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The present research work has been undertaken keeping in view the following objectives.

1. To evaluate the behaviour of customers in accessing banking services and identify the relationship between accessing banking services and socio-demographic status of the customers.
2. To assess the perceived status of micro level services as well as loan services of the Public and Private sector banks.
3. To explore the major aspects underlying the quality of general services and compare the sample between public and private sector banks as perceived by the customers.
4. To analyse the relationship between General Service Quality and micro level services of the selected Public and Private sector banks.
5. To measure the customer satisfaction and relate the overall satisfaction with various Banking services (Micro level services, Loan services and Quality of general services).
6. To summarize the findings, give conclusions and provide suggestions.

SCOPE OF THE STUDY
This study is carried out scientifically to investigate the bank customers’ opinion about their accessing various banking services provided by public and private sector banks in Nagapattinam district, Tamil Nadu. The primary scope of the present study is to examine bank customers’ perception about status of services at micro level, and their quality along with examining the status of loan related services. Finally, the scope of this study ends with ascertaining the service aspects that play significant role in determining the satisfaction of public and private bank customers in study district.

RESEARCH METHODOLOGY
Source of Data
The present study is mainly based on primary data. The primary data are collected from customers of public and private sector banks in Nagappatinam district, Tamil Nadu. This study also relies on the secondary data such as annual reports of public and private sector banks, publications, books, articles in journals and websites relevant for banking services. For collecting data from population of bank customers, interview schedule is used.

Sampling Technique
The researcher has conducted a survey with 500 retail customers of commercial banks, under both public and private sectors, in Nagapattinam district of Tamil Nadu State in India. Customers have been randomly selected at the selected branches of public and private sector banks for their response. Before going for the survey, the researcher has determined the sample size using following formula as suggested by Osisioma et al. (1974).

\[
n = \frac{Z^2 \alpha^2}{4e^2}
\]
In the formula, sample size, \( n \) is a value corresponding to a given confidence level. (Z value is 1.96 for confidence interval, simply CI, of 95% and 2.57 for CI of 99%). The sampling error “e” is in proportion, varying between 0.04 and 0.05 (i.e., maximum allowance of error in sampling is from 4% to 5%). As sample size is 384 for error level of 5 per cent and 600 for error of 4 per cent, the sample size for the present study is fixed at 500, which is between 400 (384 rounded to nearest 100) and 600.

LIMITATIONS OF THE STUDY
The present study is not aimed at comparing the perception of the customers either by taluks or by area (Rural and Urban). The findings of this study are completely based on the facts collected from the respondent customers along with their views on various services offered by the selected bank in Nagapattinam district.

MAJOR FINDINGS
Findings relating to Banking Service and Socio-Economic Status of Customers
1. The reason for opening account with current banks is found to be convenient location of the bank followed by good service for both public and private sector bank customers.
2. While serving the customers is the primary service for public sector banks, private sectors banks have concentrated more on personalized service. Regarding primary services, there is a significant difference between public and private sector banks.
3. The waiting time is found to be between 6 and 15 minutes as stated by more than 50 per cent of the bank customers. However, the waiting time is significantly less in private banks compared to that of public sector banks.
4. There is significant relationship between customers’ socio-economic status and their access to saving bank account service.
5. It is concluded that access to loan services of the banks among customers is significantly related to their socio-economic status.

Findings relating to Status of Banking Service
6. The banking services at micro level are based on five major aspects viz., account opening & maintenance, parking space & rest room, technology based, draft issue & collection and providing seating / writing arrangements.
7. The perception of overall micro level services among private bank customers is significantly higher than that of public bank customers. This envisages that overall micro level services are better in private sector banks.
8. The General banking services of the banks comprises of responsiveness, security of transactions, user friendly website, product-portfolio, reliability of service and employee competency.
9. The customers, in general, have found the overall quality of general banking services as good. However such views differ by gender, age, educational level, occupational status, family income and account holding period of the customers.
10. The jewel loan is the major type of loan followed by home loan, agriculture loan and personal loan borrowed by the customers in the study area. It is further found that available particular type of loan does not vary between public and private sector bank customers in the study area.

Findings relating to Service Quality and Customer Satisfaction
11. The overall SQ in micro level banking services provided by private sector banks is much better than that of public sector banks in Nagapattinam district.
12. The SQ gap in general banking services in private sector banks is significantly less than that of public sector banks.
13. The SQ gap in respect of “reduced cost of loan”, “issuing loan up to 100% of the property value” and “low initial margin amount” in private sector banks is remarkably less than that of public sector banks.

14. Opinion about the overall performance of the private sector banks is significantly higher than that of public sector banks in Nagapattinam district.

SUGGESTIONS
Suggestions to Banking Sector
1) Employee Training Programmes
Efficient and knowledgeable employees are always a big asset for any type of organisation. In this respect, irrespective of the banks, employees should be given adequate training on technical and behavioural aspects; as a result banks can deliver quick and prompt services to their customers. Because, the sample respondents perceived that the poor staff attitude is the reason for changing the bank.

2) Customers Complaints Management
The customer complaint constitutes an important voice of customer. A customer complaint is one of the best opportunity to the banker for turning an unhappy customer into a loyal customer. The customers are tend to be satisfied more with their banks if their banks are speedy in resolving customer complaints. Hence, banks should give more focus on these areas to further improve customer satisfaction and retain them in their fold. Even a small complaint also should be taken as seriously so as to create a feeling in the minds of the complainer that he is not ignored.

3) Strengthen the CRM System
Banks may concentrate more on CRM. The banks in the study district have to understand the changing needs of customers, their aspirations and expectations to create value. They should also have a strong customer relationship management system to understand customer needs while interacting with them, so as to cross sell their products and retain them.

4) Implementation of Feed Back System
Banks may implement a feedback system to know the customers’ expectations for improving the level of customer satisfaction to the maximum level. This system will help to align banks’ products and services with customers’ needs and expectation.

5) Organise Customers’ Meet
Both the PSBs and PrSBs should organize customers’ meet frequently at regular interval with a view to invite suggestions from customers for betterment of services and to improve their relationship. The bank should also utilize this customers’ meet to educate them about the various bank products like various deposit schemes, loan products, etc.

CONCLUSION
The findings arrived and suggestions offered in the study are expected to guide PSBs and PrSBs in Nagapattinam district of Tamilnadu, to improve their level of customer satisfaction in order to retain existing as well as attracting new customers. The results of this study would hopefully serve as an eye opener for the concerned banks of the study.

To sum up, Customer Satisfaction is a competitive weapon in any service industry particularly in banking sector. If banks want to sustain customers on a long term basis, banks must work towards 100% customer satisfaction, that automatically foster customer delight and loyalty.
REFERENCES

A Case of Skeletal Cystic Angiomatosis, A-V Malformations, and Arnold-Chiari Malformation Type I – A Rare Multicentric Combination Triad of Congenital Malformations.

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ABSTRACT
A 17-year-old male patient was admitted into our medical ward with complaints of progressive overgrowth of jawbone and occiput since 10 years; protrusion of both eyeballs since 3 years; recent onset of weakness in all 4 limbs, paraesthesias, headache, neckpain, and slurred speech. Clinical evaluation revealed small pulsatile swelling over tongue and kyphoscoliosis. Neuro-imaging revealed cystic lesions in facial bones, calvarium and multiple vertebrae; arterio-venous malformations of brain; enlarged intra-orbital veins; and chiari malformation type-I. Biopsy from mandible confirmed the diagnosis of skeletal cystic angiomatosis. Finally an unusual combination triad of skeletal cystic angiomatosis, arterio-venous malformations, and chiari malformation type-I was documented in our patient. This rare, multi-centric combination triad of congenital malformations could not be found in literature.

KEYWORDS
Arnold chiari malformation, Arterio-venous malformation, Cerebral haemorrhage, Cystic angiomatosis, Magnetic-resonance imaging.

