i.e. whey by formulating whey based grapes drink further to optimize thermal processing temperature and time. The hypothesis of the study is; the formulation of whey based grapes drink using linear programming will retain (Total Soluble Solid) TSS, protein and vitamin C in the product at desired level after thermal process. The milk whey for the preparation of drink was taken from Sujal Dairy Pvt. Ltd. Thankot, Kathmandu, grapes were brought from Kalimati, Kathmandu. Only cleaned and sorted grapes were crushed using juice extractor and filtered using muslin cloth. This was taken for the product formulation. Product specification and drink was formulated using linear programming method. The targeted value of nutrients (protein and Vitamin C) in the final product was calculated on the basis of Recommended Daily Allowance (RDA). The product was thermally processed and total plate count (TPC) was done for different temperature and time profile. The D-value was calculated so as to achieve the destruction of targeted pathogen (*Coxiella burnetii*) in the final product to determine optimum temperature and time.

The final product was analyzed for Moisture content, TSS, Protein content and Vitamin C content and significant test on the analysis was carried out. The proportion of ingredients for drink was obtained as 40% whey, 51% grapes juice and 9% sugar syrup (10°Bx). Z value was calculated as 14.43°C. The optimum temperature and time combination for thermal inactivation was found to be 85°C for 4 s. The average moisture content, TSS, Protein and Vitamin C of final product was found to be 85.9%, 13.9%, 0.325g and 6.01 mg per 100g respectively. From significant test on the analysis, t-value of moisture content, TSS, Protein and Vitamin C were -1.68, -1.106, -0.83 and -74.07 respectively. Moisture content, TSS and protein were not significantly different where as vitamin C was significantly different, this might be due to effect of thermal processing. Prepared drink can play the role for the intake of whey protein and vitamin C. The preparation of whey based grape drink becomes the valuable product by utilizing by-product of dairy industries and can be taken for commercial scale.

Keywords: Dairy industry, whey, liner programming, grape drink.

Paper Code: C 1: Information Technology and its role in Quality Management

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The aim of this study is to identify the extent to which Information Technology (IT) has been used to support Quality Management and in order to identify the role of IT in its implementation. Quality Management is well established as a central method for improving the efficiency and competitive position of any organizations. This study focus on how IT such as Management Information System, IT applications and services supports in Quality Management processes. Data was collected through questionnaire survey and were analyzed. The results of the research indicate that IT support was used in information and analysis, output quality assurance, important innovation, quality results and supplier quality assurance. Thus role of IT should be enhanced in work processes in order to improve product quality and productivity.

Keywords: *Information Technology, Quality Management, Management Information System*

Paper Code: C 2: Present Status of Nepal GAP Implementation and Certification in Nepal

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With international trade in food is booming, consumers are increasingly concerned about food safety, how food is produced, and how it is handled within the supply chain. New pressures from consumers, retailers, and legislation have placed additional demands on farmers and producers. They are increasingly required to use production methods that reduce the impact of agricultural practices on the environment, to reduce their use of agrochemicals, and to make efficient use of natural resources (land and water), all while safeguarding the welfare of workers and conserving farm ecology. Good Agricultural Practices (GAP) represents a solution for producers seeking to address consumer concerns in domestic and foreign markets. Good Agriculture Practices (GAP) is a voluntary standard for food safety, quality control, environment friendly and worker welfare friendly standard which ultimately contribute for sustainable agriculture. Nepal along with Bhutan and Maldives is getting ready to implement and certify their National GAP in the common ground of SAARC GAP on fruits and vegetables. Currently, NepalGAP Implementation and Certification process is being carried out in three vegetable farms as piloting program in Nepal. The department of Food Technology and Quality Control (DFTQC) is one of the Departments under the Ministry of Agriculture and Livestock Development (MOAD), Government of Nepal, is a governmental Certification body for NepalGAP as per NepalGAP Implementation Directives, 2075. This paper reviews present status of NepalGAP implementation and certification in Nepal.