Introduction
The term cystic angiomatosis (C A) was introduced in 1953 by Jacobs and Kimmelstiel. The term ‘C A’ is preferred by most, to designate a pathologic entity that involves both the vascular and lymphatic systems, producing diffuse cystic lesions in both the axial and appendicular skeleton, with or without visceral involvement. Literature revealed reporting of only one case with combination of Arnold-chiari malformations and CA1; and only two cases with combination of CA and Rendu-osler-weber syndrome2. But inspite of vigorous search of literature, we could not find the unusual combination triad of CA, A-V malformations, and chiari malformation, as seen in our patient.

Case Report
A 17-year-old male, born of consanguinous marriage, was admitted into our medical ward with the complaints of progressive overgrowth of jawbone and occiput since 10 years; protrusion of both eyeballs since 3 years; and progressive weakness of all 4 limbs since 1 month (Fig.1). Bony swellings were painless and he was afebrile. He also complained of neck pain; diffuse headache; paraesthesias; and slurred speech. Bowels and micturition were normal. His birth was normal and had normal milestones of development. He had normal intelligence and completed his secondary school education. Parents denied any history of trauma, seizures or childhood infections. He was non-hypertensive and non-diabetic.

Hematology, biochemistry including serum calcium, and thyroid profile were unremarkable. Chest x-ray, ECG, echocardiogram and ultrasonography of abdomen were normal.

Plain computerised tomography (CT) scan of brain showed prominent ventricles with asymmetrical dilatation of left lateral ventricle; thickening of calvarium and facial bones with few lytic lesions; and destruction of left zygomatic bone and left parietal bone. Repeated CT scan of brain after 2 days revealed...
haemorrhage into brain parenchyma of left temporo-parietal region, when patient developed sudden right-sided hemiplegia during his hospital stay. Magnetic resonance imaging (MRI) of brain showed parenchymal bleed in left temporal lobe; expanded skull bones with multiple cystic areas suggestive of cystic angiomatosis; and multiple flow voids with enlarged arteries and veins suggestive of arterio-venous malformations (AVMs) (Fig. 2).

CT angio of brain revealed enlarged superior sagittal and right transverse sinuses; giant A-V malformations in brain parenchyma bilaterally (Fig. 3 A & B); and bilateral proptosis with prominent intra-orbital veins.

MRI spine showed cystic signal intensities suggestive of cystic angiomatosis; and Arnold chiari malformation type-I with tonsillar herniation (Fig. 4 A & B).

Biopsy was done, with sample taken from enlarged mandible. Histological examination revealed cystic spaces comprising RBC in between trabeculae and cystic spaces were lined by a single layer of endothelium, confirmative of skeletal cystic angiomatosis (Fig. 5).

So our patient had very rare congenital triad of abnormalities including skeletal cystic angiomatosis (CA) involving calvarium, facial bones and vertebrae, A-V malformations involving brain and tongue; and Arnold chiari malformation type-I.

During hospital stay patient was treated symptomatically, with supportive measures. Unfortunately we lost the patient suddenly, probable cause of death being recurrent massive intra-cerebral bleed.

Discussion

Cystic Angiomatosis (CA)

Pathogenesis of skeletal CA is still uncertain. One theory favours that the multiple, endothelial-lined cystic lesions are the result of vascular malformations of congenital origin, rather than representing the true neoplasm. It is possible that nests of the primitive vascular channels persist and form the basis for the later diffuse, multi-centric appearance of the lesions in CA. Another theory has advanced the possibility of agenesis of thyroid C cells that secrete calcitonin and their agenesis could induce osteolysis.

CA usually presents during first, second, or third decades of life, although the disorder has been diagnosed incidentally in elderly patients. 12 cases of skeletal CA are presented in a family over four generations. Inheritance pattern appears to be autosomal dominant with equal sex distribution. CA may be confined to the skeleton, as happened in our case, or may be associated with extensive soft tissue involvement, in which case spleen almost always is affected. Clinical features depend on the site of involvement.

Pathologic diagnosis of CA should be made in association with typical radiographic findings and clinical features. Microscopically contain numerous, dilated, cavernous thin walled vascular channels that are lined by flat endothelial cells. The distinction between a hemangioma and a lymphangioma may be difficult, particularly if the cystic spaces are filled with fluid.

Lesions of CA are lytic, well defined, round or oval within the medullary cavity and they have intact cortex. The distinction between a hemangioma and a lymphangioma may be difficult, particularly if the cystic spaces are filled with fluid.

Lesions of CA are lytic, well defined, round or oval within the medullary cavity and they have intact cortex. The lesions manifest variable peripheral sclerosis and exhibit endosteal scalloping. Periosteal reaction is typically absent. Involvement of the axial and proximal appendicular skeleton is most common. Bones involved in decreasing order of frequency are femur, ribs, vertebrae, skull, innominate bone, humerus, scapula, tibia, radius, fibula and clavicle.

Differential diagnoses (D/D) of Skeletal CA

The main D/D are 
A) In multiple myeloma the lesion tends to be similar in size and age of onset is 60-70 years. Anaemia, proteinuria and increased monoclonal I G levels are the features. 
B) In skeletal metastases, a primary source may be identified and stability of bone lytic lesions without fracture for more than one year is unusual. 
C) Eosinophilic granuloma is typically unifocal, but may be multifocal and may show peri-
osteal reaction. D) Polyostotic fibrous dysplasia is associated with unilateral lesion with ground glass appearance, and abnormal skin pigmentation. E) Enchondroma typically shows calcifications. F) Gorham’s disease is an aggressive form of skeletal angiomatosis, frequently involving shoulder and hip areas and usually monostotic.

**Treatment Of Skeletal CA**
There is no specific treatment for the bony lesions of CA. Local radiation and chemotherapy have been used in progressive cases, with no consistent change in the clinical course of disease. Corrective orthopaedic procedures may be indicated for pathological fractures. Because CA is invariably benign, amputation is rare, if ever is performed.

**Prognosis of CA**
Typical course of CA is relatively benign, not in-compatible with a long life span. When the disease involve viscera, dramatic clinical abnormalities may be evident, that contribute to the patient’s early demise, as happened in our patient, in whom there were associated potentially dangerous malformations.

**A-V Malformations of Brain**
Our patient had intra-cerebral as well as lingual arterio-venous malformations (AVMs). AVM is a direct communication between one or more arteries and one or more draining veins without the intervening capillary bed. AVMs may occur anywhere in the intracranial spaces and may appear as isolated pathology or associated with other diseases. Most serious complication is intra-cerebral haemorrhage which occurs in 60% cases. 10% die with first haemorrhage and another 10% die of second haemorrhage, which was probable cause in our patient. Treatment of AVMs include surgical resection or embolisation. Small AVMs may be obliterated by radio-surgery.

**ARNOLD-CHIARI Malformation**
Our patient had Arnold-chiari malformation type-I which is defined as an extension of the cerebellar tonsil, below the foramen magnum, for at-least 3-5mm. Chiari malformation may be associated with syringomyelia. Our patient had no symptoms of chiari malformation or of syringomyelia. Surgical decompression is needed in chiari malformation, in the presence of symptoms, usually type-II.

**Conclusion**
Our patient had an unusual combination triad of congenital malformations, which is rare and could not be identified in literature so far. CA is relatively compatible with prolonged life and documented as benign. Chiari mal-formation type-I was asymptomatic in our patient. Most potentially dangerous association was AVMs of brain, which was the probable cause of our patient’s demise, in the form of intra-cerebral haemorrhage.

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Drs Sudha & Nageswara Rao Siddhartha Institute of Dental Sciences Chinoutapally,
Gannavaram, A.P, India, for providing Histopathology slides in our case.
An Effective Use of ICT For Education on Worldwide Knowledge, Research & Experience

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KEYWORDS

1. Advancing ICT in Futures Research
Since its emergence as a discipline in the 1960s, futures research - the systematic examination of the future while following established quality criteria in research - has made significant strides in penetrating different aspects of our lives. Especially the increasing pace of change has created demand for techniques that make our future-oriented decisions more robust. Our research underlines that foresight activities are increasingly being implemented and supported by a diverse range of tools based on Information and Communication Technology (ICT), for example trend databases, prediction markets, and scenario-building software. Nowadays, lectures and workshops can be held online and data mining is beginning to revolutionise quantitative forecasts. Advanced software is learning to code qualitative arguments and to connect this data to related content on the web. Recently, the term “Foresight Support Systems” (FSS) evolved to describe the systematic study of computer-aided methodology of forecasting as an emerging separate field of research [1-3]. Such integrated, multi-method systems allow experts and stakeholders to collaborate throughout the entire foresight process. In addition, more powerful computers are being employed to calculate models of complex systems, such as the global climate. The study at hand reveals that we can expect significant advancements in technology to professionalise ICT-based futures research in organisations by 2020.

2. Consolidating a global Perspective of ICT-based Futures Research
This report is the result of an online real-time Delphi study [4, 5]. We invited approximately 1,000 experts from all fields of futures research: pioneers of the discipline, academics from universities worldwide, developers of software tools, practitioners from consultancies and industrial companies, as well as implementers from government and business associations. Members of the Global Business Network and the Club of Rome were also invited. In total, 177 experts from 38 countries took part in the survey, providing more than 2,000 written comments and arguments for future developments.

3. Keeping Futures Research a People’s Business
According to our Delphi expert panel, futures research will remain a people’s business even in 2020. Although ICT-based tools will tend to take on a more prominent role in strategic foresight activities, they will continue to rely on people’s input and creativity. Ultimately, actions will be taken by human decision makers, but ICT tools will help to make processes more efficient and provide valuable decision support. Over the next decades, the quality of these tools will improve significantly, thus the diversity of foresight methods will increase. Notably, crowd sourcing should contribute significantly to forecasting and the focus will shift from databases and communicative tools to interpretative software. Due to the diversity of instruments available, the challenge for future-oriented consultants will be to match the right tool to the right issue. This situation will also have an effect on consultants in the field. Being an expert in one method will no longer be sufficient. Therefore, practitioners will have to become proficient in multiple methods in order to tailor the foresight process according to the clients’ needs.

4. Bringing Futures Research to Society
Our study demonstrates that interest in futures studies is increasing independently from ICT development. Confronted with a growing amount of global long-term challenges - such as global warming or food security - societal discourse will embrace futures research on a much greater scale than today. However, ICT can generate added value by creating public awareness of futures research. Accessibility will be driven by the ubiquity of ICT technologies and the implicitly of using ICT devices for the increasingly digital society.

ICT-based foresight tools will be particularly helpful in tackling complex challenges. Growing computational power will not only enable use of more complex algorithms, but also provide tools to make teams more diverse and interdisciplinary. Due to their nature, ICT tools facilitate interaction, even in geographically remote areas. As a consequence, inter-departmental and inter-organisational projects will become increasingly common. Hence, scenarios will be adjusted to multiple stakeholders’ views and more realistic images of the future will become possible. Remote interaction also poses communicative challenges. Thus, there will be a need to design tools and projects in the simplest ways possible. Information provided by ICT tools should be comprehensible as well as non-ambiguous and creativity should be encouraged. Any ICT tool should merely be a supportive instrument for a people-oriented communicative process in which the user remains in control. With multimethodological support, it should be possible to tackle issues by triangulation: using different methods to work on the same challenge - thereby cross-checking results [cf. e.g. 6, 7]. In this way, users will be able to analyse the results instead of simply letting the machine perform the work. In order to achieve good quality results from ICT tools, good quality data needs to be compiled and applied.

6. Choosing the right Experts
Since professional expertise is a prerequisite for participants in traditional foresight exercises, a reliable selection process is necessary. In addition, it is important that participants understand the goals of the process. In order to attain the right information, it is important to consider the subject matter - is the question at hand confined to a certain area of expertise or does it require unorthodox thinking? It might be more appropriate to involve highly specialised experts for a short-term to mid-term technological scenario, whereas visionaries with a broader scope of imagination might be better suited for unanchored events.

7. Linking the Practices of Futures Research and academic Research
Parallel to these developments, it is important that the field of futures research continues to develop as an academic discipline. The methods used in ICT-based foresight tools will have to be based on scientific research and internationally developed quality standards. Only if these prerequisites are fulfilled methodological rigour and data quality can be guaranteed. Our study demonstrates a high desirability among experts for such standards. However, except for peer review control, scientific research methods and international quality standards have not yet been established. Therefore, there is widespread scepticism that this will be achieved by 2020.

8. Involving Employees and Stakeholders
Our study reveals that considerable potential lies in ICT-based foresight tools, especially in their capability to foster participation and engagement. These tools should facilitate involvement and communication among stakeholders and employees, thereby benefiting policy makers and stakeholders in formulating and achieving future-oriented, sustainable policy goals. ICT development will support corporate foresight activities. These practices will be more professional and better transferable into implementation measures. Most importantly, ICT-based foresight tools will render corporate foresight affordable to small and medium-sized enterprises (SMEs).
The present report seeks to discuss the allocation of funds to special category states in India. Special category states encompass a group of under-privileged states. The classification is done based on certain rules. We set out to devise a rough formula for allocation of funds to such states. For this purpose we first need to analyse the existing methods of federalism in India, that is the existing methods of division of funds between states and centre, and then focus on any special provisions, if any for the special category states of India. For this, we shall study the whole process in different sections. The first section will be focussed on fiscal federalism in India, i.e. how funds are allocated to states from the centre. The second section will focus on what the special category states are, the basis of their classification and the major challenges faced by them. The third section focuses on the major parameters which must be considered for special category states for fund allocation and on the possibility of development of such formula.

Fiscal federalism in India:
Fiscal federalism entails the division of responsibilities in respect of taxation and public expenditure among the different layers of the government, namely the Center, the states and the local bodies. Fiscal federalism helps governmental organization to realize cost efficiency by economies of scale in providing public services, which correspond most closely to the preference of the people. From the point of view of economy, it creates a unified common market, which promotes greater economic activity. Centre-state transfers take place mainly through three channels:

(a) Statutory transfers through the Finance Commission mechanism. These include devolution of central tax revenues (divisible pool) to different states and grants-in-aid;
(b) Central Assistance for State Plans including Normal Central Assistance (NCA) grant, which is governed by Gadgil-Mukherjee Formula;
(c) Grants through central ministries in accordance with guidelines of various Centrally Sponsored Schemes.

The allocation of funds from the Centre to states occurs through two mechanisms: the Finance Commission and the Planning Commission. There are a few fundamental differences between the two.

In the case of Finance Commission, the objective is to make allocations such that fiscal capacities are equalized with a view to enabling the states to provide public services and merit services at equal standards to all citizens in the state provided that comparable tax effort is made by the states. In other words, differences in the service standards should be due largely to deficiency in own tax effort and not due to deficiencies in fiscal capacity. In determining the inter se shares, at any point of time fiscal capacity is taken to be given.

Planning Commission is in charge of plan grants aim at the development efforts of the state. The objective is to change the fiscal capacity itself. Plan grants therefore aim at reducing the difference in fiscal capacity: large transfers should be made to states with lower developmental levels. The planning commission provides developmental grants to the states as a part of an overall assistance package. The package was determined as a composite of loans and grants. For general states assistance was 30% grant and 70% loan. For special category-states, assistance was 90% and loan was 10%. The expenditure side of state budgets may be divided into four parts:

- Non-plan expenditure
- Plan revenue expenditure
- Plan capital expenditure
- Non-plan expenditure

The planning commission allocates aggregate plan assistance among states under a set of criteria called the Gadgil-Mukherjee Formula.

The objective in the Finance Commission determination of transfers is equalization of fiscal capacity to enable the states to provide public and merit services at comparable standards. It provided the states make comparable tax effort. The FC keeps looking only to the (non-Plan) revenue expenditures without paying much attention to the linkage of interest payments with past fiscal deficits and accumulated debt stock. The Planning Commission looks only at new schemes. It looks at the scope of borrowing in the Plan period without considering what future liabilities are being created and how they may be financed beyond the Plan period. Projects financed by external assistance, which is transmitted to the state on the same terms and conditions as normal Plan assistance, also create similar liabilities regarding interest payments and maintenance.