Keywords: NepalGAP, SAARCGAP, Food Safety, International Trade, Quality

Paper Code: C 3: **Cultivating quality culture with experiential learning at KCM: Barriers and Opportunities**

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Providing good quality education has been a slogan, genuinely or commercially, in every education institution. Various teaching methodologies have been learnt and adopted for the same. Quality culture which can be defined as a set of group values that guide how improvements are made to everyday working practices and consequent outputs, becomes an important part of an education institution. With the belief that quality should be more as a habit rather than an act, a quality culture need to be developed as an organizational behavior. That way, we can produce graduates that fulfill the definition of quality “fitness for use”.

Since the very beginning, KCM has been trying to put into practice an ‘experiential learning’ method in every subject possible. Students need to be placed at the center and make them involved actively in teaching learning process, with the teachers playing role as facilitator. For this purpose, flexibility in designing the course and setting an evaluation scheme are essential.

The existing education system up to high school in Nepal is still the major barrier as it focused mainly only on the completion of the course content and targeting good result in written final examination. The market of education sector which is getting more competitive in getting qualified students and tuition revenue (specially for private institution) is another obstacle to be overcome. Experiential learning, if properly implemented, can be one of the strategies to differentiate oneself in the crowd market.

Keywords: experiential learning, quality culture, fitness for use, teaching-learning process.

Paper Code: C 4: **Status of Semester System in Nepal.**

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Semester system is an important step in the context of quality development in Nepal. Semester system should be equipped with certain infrastructures. This system was propounded and implemented to produce quality manpower in Nepal's job market. If the dream of semester system converts into reality then Nepal can produce manpower with higher productivity. In this paper, an attempt is diverted to measure of our status of master program of economics with special references to Ratna Rajyalaxmi Campus, Kathmandu. In this regard, a questionnaire with 5 items is constructed after a study of the literature on the basis of objectives and mailed to 45 members of a target population to planners and implementers of quality of semester in Nepal. The 'planners' comprised of the members of the designer of curriculum, Ministry of Education personnel involved with quality education, vocational experts of the Curriculum Development Center, members of the National Planning Commission and related personnel, and popular educators. The questionnaire required the subjects to respond to the 5 items using a five-point Likert scale, from 'one' indicating strong agreement to 'five' indicating strong disagreement. The responses of respondents were tabulated, analyzed and interpreted using the analysis of variance (ANOVA) statistical test with the acceptance level of significance set at 0.05. The ANOVA tested the difference in response for each questionnaire item among the two major groups of the target population, i.e., planners and implementers of semester system in Nepal.

Keywords: Infrastructure, Curriculum, Likert Scale, ANOVA.

Paper Code: C 5: **AERSSC, the Accreditation Body and Mutual Recognition Arrangement (MRA)
with ILAC/APLAC**

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Accreditation is a process whereby an organization is assessed on a set of predetermined standards ISO/IEC 17011 “Conformity assessment – General requirements for accreditation bodies accrediting conformity assessment bodies.

Accreditation is an impartial and objective process carried out by third parties, that offer the least duplicative, the most transparent, the most widely accepted, and the least discriminatory route for the formal recognition worldwide of credible and trustworthy conformity assessment results.

Conformity assessment is the processes and procedures that are used to demonstrate that a product or a service, management system, an organization or personnel meets specified requirements.

Accreditation is often the responsibility of an accreditation body that may seek recognition of its accreditation within the frameworks of the International Accreditation Forum (IAF) and International laboratory Accreditation Cooperation (ILAC).

Accreditation Education Research and Scientific Service Center (AERSSC), the only accreditation authority in Nepal is the Full member of Asia Pacific Laboratory Accreditation Cooperation (APLAC) and Associate member of ILAC. Being a Full member of APLAC, its application for APLAC Mutual Recognition Arrangement under ISO 17025 and ISO 15189 has been approved by APLAC MRA Council. APLAC has already formed the peer evaluation team to evaluate AERSSC’s accreditation activity according to ISO/IEC 17011 and APLAC/ILAC requirements.

Accreditation, recognized by existing regional and international mutual recognition arrangements (APLAC/ILAC MRA) is referenced as a key measure to support trade through removal of technical barriers to Trade (TBT).