The Special Category States:
Out of a total of 29 states in India, 11 states are classified as special category states: Arunachal Pradesh, Assam, Himachal Pradesh, Jammu and Kashmir, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura and Uttarakhand. These states are in a poorer condition than their counterparts. These handicaps were caused also by the shortage of capital and natural resources within their boundaries, lack of any viable physical and social infrastructure for economic growth and development, high cost of production coupled with high transport costs leading to high delivery cost of public services. The special category status is granted to a state by the National Development Council (NDC) on the recommendation of the Planning Commission. The Planning Commission had laid down the criteria for this status according to which the special category status is granted to states characterised by certain common features that demand special considerations. These handicaps arose not simply from the remoteness of their locations or the inaccessibility of their hilly terrains with sparsely populated habitation, nor due to their historical circumstances alone. They were caused also by the shortage of capital and natural resources within their boundaries, lack of any viable physical and social infrastructure for economic growth and development, high cost of production with low availability of resources and hence low economic base, coupled with high transport costs leading to high delivery cost of public services.

The Planning Commission allocates grants in proportion to the fiscal capacity of the states to enable the states to provide public and merit services at comparable standards. The assistance is financed beyond the Plan period. Projects financed by external assistance, which is transmitted to the state on the same terms and conditions as normal Plan assistance, also create similar liabilities regarding interest payments and maintenance.
tion and neglect coupled with isolation from the mainstream of Indian states has resulted in widespread poverty, unemployment and economic backwardness of the people living within their territories. The process of economic reforms has not promoted balanced regional development. The better-off states, by virtue of their higher income, better physical and social infrastructure, higher per capita transfers and private investments, were much better placed to take advantage of the globalisation and liberalisation process and moved ahead. As a result, richer states became even richer compared to the poorer states. All these indicate that whenever the disparity level increases across the states, the special category states can be expected to be the worst sufferers in terms of economic growth and development. Also all the special category states are border areas. Border areas have their own problems and peculiarities. Such areas are in general less accessible, making provision of basic facilities more difficult and costly. Such areas are often more vulnerable to illegal infiltration of population, which adds pressure on their economic and environmental resources. Moreover, porous nature of the border enables easy cross border passage for insurgents and criminals including drug traffickers. Thus, governments of the states with international border are required to bear heavier burden for not only providing basic facilities to the people living in such areas but also for the broader national goal of securing the border. The special category status is granted to a state by the National Development Council (NDC) on the recommendation of the Planning Commission.

The North-East Region:
The Northeast region with 99 per cent of its boundary being international border, the problems and peculiarities are even more accentuated.

The region consists of Assam, Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Tripura and Sikkim. The region is located between latitudes 29° and 22° North and longitudes about 89.46 and 97.5° East. The region is covering an area of 262185 sq. km, which is nearly 8 per cent of the total geographical area of the country. The region has a population of 389.84 lakh that is 3.79 per cent of the total population of India.

The region has a vast coverage of forest nearly 55 per cent of the total geographical area. The States of the region are surrounded by China, Bangladesh, Myanmar and Bhutan. In fact, the region has a long international border of (5182 km), which is more than 95 per cent of its total geographical boundary. These States have international border with China (1395 km), Bhutan (455 km), Myanmar (1640 km), Bangladesh (1596 km) and Nepal (97 km).

On the other hand the region is connected with the mainland India through a very narrow strip of land with the width of about 22 km called ‘chicken neck’. The region is best known for its picturesque topography, cultural heritage, ethnic beauty and rich natural resources.

The region has rich bio diversity, oil and natural gas, coal, limestone, hydro potential and forest wealth. Given the peculiar geo-political location, the region can develop cross-border markets, which are likely to be more cost effective for North East India’ surplus production than the distant national markets. The region is famous for its exotic flora and fauna. It is ideally situated to produce spices, fruit & vegetables, flowers and herbs. Therefore, the North East India can emerge as an exporter of orchids, flowers, apple, orange, pineapples, spices, herbs, etc. to the South East Asian Region. The vast array of aromatic plants of the region can be used in aromatic industry for the manufacture of perfumes, incenses, etc. Rich bio-diversity, heritage sites & ethnic beauty can make it a destination for the tourists. Several big & small rivers flowing across this region are suitable to construct hydro projects to generate electricity. Moreover, owing to climatic advantage the region can also be a major producer and exporter of tea. In spite of resourcefulness the entire region is regarded as underdeveloped.

The remoteness, difficult terrain, infrastructural bottlenecks and unfriendly neighbours are the serious impediments of the development of the region. Being a border area, the region is suffering from specific problems like illegal cross-border movements, law and order, security, insurgency, smuggling etc.

Jammu and Kashmir:
The slow growth of the state of Jammu and Kashmir can be attributed to various factors.

The climate of armed militancy in Kashmir during the past decade has been a major factor. Low productivity in agriculture and allied sectors has impeded employment and income generation.

Poor industrial infrastructure along with the poor investment climate has left the industrial sector in its infant stage. There has not been a suitable strategy for the potential sectors to achieve higher economic growth.

Lack of good governance and sound fiscal management has also been responsible for the poor economic growth of the state.

The special category status is an extra constitutional arrangement. 32% of all sharable taxes are transferred to states. Apart from share in central taxes, receive grants from states.

A Planning Commission details these criteria. These features include:

- Hilly and difficult terrain,
- Low population density and/or sizeable share of tribal population,
- Strategic location along borders with neighbouring countries,
- Economic and infrastructural backwardness, and non-viable nature of state finances. States under this category have a low resource base and are not in a position to mobilise resources for their developmental needs irrespective of their per capita income.

Major Problems:
As mentioned earlier, these states face several problems. We shall be taking some major issues and noting down the figures for these states and comparing them with the national average, then we shall sort out those parameters which have a low value compared with the national average. Then we shall calculate the correlation of these parameters with NCA, that is analysing that how effective is the present mechanism of distribution of funds from Central government to the states.

The factors are:
- Population and population density
- Education
- Physical Infrastructure
- Per capita income
- Nature of geographical area (hilly or forest cover)
- Financial infrastructure (banks)
- Insurgency
- GSDP
- GSDP-NCA
- Contribution of agriculture to GSDP
- Some poverty indicators

The major factors to be considered are elaborated as follows:

Population and Population density:
This is the most important feature of all special category states. A higher density of population of a region would essentially mean that it is an urban area with high buildings and other modern aspects, while the low density of population of region would mean that it is a rural area with a probability
there might be lack of modern amenities in the region. Low population is also because of difficult terrain like hilly areas. Also it implies that the level of development is very low in such regions as most of the area is uninhabited. Less GDP.

As can be even seen from the tables, the special category states have a very low population density. Hence this is a very important factor.

Education:
The lack of education is a major backlog of special category states. Education is the primary requirement of any developed society. It defines what kind of employment a person be eligible for. It also qualifies the individuals for jobs other than in the agriculture industry. Lack of education is a glaring problem in most of the special category states. We will now justify the need for considering education as a major problem of special category states by illustrating the level of education in various such states.

Primary school is considered a primary measure of educational infrastructure
Manipur: it is one of the special category stated located in north-east India. In some border areas, there is only primary school in 1 sq.km. Most of the districts in the state have only one primary school per district. The schools also lack basic facilities. More ever the education institutions are restricted only up to primary and middle education only.

Arunachal Pradesh: The educational infrastructure of the two major districts is poor because there are only 132 primary schools in one district having 285 villages and only 18 primary schools in the other district having 266 villages. The distribution of primary schools in the surveyed Blocks is 40 and 7 in Nampong and Hawai Blocks respectively. Similarly, the number of ME, High and Higher Secondary schools both at Block and District levels is also low. (75)

Assam:Dhubri is a major district in the state in which 15% of villages don’t have schools. In the border areas the situation is worse with 86% of villages without a secondary school. In only 28% villages, there is a college within 5 km. For 43.50% of the villages of the district the nearest college is at a distance of 10 kms. Baska district is another major district in Assam. The school density i.e number of schools per 100 sq.km is very less. (130) another major problem faced by the districts is the teacher to student ratio. The student: teacher ratio is 39:1 for primary schools and 61:1 for middle elementary.

• Density of schools per 10 sqkm: This is a fairly good measure to assess the quality of education in any state. However, when we look at the values, it was observed that most of the states, special and non-special have almost same school density. The reason why non-special states have a higher density is because of Delhi which has an extremely high value of 28. Hence this factor does not accurately define if a state should be classified as special.

• Student-Teacher Ratio: An important factor which tells about the quality of education in a state. This value should be as low as possible, which means that the number of teachers is good compared to the number of students.

Physical Infrastructure:
This is a very important factor to be considered. Connectivity implies how well can the states communicate with the outer world. This determines the transport facility in the states. Roads constitute the principal mode of access and communication in the hilly and difficult terrains of the State. An important measure of connectivity of a state is the Road density, i.e the length of roads in km per 1000 square kilometres of area. As can be seen from the tabulated values, these states lag much behind the normal states. The average for these states is very low compared to normal states. This hampers the activities like trade.

Communication: The communication facilities are very poor in the state because the private service providers are not interested due to low profitability yields. Let us first analyse the north east region. The main issues in providing telecommunication services there can be summarized as follows:

o Terrain Difficulties – Most NER States have hilly terrain. As a result, wireless coverage in Base Trans-Receiver Station (BTS) shadow zones is a major concern. In most NER States there are several remote hilly locations that do not have road connectivity (even at sub-divisional locations). Reaching these locations is time-consuming and arduous. This severely impedes establishing and maintaining telecom connectivity viz setting up of telecom infrastructure and operating and maintaining it.

o Infrastructure issues – In absence of a National Policy on telecom infrastructure for the country, State Governments and local bodies often take action that directly impinges on day-to-day operational issues which, in turn, impedes and delays setting up of telecom infrastructure. Numerous Government agencies and local bodies have to be approached for obtaining different permissions. At present, State Governments do not facilitate the setting up of telecom infrastructure by TSPs, through a single-window clearance system. Some key infrastructure-related issues faced by the TSPs in these States are discussed below:

- BTS Towers
TSPs face huge difficulties in locating new BTS sites. In some States, the Village Headman’sLocal body’s permission is required to erect a telecom tower for installing BTSs, and, more often than not, such permissions are routinely denied. A few States have banned erection of Roof Top Towers (RTT) especially after the 2011 earthquake. Moreover, houses in hill States, especially in rural and remote locations, do not have concrete roof on buildings; hence, erection of Ground Based Tower (GBT) is the only available option. However, land acquisition for erecting a GBT is beset with problems because of unclear land titles and commercial land usage clauses.

- Right of Way (ROW) permissions
In the absence of a clear mandate and the involvement of multiple agencies, getting ROW permission is very difficult. In addition, rates charged for reinstatements are very high, and TSPs simply cannot afford to pay the large sums involved as this would render the business unviable.

- Power related
Power supply in most of the States is both precarious and inadequate. Even in State capitals, electricity supply is restricted to 14 hours a day. To further exacerbate matters, most local communities do not permit running of Diesel Generators (DGs) between 6 pm to 6 am. In addition, in some States, very high captive charges are levied for running DGs. The experience of some TSPs in using solar power for running a BTS in the NER States has not been very encouraging as sufficient sunlight is not available due to climatic conditions.

- Optical Fibre Cables(OFC) related
Due to hilly and difficult terrain it is very difficult to lay OFC in the NER. As a result, the number of OFC Points of Presence (POP) in the NER States is very limited. This delays operations and maintenance essential for telecom services.

The following map shows the distribution of telecom sector in India:
This is because the people of hill states bear a large part of developmental burdens. Geographical Area: The terrain type is a very important factor for considering development in a state. In fact it is so important that it is one of the factors that qualifies a state as being called a 'special category state'. The hilly states have been classified as special category states.

This is because the people of hill states bear a large part of the opportunity cost of providing essential ecosystem services to society at large. Yet they receive inadequate incentives for their conservation efforts and are often asked to bear additional burdens. The difficult terrain and inadequate infrastructure especially connectivity, sharply increases the cost of service delivery in these areas. This is reflected in below par economic and social indicators of development in the hill states. Also mountains are vulnerable to catastrophic events also. The recent catastrophe in Uttarakhand stands testimony to this fact. To sustain the challenges provided by the mountain ecosystems, it is essential to promote positive conditions to motivate hill states to continue and enhance their efforts in conserving the ecosystems required to address the developmental needs. It is important that the strategy for development takes into account their special features (geographical, topographical, and socio-political characteristics).

Per Capita Income: Per capita Income means how much an individual earns, of the yearly income that is generated in the country through productive activities. It means the share of each individual when the income from the productive activities is divided equally among the citizens. Per capita income is reported in units of currency. Per capita income reflects the gross national product of a country. Per capita income is also a measure of the wealth of a population of a nation when compared with other countries.

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Banks: The financial infrastructure in these states is very poor. The number of banks is very less. This is to a large extent owing to the low population density.

This gives less incentive to banks to setup more branches. More ever, it is difficult for banks to set up new infrastructure because of difficult terrain. To assess the level of bank development in these states, we have divided population by number of banks. This gives us an estimate of the number of people who are served by one bank. The figures may not give a very clear picture of the state of financial development because the good districts of the state might have all the branches while the more difficult may have none, that is the bank distribution is not uniform within the state. However we still get an idea of how much load does a bank branch have in such states.

This has detrimental effects since farmers, who constitute the major workforce in these states find it difficult to borrow money. Many large districts have only one bank in the entire area and people find it difficult to carry out bank transactions.

International Border and insurgency: This is also one of the primary factors considered while assessing the special category states. In our case, all the special category states have an international border. For instance, the Naga insurgency, which started in the 1950s, known as the mother of the Northeast insurgencies, is one of the oldest unresolved armed conflicts in the world. In total, Manipur, Assam, Nagaland and Tripura have witnessed scales of conflict that could, at least between 1990 and 2000, be characterised as low intensity conflicts. Currently, most of the states in the region are affected by some form of conflict, expect for Arunachal Pradesh, Mizoram and Sikkim in which the situation is at the moment relatively stable.

The backdrop to many of the Northeast’s conflicts is immigration from rest of the subcontinent and the resultant fear of minoritization by many of the region’s indigenous ethnic groups. The Partition of India intensified the migration pressure on Assam and Tripura since Hindu refugees now joined the flow. Tripura’s demography changed within two decades as Bengalis became a powerful majority. The fear that other North-eastern states would go the Tripura way weighed heavily on indigenous people and early settlers throughout the Northeast and provoked more militants to take up arms. The broad racial differences between India and its Northeast and the tenuous geographical link (the chicken neck Siliguri Corridor) contributed to a sense of alienation, a feeling of ‘otherness’ that subsequently gave rise to a political culture of violent separatism. The reasons for the respective conflicts are wide ranging from separatist movements, to inter-community, communal and inter-ethnic conflicts. The Indian government’s past and ongoing processes of national integration, state-building and democratic consolidation have further aggravated the conflict scenario in the region. For instance, the eight states comprising the North-east is populated by nearly 40 million inhabitants who vary in language, race, tribe, caste, religion, and regional heritage. Therefore, most often, the clubbing of all these states under the tag of ‘northeast’ has tended to have a homogenizing effect with its own set of implications for policy formulation and implementation; not to mention local aversion to such a construct. For the purpose of assessing, the states have been assigned either indices of 1 or 0.