Each accreditation body that is a signatory to the MRA commits to ensure that all laboratories that are accredited comply with appropriate laboratory standards. Signatories agreed to accept the results of each other conformity assessment bodies under the arrangements and so accredited conformity assessment under the accreditation of each signatory is able to be recognized internationally.

Keywords: Accreditation, Conformity, ISO 17025, ISO 15189, IAF.

Paper Code: D1: **Implementation of WHO Surgical Safety Checklist at Norvic International Hospital- A Novel Tool for Safe Surgery**

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The Safe Surgery Saves Lives programme was established by WHO Patient Safety as part of the World Health Organization's efforts to reduce the number of surgical deaths across the globe. The aim of the programme is to harness political commitment and clinical will to address important safety issues, including inadequate anesthetic safety practices, avoidable surgical infection and poor communication among team members. These have proved to be common, deadly and preventable problems in all countries and settings.

To assist operating teams in reducing the number of these events, WHO Patient Safety—in consultation with surgeons, anesthesiologists, nurses, patient safety experts and patients around the world—has identified ten essential objectives for safe surgery. These were compiled into the WHO Surgical Safety Checklist. The aim of this Checklist (available at www.who.int/safesurgery) is to reinforce accepted safety practices and foster better communication and teamwork between clinical disciplines. The Checklist is intended as a tool for use by clinicians interested in improving the safety of their operations and reducing unnecessary surgical deaths and complications. Its use has been demonstrably associated with significant reductions in complication and death rates in diverse hospitals and settings, and with improvements in compliance to basic standards of care.

Norvic International Hospital (NIH) is committed to its patients/clients and focuses on providing best possible services in healthcare in an upright and ethical manner. NIH has modified and implemented WHO Surgical Safety checklist 2 years ago. The goal of this study is the risk reduction in the surgical suites at NIH using the Surgical Safety Checklist.

My research findings indicate that implementation of surgical safety checklist reduces the various risks associated with surgery followed with the continuous monitoring from QMS department of the hospital. WHO Surgical Safety checklist was modified as per our context to make it more effective and efficient. The modification includes additional capturing of other important indicators like duration of surgery, surgeon waiting time and incision time. This enables us the capturing of other various important indicators for the Quality care and safe Surgery.

The results illustrates that NIH has implemented the Surgical Safety Checklist in 100% surgical cases and is 100% audited on daily basis by the QMS department of the hospital resulting the achievement of many clinical indicators.

Keywords: Surgical Safety, QMS, WHO, Checklist.

Paper Code: D 2: An Alternative Therapy for Prevention and Treatment of Illness

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Traditional medicine therapies are historically used worldwide for disease prevention and treatment purposes. Apitherapy (*Apis* is a Latin word means bee) is the practice of using bee products such as honey, propolis, royal jelly, bee bread and bee venom to cure illnesses. Apitherapy is described as “the science and art of the use of honey bee products to maintain health and regain health when sickness or accident interferes”. More recently, the bee products like propolis, royal jelly and bee bread have been incorporated into modern medical practice to prevent the illness. Propolis is a combination of tree resins, beeswax, honey, and bee enzymes; is used by bees to protect the their larvae from bacteria and virus. It contains strong antibacterial, antifungal, anti-inflammatory, antiviral and anticancer properties. Our results showed that the propolis completely heal the diabetic and pressure wounds within three months. Royal jelly is secreted by the phypharyngeal gland located below the pharynx in the head of young worker bees to feed less than three days old larvae. The queen bee regularly feeds on this enzyme-enriched food. It contains a large number of beneficial vitamins (thiamine, riboflavin, niacin, pyridoxine, pantothenic acid, biotin, and folic acid), and 10-hydroxy-2-decenoic acids (10-HDA). These properties are responsible for health benefits such as menopause symptoms, premenstrual syndrome, diabetes-II, reduce cholesterol level and balance hormones level. Bee bread, a mixture of pollen and nectar/honey with bee saliva, is a larval food prepared by the fermentation of pollen and honey. The Bee bread usually contains therapeutic microorganisms (lactic acid bacteria). My results showed that the bee bread significantly reduces creatinine and improve sugar level. In conclusion, bee products are useful for prevention of diseases and to those the patients who cannot cure by western medicines.