Gross State Domestic Product: Gross State Domestic Product (GSDP) is the total monetary value of all the final goods and services produced by an economy during a given period of time (generally a year) accounted without duplication. Like GDP, it is a measure of the economic activity of a state. An increase of effective demand will increase GSDP. GDP is expressive of three factors. These three represent the level of development in a state. All three are deeply interconnected.
Central Assistance: Expenditure of the states (or the union) is classified as plan and non-plan expenditure; plan expenditure pertains to expenditure allocated by the Planning Commission to meet the requirements of the states’ annual plans and five-year plans which are supported by central assistance. States are entitled to get the following types of central assistance for their annual plans and five-year plans:

- Normal plan assistance for central plans and state plans;
- Additional plan assistance for implementation of externally assisted projects; and
- Additional plan assistance for CSSs like Mahatma Gandhi National Rural Employment Guarantee Scheme

The central assistance to the states comes in various forms:

- Normal Central Assistance (NCA)
- Additional Central Assistance (ACA) for externally aided projects (EAP)
- Special Central Assistance (SCA) for hill and border areas

The Gadgil formula is applied to give NCA to states. NCA is the most important component of the central assistance to the states. Before the Gadgil formula was applied to determine the NCA, the existing states which would later become the special category states used to receive less than 10% of the total NCA for all the states. After the implementation of the formula, their share gradually increased over the successive plan periods to reach more than a third of the total NCA for all the states during the Eleventh Plan. Side by side their numbers also went on increasing, but in respect to NCA, the Gadgil formula did make a difference to special category states. Before the Gadgil formula was applied to determine the NCA, the existing states which would later become the special category states used to receive less than 10% of the total NCA for all the states. After the implementation of the formula, their share gradually increased over the successive plan periods to reach more than a third of the total NCA for all the states during the Eleventh Plan. Side by side their numbers also went on increasing, but in respect to NCA, the Gadgil formula did make a difference to special category states. 30% of the centre’s gross budgetary support for plan expenditure goes to the special category states. Earlier, plan assistance was given to the general category states by way of grants and loans in the ratio of 30% and 70% respectively. In the case of special category states, however, 90% of plan assistance was given as grants, and only 10% as loans.

GSVP-Central Assistance: This was another factor which was observed for these states. This variable told about how heavily dependent are the special category states are dependent on the government for central assistance. As expected, the major portion of the GSVP of these states comes from Central assistance from the Government.

Tax to GSVP ratio: The central plan assistance to states had a counterpart in the interest rate charged by the central government on the plan loans given to the states, which was much higher (by about 3%-4%) than the cost of funds to the centre, i.e. the market rate of interest, and hence could become a source of funds to the centre at the cost of the states. States experience high tax-GSDP ratios because of high fiscal deficits and low growth rate. There is very less debt sustainability. An important problem these states face is the significant proportion of contingent liabilities to GSDP. Public expenditure plays an important role in growth of GSDP in special category states. Private investment is negligible. Thus, growth mainly comes from government spending. In a situation, where primary expenditure is compressed, automatically the victim is the developmental capital outlay, which ultimately results in reduction in growth. This was a factor analysed for assessing performance of states.

Share of STs in the states: The Scheduled Tribes have been a long discriminated against caste in India. The STs account for 8% of total population. They are concentrated in central and north-eastern parts of India. Another important problem is their isolation from the mainstream on account of geograph-
A noticeable feature is that there is no proper formula to allocate funds to special category states. Also, it is to be mentioned that even though the number of special category states increased from only three in 1969 to 11 in 2001, its kitty of 30% of the central plan funds, after setting aside funds for externally aided projects and special area programmes in certain states, remained unchanged – there was no proportionate increase in resources set out for this category as new states were added on. In the books of Finance and planning Commission it is merely mentioned that 30% funds should be diverted for the special category states, without considering their individual needs and economic, financial and infrastructural status.

From the data we collected, the correlation between the parameters we deemed appropriate to be considered for allocating funds to the states and NCA was examined. This is tabulated below:

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<th>Sno.</th>
<th>Parameter</th>
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<td>1.</td>
<td>Total Area</td>
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</tr>
<tr>
<td>3.</td>
<td>%forest cover</td>
<td>-0.73</td>
</tr>
<tr>
<td>4.</td>
<td>Share of STs</td>
<td>-0.55</td>
</tr>
<tr>
<td>5.</td>
<td>Contribution of agriculture to GSDP</td>
<td>0.4</td>
</tr>
<tr>
<td>6.</td>
<td>Population</td>
<td>0.87</td>
</tr>
<tr>
<td>7.</td>
<td>School density</td>
<td>0.3</td>
</tr>
<tr>
<td>8.</td>
<td>Road Density</td>
<td>0.23</td>
</tr>
<tr>
<td>9.</td>
<td>GSDP per population</td>
<td>-0.41</td>
</tr>
<tr>
<td>10.</td>
<td>Population per banks</td>
<td>0.02</td>
</tr>
<tr>
<td>11.</td>
<td>Concrete roof</td>
<td>0.05</td>
</tr>
<tr>
<td>12.</td>
<td>TV or comp</td>
<td>-0.1744</td>
</tr>
<tr>
<td>13.</td>
<td>No vehicles</td>
<td>-0.22</td>
</tr>
<tr>
<td>14.</td>
<td>No lighting</td>
<td>0.296</td>
</tr>
<tr>
<td>15.</td>
<td>Access to drinking water</td>
<td>0.308</td>
</tr>
<tr>
<td>16.</td>
<td>GSDP-CA/Pop</td>
<td>-0.3</td>
</tr>
<tr>
<td>17.</td>
<td>(GSDP-CA)</td>
<td>0.79</td>
</tr>
</tbody>
</table>

As can be seen from above table that there is no coherent relation between our parameters and NCA. The three parameters on which NCA shows a strong correlation are:

- Population
- Area
- GSDP-CA

A big irony which can be seen is that hilly areas is a parameter which qualifies a state as ‘special’ and the proportion of hilly areas has absolutely no relation with the NCA allotted. In fact the correlation is negative bringing the fact to the fore that the allocation has been random. NCA has no relation with other developmental parameters. In fact it shows a negative correlation with following:

- %hilly area
- %forest cover
- Share of STs
- TV or comp
- No vehicles

There is no relation with proportion of STs which makes sense because it was mentioned earlier that STs represent a very distorted view of the level of development in a state.

Rest of the parameters show little or poor correlation. All these parameters were chosen with care, they all represent the level of development of the state. However the NCA allotment doesn’t go in tandem with these parameters. This is sad, because a systematic formula was developed for the non-special states, namely the Gadgil formula. However the states which require more attention are being allocated the funds randomly without paying any regard to their requirements. The government is just dumping its resources to these states. Without properly looking into the need of these states, it is imprudent to allocate resources like this. Though the fund allocation is appreciable, the mechanism is vague as highlighted by the correlation values.

Conclusion:
The special category states represent a significant fraction of the country: 11 out of 29 states are categorized as special. Even though the central gives a huge chunk of funds to them, the allocation is arbitrary. The needs of states are not really addressed in this. Hence some main factors were considered and analysed. It was found that the correlation between our indicators and fund allocation came out to be pretty poor. This calls for a need to address this issue and devise a formula for the same.

REFERENCES

A Bacteriological Study of Chronic Dacryocystitis in a Tertiary Care Hospital

ABSTRACT

Background and Objectives: Dacryocystitis is an infection and an inflammation of lacrimal sac and is an important cause of ocular morbidity in India both in adults and in children. The aim of the study is to isolate and identify the bacterial patterns associated with dacryocystitis and to determine their antibacterial sensitivity pattern. Materials and methods: A total of 50 lacrimal swab materials were subjected to bacterial analysis. Children less than 8 years were not included in the study. Results: The bacteria of six different species were isolated from (43/50) 86% culture positive samples. Staphylococcus aureus were the most common bacteria accounting for 30.33% followed by Klebsiella oxytoca (25.58%), Staphylococcus epidermidis (18.61%), Diphtheroids (11.63%), Pseudomonas (9.30%), Enterococcus spp (4.65%). Rate of infection was higher in females (93.33%) than in males (83.33%). Infection was higher among the age group >60 years (48%) followed by the age groups 40-60 years (36%), and <40 years (16%). In antibiogram, Vancomycin was effective against gram positive isolates and Gentamicin/Amikacin were effective against gram negative isolates. Conclusion: Staphylococcus aureus was the most frequently isolated bacteria sensitive to Vancomycin, followed by Klebsiella oxytoca which is sensitive to Gentamicin/Amikacin.

KEYWORDS

Chronic dacryocystitis, Lacrimal sac, Nasolacrimal duct, antibacterial sensitivity pattern

Introduction:

Dacryocystitis is the most frequent disease of the effenter lacrimal system.(1) Dacryocystitis is the inflammation of the lacrimal sac which is usually because of nasolacrimal duct obstruction or may be secondary to trauma, inflammation, neoplasm. The obstruction of the canal leads to a stagnation of tears and creates a pathological environment. It builds up material within the lacrimal sac leading to an exacerbated infection and more stasis. The normal flora of the eye and nose acts as an opportunistic pathogen and causes infection of lacrimal sac. The infection in dacryocystitis can spread to the anterior orbit causing marked edema of the eyelids or can develop into a pre-septal or orbital cellulitis. A delay in management may lead not only to secondary infection in the remaining years of life but also ultimately to blindness.

Knowledge of the bacteriology of dacryocystitis contributes significantly to the proper choice of prophylactic antimicrobial agents. Though various regional studies on microbial analysis of dacryocystitis and their sensitivity pattern towards different antibiotics are available, there is still a considerable scope in these studies to document the change in the pattern, if any, of the pathogens in dacryocystitis according to the age group, gender, type of dacryocystitis; and this will help to reduce unnecessary load of antimicrobial agents. Further this will help in enhancing the understanding of the interrelationship between human and microorganisms and the virulence of specific microbial pathogens.

Hence, this study was planned to find out the bacterial etiology of dacryocystitis among a population in a tropical climate and the antibacterial sensitivity so that exclusive management protocols may be formulated.

Materials and Methods:

A cross-sectional study was carried out from April 2014 to September 2014 at Tirunelveli Medical College, Tirunelveli, Tamil Nadu. The patients of chronic dacryocystitis above 15 years of age were included in the study.

Inclusion criteria:

Clinically diagnosed cases of dacryocystitis were included in the study.

Exclusion criteria:

The patients who had received either topical or systemic antibiotics for at least 48 hours before their visit to the hospital were excluded.

Sample collection and processing:

An informed consent was obtained from all patients who were enrolled. The specimens were collected with the help of an ophthalmologist. The surrounding area was aseptically cleaned, to avoid contamination from the surface microorganisms. Duplicate sterile cotton swabs were used for collection of discharge from the lacrimal punctum of infected lacrimal sac, ensuring that the lid margin or conjunctiva was not touched. One swab was used for Gram's staining and the second one for inoculation into culture media like BHI broth, Blood agar and Chocolate agar plates. The inoculated BHI broth and Blood agar was inoculated at 37°C for 24 to 48 hours in the presence of 5-10% carbon dioxide. After 24 hours of incubation, the plates were taken out from the incubator and the colonies were examined for isolation and identification of organisms. In case of mixed growth, the Gram's stain was done separately from the morphologically-different colonies and the colonial charac-
teristics will be studied. The different colonies from which Gram’ staining were further sub-cultured according to the Gram’ staining nature and characteristics.

Identification of the microorganisms was done using various biochemical as well as routine tests. The antibiotic susceptibility pattern was done by Kirby-Bauer disc diffusion method.

**Results:**

Out of 50, 43(86%) samples showed positive growth and 43 microorganisms of six different species were isolated and seven samples were culture negative including gram positive isolates 28 (65.12%) and gram negative being 15 (34.88%).

*(Table 18)* Staphylococcus aureus and Klebsiella oxytoca were the most frequently isolated gram positive organisms and gram negative organisms respectively.

**TABLE: 1**

**Distribution of Dacryocystitis cases according to spectrum of Gram-Positive Organisms.**

<table>
<thead>
<tr>
<th>S. No</th>
<th>Organisms</th>
<th>No. of cases</th>
<th>Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Enterococci</td>
<td>2</td>
<td>4.65%</td>
</tr>
<tr>
<td>2</td>
<td>Diphtheroids</td>
<td>5</td>
<td>11.63%</td>
</tr>
<tr>
<td>3</td>
<td>Staphylococcus aureus</td>
<td>13</td>
<td>30.23%</td>
</tr>
<tr>
<td>4</td>
<td>Staphylococcus epidermidis</td>
<td>8</td>
<td>18.61%</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>28</strong></td>
<td><strong>65.12%</strong></td>
</tr>
</tbody>
</table>

In this study, females were affected more i.e., 28 (93.33%) as compared to males 15 (83.33%). The male to female ratio was 1.87:1 . This study showed the highest number of dacryocystitis cases among the people who were in the age group of >60 years (38%), those in the age group 40-60 years (38%), those in the age group <40 years (16%). Out of 43 growth positive- samples, a higher proportion of growth was found in left eye (51.16%) than in right eye (37.21%) or bilateral i.e both eyes (11.63%).The antibiotic sensitivity test was done for all the isolates which is shown in the table.

**TABLE: 2**

**Distribution of Dacryocystitis cases according to spectrum of Gram-Negative Organisms.**

<table>
<thead>
<tr>
<th>S. No</th>
<th>Organisms</th>
<th>No. of cases</th>
<th>Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Klebsiella oxytoca</td>
<td>4</td>
<td>25.8%</td>
</tr>
<tr>
<td>2</td>
<td>Pseudomonas</td>
<td>11</td>
<td>9.30%</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
<td><strong>34.88%</strong></td>
</tr>
</tbody>
</table>

**TABLE: 3**

**Antibiotic sensitivity among Gram-Positive isolates.**

<table>
<thead>
<tr>
<th>S. No</th>
<th>Antibiotics</th>
<th>Susceptibility of Microorganisms</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Enteroococcus (2)</td>
<td>Staph aureus (13)</td>
<td>Staph epidermidis (8)</td>
</tr>
<tr>
<td>1</td>
<td>Erythromycin</td>
<td>2 (100%)</td>
<td>13 (100%)</td>
</tr>
<tr>
<td>2</td>
<td>Clindamycin</td>
<td>2 (100%)</td>
<td>12 (92.3%)</td>
</tr>
<tr>
<td>3</td>
<td>Doxycycline</td>
<td>1 (50%)</td>
<td>13 (100%)</td>
</tr>
<tr>
<td>4</td>
<td>Ciprofloxacin</td>
<td>2 (100%)</td>
<td>11 (84.61%)</td>
</tr>
<tr>
<td>5</td>
<td>Vancomycin</td>
<td>2 (100%)</td>
<td>12 (92.3%)</td>
</tr>
</tbody>
</table>

**Discussion:**

The most common infection of lacrimal apparatus is Dacryocystitis. The lacrimal excretory system is prone to infection and inflammation for various reasons. This mucous membrane-lined tract is contiguous with two surfaces (conjunctival and nasal mucosa) that are normally colonized by bacteria. The functional purpose of lacrimal excretory system is to drain tears from eye to nasal cavity. Obstruction of the nasolacrimal duct from whatever source results in stasis with accumulation of tears, desquamated cells and mucoid secretions superior to the obstruction. This creates a fertile environment for secondary bacterial infection.

Chronic dacryocystitis is significantly more common in the age above 30 years. Worldwide, chronic dacryocystitis has been reported to be much more common in females than males, having a sex ratio 3.99:1 . Female predominance with a 3:1 ratio (due to obliteration of lumen) was reported.

In this study also, female predominance was seen with the female to male ratio 1.87:1 . This predilection is due to the smaller nasolacrimal canal diameter in females than in males and hormonal factors. Females blew the nose infrequently as compared to males, which may have caused stagnation of secretions, leading to infections. The process act as a potential nidus for the organisms to propagate within the sac, causing inflammation, hyperemia, edema and hypertrophy of the mucosal epithelium. Accumulation of mucoid and mucopurulent exudates causes the sac to dilate, ultimately leading to pyoceles.

Altogether, 50 samples were collected and processed, of which 43 (86%) showed positive results and remaining 7(14%) showed negative results. In this study, the involvement of the eye was unilateral (88.37%) either the right or the left eye and there was also bilateral cases (11.63%). This correlated with the findings of Ghose et al. There was a relatively high incidence on the left side (51.16%) as compared to the right side (37.21%). This correlated well with the findings of Brooki et al., in which the left lacrimal sac is involved in 36 patients (58%).

In general the disease had predilection to the left side, especially in females, because of the narrow bony canal. The nasolacrimal duct and the lacrimal fossa formed a greater angle on the right side than on the left side. The bacterial isolates have been changing from time to time and from place to place.