Regarding to quality control, honey has been a target for adulteration for a long time. Addition of sweeteners, mis-description of botanical source of honey, and high moisture content (>20%) can result in honey fermentation and spoilage. According to the definition in the FAO Codex Standard for honey (Anonymous 2001) and in the European honey standard (Council Directive 2001/110/EC) honey shall not contain any food ingredient other than honey itself nor shall any particular constituent be removed from it. Many methods are employed for analysis of honey. Among them, moisture content, electrical conductivity, optical rotation, and 5-hydroxymethylfurfural (HMF) provide a good information value about honey quality. Antibiotics and mitacides are used beekeepers to control the brood diseases of honey bees, resulting in residues in honey.

Biosecurity is the protection of livelihoods, lifestyles and the natural environment, all of which could be harmed by the introduction of new pests, or through the impact of pests already established. Honey bee biosecurity is a set of measures designed to protect honey bees from the entry and spread of pests. Honey bee biosecurity is the responsibility of every beekeeper and every person visiting or working in an apiary. Honey, comb honey, bee bread, pollen, royal jelly and propolis are all specialist products of beekeeping operations, so in order to produce high quality of honey and other specialist bee products, beekeepers should follow the best management practice guidelines which are outlined of honey bee biosecurity in quality assurance schemes of bee

products. Therefore, implementing honey bee biosecurity in Nepal is essential for beekeeping and bee product business. The health of the honey bee industry also ensures the continued success of many other plant industries that rely on honey bees for pollination.

Keywords: Apitherapy, alternative therapy, honey, bee bread propolis, royal jelly, honey bee biosecurity.

Paper Code: D 3: **Implementing ISO 9001:2015 in Hospital: A Case Study**

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The purpose of this study is to know how one of the private hospitals of Nepal implemented Quality Management System. Health care service providers are established to meet the health needs of the people and they usually provide service on diagnosis, treatment and prevention of physical and mental impairments in people. As health is the critical part of human's life, people expect health care service provider to provide quality service. Nowadays, most of the people are aware of quality of health care services delivered to them and judge the health care service providers accordingly. As the number of health care service providers is increasing, improving quality of services has become a major concern for each service provider in order to meet and exceed the needs of patients and enhance their satisfaction level. In context of Nepal, Health Ministry, along with the help of local governing bodies, evaluates hospitals in terms of certain key performance indicators, besides that the hospitals are willingly adopting international standards for demonstrating their quality performance. One of the renowned international standards adopted by hospitals across the world is ISO 9001:2015-Quality Management Systems. Implementing Quality Management System along with its principles i.e. customer focus, leadership, engagement of people, process approach, improvement, evidence-based decision making and relationship management helps the organization in continual improvement of the system which ultimately increases the satisfaction level of the customer. Around 10 hospitals in Nepal are ISO 9001:2015 certified. In order to know the implementation process, one of the hospitals implementing Quality Management System-Nepal Cancer Hospital and Research Center was selected for the study. How the selected organization implemented Quality Management System, what sort of difficulties was faced and how they overcame the difficulties, semi structured questionnaire was used as the study tool. Questionnaires were distributed to all the department heads & concerned authorities and the interpretation & analysis of their response were done. This study will reveal the scenario while implementing quality management system in the hospitals and would be helpful on planning and taking appropriate actions during implementation of quality management system in any other hospital.

Keywords: Quality Management System, Implementation, Continual Improvement, Quality Performance.

Paper Code: D4 : **Study of Effectiveness of Moringa (Sahijan) seeds and Alum in Water Clarification**

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The chemical coagulant is widely used for water treatment. However, use of natural coagulant for water treatment has been less explored. This work explained how the natural component i.e. Moringa oleifera seed powder clarified turbid water. The water treatment with Moringa seed powder was done at various doses as 0.2g/l, 0.4g/l, 0.6g/l, 0.8g/l and 1g/l. The treatment was done for four to five hours i.e. until water becomes clear. This study aims to add the fine powder of moringa seed as natural coagulant in treating the surface water which is turbid and the same water was studied with the synthetic coagulants such as alum. The treated and untreated water by use of both chemical coagulant and moringa seed powder were analyzed as per the standard procedures. The two-way ANOVA at 5% level of significance was conducted to assess whether significant variations existed among the treatments given to assess their effectiveness as water coagulants. Multiple mean comparisons using Duncan were computed to ascertain where the differences existed while increasing the dose.

There was reduction in turbidity, alkalinity, hardness, total plate count and total coliform while using moringa seed powder. When dose of moringa seed powder was increased these parameters were reduced. There was no significant change in pH with increased dose. The minimum turbidity obtained by moringa seed powder was 1g. The range obtained of observed parameters were within the range of Nepal drinking standard except TPC and total coliform. In case of alum there was reduction in pH, alkalinity, turbidity but hardness increased with increased dose. Alum did not show significant effect in reduction of bacterial load. Moringa seed powder was effective in reduction of turbidity whereas in other parameters there was no any significant changes. The seed powder did not reduce the coliform count within range of standard drinking water hence water is clean to eyes but not suitable for drinking purpose. The water obtained after treatment with moringa seed powder can be used for domestic and industrial purpose.

Keywords: Water treatment, Moringa seed, ANOVA, alum.

Paper Code: D5: Innovation for Self-Employment Applying PDCA (Plan, Do, Check and Act) Model to Implement an Idea for Enterprise Development

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Youth unemployment and frustrations is one of the major social problems in Nepal. Shortages of jobs, lack of employment opportunities and job security are the main features of the current employment situation for young people. In the face of chronic unemployment, youth can feel disempowered, frustrated and disoriented. This has key implications for political, social and economic instability. Everyone is creative as everybody has brain. It is the centre of creation. This is the reason we can find creative people everywhere in the societies. Many people who are out of mainstream of development are not necessarily poor in their creativity. Creativity is thinking new things, innovation is doing new things and entrepreneurship is creating value in the market place. Minds of the marginal people may not have marginal mind. To promote innovation and development, we need to find out the people who can be the part of this movement. We need to find them, help them and celebrate with them for their success. We should believe that anyone can be an inventor and bring a big impact to the society. We should find out the low-cost solution to high cost problem. This is based on the need of the local community as necessity is the mother of invention. This approach is based on grassroots innovations which are technological solutions generated by common people. Social entrepreneurs are also expert organizers and nurturers of changemakers, empowering the community itself to help shape and create positive change. To make the group or community innovative, a series of training activities on creativity, innovation and entrepreneurship will be carried out. PDCA model can be applied to promote innovation for self-employment and enterprise development.

Keywords: PDCA, Self-employment, training, innovation, development.

Paper Code: E1: Quality of Banking Services, Perceived Satisfaction and Customer Retention Rate in Nepalese Commercial Banks

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The paper tried investigate the customer's views and feeling on the quality of banking services provided by Nepalese commercial banks and its impact on customer retention and sectoral growth. Study conducted under Descriptive analytical research design. Face to face interview of survey research design was used to collect the primary data from the customers of banks. mWater surveyor mobile application was used to administered the data collection tools. Total 150 randomly selected customer were surveyed. All the quantitative data were analyzed by applying descriptive statistics such as mean, variance, standard deviation, percentage. Propositions developed based on literature review were tested and inferences were drawn. Investigation result confirmed that, there is direct relationship between customer satisfaction and quality of service delivery as perceived by customers in comparison to their expectation. Thus, positive disconfirmation of satisfaction depends upon quality of banking services which ultimately reflected in customer retention rate and also the growth rate of banking sector in Nepal.

Key words: service, quality, satisfaction, customer, perceived satisfaction, commercial bank.

Paper Code: E2: **Wing morphometric analysis for selection of qualitative queen production**Bhoj Raj Mahato¹, Subha Ratna Shakya², Ratna Thapa³^{1,2,3}Zoology Department, Entomology Section, ASCOL³Corresponding author: rtlaboriosa@gmail.com

Honey bees are the eusocial animals controlled by the single queen. The queen is the sole reproductive female of the colony, the colony strength, survival and the colony health. Queen bees reflect genetic characters by the morphological character of wings in the worker bees. As the quality of queen production depends on genotypes and phenotypes of the colony members. So, selection for the high quality queen for breeding is an important procedure to produce the disease and mite resistance colony for improvement of the qualitative and quantitative honey production. The objective of this study was to identify disease and mite resistance free characters of colony for qualitative and quantitative queen bee production. In this study, the worker bees from diseases free colonies from Rumjha, Pokhara and sick bees from Budhanilkantha, Kathmandu were directly collected from the hives. In total, 80 bees (30 from Pokhara and 50 from Kathmandu) were used to measure cubital index and discoidal shift. The right wings were detached from the body and made temporary slides to measure cubital index and discoidal shift. All the measurements were done under Olympus stereomicroscope SZ, and the data were analyzed using BEEMORPH 1.1 software and non-parametric tests. The cubital indexes between diseases free (an average = 3.5, min= 2.6, max= 4.7, N= 30) and diseases carrier colonies (an average = 3.3, min= 2.2, max= 4.9, N= 50) was not significantly different ($t = 1.39$, $df = 78$, and Sig. (2 tailed) = 0.219). The discoidal shift between diseases free (an average = 2.7, min = -0.03, max=5.2, N= 30) and diseases carrier colonies (an average = 1.9, min= -1.6, max= 5.5, N= 50) was significantly different ($t = 2.77$, $df = 78$, and Sig. (2-tailed) = 0.006). In conclusion, selection of cubital index and discoidal shift lead to commercially available breeding lines of the subspecies. At least three evaluations per year are recommended for the high qualitative and quantitative queen breeding for high quality of honey production.

Keywords: wing characters, cubital index, discoidal shift, *Apis cerana*

Paper Code: E3: **Corporate Governance Practices for quality enhancement.**

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Good governance is foremost in order to develop good corporate working culture. Nepalese firm believes that governance simply means running and managing the organization. In general, governance refers the way of governing, directing and controlling a group of people or state. It refers to the set of activities or process of decision making and implementation which is broader concept than government. Governance includes all formal and informal rules under certain principles of accountable, transparency and rule of law and ultimately the quality of the institution will be improved. The study of corporate governance practices certainly influences the performance of firm. This study focuses on the corporate governance practices implemented by the commercial banks of Nepal and its impact on bank's financial performance taking 8 years secondary data. The data were collected from Banking and Financial Statistics published by Nepal Rastra Bank. In addition to this, different published articles, reports, books and magazine were also used. Multiple regression analysis was used to test the significance and importance of corporate governance in Nepalese Commercial Banks, where the dependent variable used were financial performance (ROA and ROE), where as the independent variables were board size, board independence, shareholders rights, remuneration and disclosure. The open source statistical package gretl was used to test the significance of the pooled ordinary least square (OLS), fixed effects and random effects panel data models.

Keywords: Corporate governance, board size, board independence, return on assets,

Paper Code: E4: **Impact of induction and mentoring support program to beginning teachers' intention**

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The aim of this study was to examine the impact of the key elements of a comprehensive induction and mentoring program to beginning teachers' retention by assessing their opinions, views, perceptions and experiences about their intention to remain in the profession. This study used the integrated mixed methods research strategy which is rooted in both hypothesis testing and hypothesis generating. The sampling strategy of this study was simple random sampling method where two hundred and fifty beginning teachers were randomly selected from thirty different both the institutionalized and public schools of Chitwan District, Nepal. The response rate of the survey questionnaire was 86% (n = 210). Eleven beginning teachers who took part in the survey study, took part in the semi-structured interviews as well. The instrument of the quantitative survey was a self-administered Likert type questionnaire developed on the basis of previous research. The Principal Component Analysis, Student t-Test and Binary Logistic Regression Method were used to analyze quantitative data and the transcribed interviews' data, using content analysis method was used to analyze qualitative data. The main findings of both quantitative and qualitative approaches indicated that supportive roles of principal's management behaviour, roles of senior colleagues to share classroom management skills, supportive roles of colleagues for instructional skills, the characteristics and quality of support program, and the roles of mentors were found similar contents. The results show that high task-oriented principal's management behaviour, collegial support for content knowledge, a high expectation of school principal, and emphasis on effective teaching were negatively and significantly correlated to their intention to remain in the teaching profession. But quantitative as well as qualitative approaches indicated that collegial support for instructional skill, recognizing and comfortable atmosphere, and well working observation facilities were positively and statistically significantly correlated to their intention to remain in the teaching profession. Again, the perceptions and experiences of beginning teachers for the support of classroom management skills, teachers' instructional skills, open learning environment and collegial support were found insignificant to their retention in the Nepalese context. The educationists, policy makers, school leaders, researchers and practitioners will be benefited by the implication of this study to understand the perceptions of beginning teachers towards the nature of the current support mechanism of the induction and mentoring program in Nepal. More importantly, the findings of this study would be importantly helpful to school leaders how to retain beginning teachers at their schools at Chitwan District of Nepal. The results further show that the induction and mentoring program had not a buffering effect on initial levels of beginning teachers' attrition but affected change over time. The first limitation of this study is the small sample size of this study which can't be generalized for the larger population.

Keywords: Likert scale, Principal Component Analysis, t-test, logistic regression.

Paper Code: E5: **Development of Standards for Biomass Briquettes and Pellets**

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Briquette technology is related to producing high-density fuel by compacting combustible raw materials such as charcoal, agricultural residue or forest waste to increase the net calorific value per unit volume. There are various methods of briquette production and different raw materials that can be used for its production. Since briquettes produce less smoke and propagate consistent heat compared to firewood they are getting popular in space heating purpose, cooking and other industrial applications.

Current scenario of the country shows that briquettes are extensively used for space heating, cooking and oil massage especially during the winter season. Literature survey shows that most of the countries using briquettes from both charred and uncharred biomass do not have standards for quality control of briquette products. European countries, Canada and USA which use biomass pellets for various purposes, do have their own standards, but there are no standards for rice husk or other biomass briquettes using screw extruder or piston press technology. Rather, there are many technical specifications of rice husk and other biomass briquettes produced by different producers and industries. These are basically the product specification of the industries from which quality parameters can be derived for the purpose of this study.

Assessing the current situation and practices in briquetting as well as lessons from neighboring countries a comprehensive package of draft standards for both rice husk briquetting and beehive briquetting have been proposed. While deriving the quality parameters, information from literature review, field visits and interactions with producers, traders and users were used, considering all the technological parameters (moisture content, particle size, temperature and pressure of briquetting) and product parameters (packaging, storage, moisture content, weight of the briquettes, durability, etc.).

Keywords: biomass pellets, briquette, rice husk, product specification.

Paper Code: E6: **Perception of students towards the quality of higher education in Nepal.**

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If we see the history of Higher Education in Nepal, Tri Chandra Campus was established in the year 1918 by Rana prime minister Chandra Samser SJB Rana which was accessible to a handful people till 1951 until the Rana Resum came to end. Before establishment of Tribhuvan University in the year 1959 (41 years older college than University) it was affiliated to Patan university then Calcutta university. In Statistics, although there are 11 universities in Nepal, Tribhuvan university still covers almost 79 percent of the HE portfolio of Nepal.

Quality is a mind-set, a fixed mental attitude or disposition that predetermines a person's response to and interpretation of situations. Quality is an illusive concept and attribute of values which cannot be measured easily. We are well known that Education creates capacity, it is accepted that quality creates potential to compete. Unless and until we have quality, we cannot compete in global market. It is cumulative product of both human and materials resources. It is simply performing better today, what we perform other day and preparing best for tomorrow. It is accountability and efficiency at all level. We can say quality is not an accident it is an intelligent effort. We have to sustain the quality which we earned. Regarding the higher education Quality is meeting expectation and requirements through consistent performance in teaching and research. Again, Quality is a way of brand building exercise for long term perspective competitive global environment.

The purpose of the study was to examine the perception of students towards the quality of education specially, the students enrolling in Tribhuvan University were examined. The instrument "Students' perception towards quality of higher education" was developed corrected through face validity. The questionnaire was distributed through google form. All together 30 questionnaire were used for analysis. Along with descriptive analysis t- test was used to measure the significance of gender the faculties' attitude towards the quality of higher education.

Keywords: Quality Education, perception, higher education, t-test.