Of 43 isolates 28 (65.12%) were Gram positive and 15 (34.88%) were Gram negative. The gram positive or obtained in descending order are Staphylococcus aureus, Staphylococcus epidermidis, Diphtheroids, Enterococcus spp and the gram negative organisms are Klebsiella oxytoca, Pseudomonas. The anti-microbial sensitivity pattern varies from community to community. This is because of the emergence of resistant strains as a result of irrational use of antibiotics. The gram positives were most sensitive to Vancomycin (97.43%), followed by Erythromycin (95.83%), Ciprofloxacin (94.87%), Clindamycin (93.27%) and Doxycycline (79.17%). The gram negatives were sensitive to Gentamicin and Amikacin equally to about (87.5%) followed by Ceftriaxone (86.37%), Strepto-
mycin (82.96%) and Doxycycline (77.28%). Overall Vancomycin and Gentamycin/Amikacin were found to be effective drug of choice for gram positive and gram negative organisms. In this study the limitations were time and the number of patients. For better outcomes a larger study population for a longer period of time should be undertaken to know the bacteriology and effective drugs of choice for chronic dacryocystitis. A comparative study of the bacteriology and anti-microbial susceptibility of both chronic and acute dacryocystitis would be very fruitful.

**Conclusion:**
The frequency of isolation of Gram positive organisms is higher than that of Gram negative and predominantly affect females than males involving mostly the left eye as compared to the right eye. *Staphylococcus aureus* was the most frequently isolated gram positive bacteria sensitive to Vancomycin and *Klebsiella oxytoca* was the most common among Gram negative bacteria sensitive to Gentamicin/Amikacin in chronic dacryocystitis.

**REFERENCES**

Lasers have been used for oral soft tissue dental procedures for more than 30 years and have been researched since the middle 1960s. Their reported benefits over conventional treatment modalities include: reducing the number of appointments, reducing stress, improving visibility, improving patient comfort and reducing patient complications. Critics have commented that most of these advantages are anecdotal and need to be sustained with further research. This article briefly outlines the available information on lasers in the field of dentistry and its potential to become a wonder tool, which can revolutionize the field of dentistry in the years to come.

INTRODUCTION:
Lasers are devices that produce intense beams of light which are monochromatic, coherent and highly collimated. The wavelength (colour) of laser light is extremely pure (monochromatic) when compared to other sources of light, and all of the photons (energy) that make up the laser beam have a fixed phase relationship (coherence) with respect to one another. Light from a laser has very low divergence. It can travel over great distances or be focussed to a very small spot with a brightness which exceeds that of the sun. Because of these properties, lasers are used in a wide variety of applications in all walks of life.

The basic operating principles of the laser were put forth by Charles Townes and Arthur Schalow from the Bell Telephone Laboratories in 1958, and the first actual laser, based on pink ruby crystal was demonstrated in 1960 by Theodor Maiman at Hughes Research Laboratories.

The term LASER is an acronym for (L)ight (A)mplification by (S)imulation (E)mission of (R)adiation. Light is an electromagnetic radiation ranging from 1 nm to 1000 m in wavelength.

The visible spectrum ranges from 0.4 µm to 0.7 µm. The wavelength range from 0.7 µm to 10 µm is considered as near infrared (NIR) and anything beyond is far infrared (FIR). Conversely 0.2 µm to 0.4 µm is called Ultraviolet; below 0.2 µm is the deep ultraviolet (DUV).

TYPES OF LASERS:
Gas lasers : Neutral atom lasers, Ion lasers, Metal vapour lasers, Molecular lasers, Excimer lasers, Nonlinear mixing, Chemical lasers.

Solid state lasers : Transition metal ion lasers, Rare earth ion lasers, Colour centre lasers, Frequency shifters

Liquid lasers : Organic dye lasers, Rare earth ion lasers, Inorganic rare earth liquid lasers.

Semiconductor lasers.

PRINCIPLE:
The oral cavity contains a variety of soft tissue types including but not limited to dental pulp, mucosa, keratinized and non-keratinized gingiva. But specific difference can exist for each tissue type, depending on location, tissue thickness and degree of health.

Depending on the wavelength of the laser device, following interactions can be seen in varying degrees:

Reflection: no interaction occurs as the beam reflects off the surface

Transmission: no interaction occurs as the beam passes directly through the tissue

Scattering: an interaction as the beam disperses in a non uniform manner throughout the tissue

Absorption: light radiation is absorbed by specific tissue elements.

The predominant laser interactions within oral soft tissue are absorption and scattering. Tissue composition, laser emission mode, fluence and thermal relaxation also affect tissue interaction.

Wavelength and tissue type:
Laser wavelengths have been shown to be absorbed by different components such as hemoglobin, melanin, water and hydroxyapatite. Currently available dental lasers operate in the visible or near infrared region (532-1340 nm) near the boundary of the mid infrared (2780 and 2940 nm) and far infrared (10,600 nm) regions of the electromagnetic spectrum. With respect to the high radiation interacting at the tissue surface (incident beam), interaction is primarily determined by the laser irradiation affinity for specific chromophores compromising the tissue.

A chromophore is a molecule or substance capable of absorbing specific laser wavelengths.

<table>
<thead>
<tr>
<th>LASER DEVICES CURRENTLY AVAILABLE TO THE DENTAL PROFESSION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laser Device</td>
</tr>
<tr>
<td>-------------------------------</td>
</tr>
<tr>
<td>KTP (Potassium Titanyl Phosphate)</td>
</tr>
<tr>
<td>Diode</td>
</tr>
<tr>
<td>Neodymium (Nd): YAG</td>
</tr>
<tr>
<td>Nd: YAP (YAlO 3 Perovskite)</td>
</tr>
</tbody>
</table>
Erbium Chromium (Er, Cr): YSGG 2780 nm FRP Optic fiber Water
Er:YAG 2940 nm FRP Waveguide / Optic fiber, Articulated arm Water
CO₂ 10,600 nm CW / gated CW Waveguide, Articulated arm Water

APPLIED ASPECTS:
The inclusion of lasers in oral and maxillofacial surgery has been in use since the mid 1960s. Lasers have been used as scalpels for tissue removal in the facial region and in oral cavity.

Several types of lasers are used in oral and maxillofacial surgery. The effect of the laser beam on biological tissue depends on the wavelength of the monochromatic light that can be reflected, scattered or absorbed. Different components of biological tissue absorb light in different wavelength regions, followed by a deposition of energy in the tissue. Surgical lasers in oral and maxillofacial surgery are generally used in two different modes in terms of beam characteristics. On the one hand, the laser can be used in a focused mode, concentrating the energy on a very small region of 0.1 – 0.5 mm. in size. This kind of laser beam is used for incisions and excisions, as a non-contact laser scalpel.

On the other hand, the laser can be used in a defocused mode, extending the diameter of the laser beam to approximately 1-5 mm in size. In this mode, the laser beam can be used to exactly ablate superficially spreading tissue areas, layer by layer. This superficial and areal ablation technique is a unique surgical procedure that uses a laser technique for the vapourization of spots detected to be a precancerous growth in the oral cavity. In addition, the total energy that is deposited in the tissue with both modes depend on the time of application and the chosen power, characteristics that are different for each type of laser.

SALIENT FEATURES:
1. Minimally invasive
2. Improved hemostasis when compared to scalpel
3. Reduce bacterial contamination
4. Healing by photo biomodulation
5. Reduces pain
6. Avoiding complications
7. Anatomical aspects
8. Soft tissue considerations
9. Safety aspects

LIMITATIONS:
Histological evidence might be tarnished following the use of laser in operative cases. Thermal alteration may range from transient heating to protein denaturation, evaporation of water, carbonization or complete thermal destruction in terms of tissue burning. Several lesser parameters have an impact on the extent of the thermal alteration.

CONCLUSION:
The use of laser technology has been shown to be a viable and effective adjunct to conventional dental surgical techniques, and a useful alternative in certain situations. Because of its documented advantages laser technology should be utilized wherever clinically indicated in soft tissue procedures. When the practitioner adheres to sound principles and good technique, the benefits of laser use that have been proven with valid research can be seen clinically by the dental personnel and by the ultimate beneficiaries – the patients.

REFERENCES
A Case of Grossly Mal-Aligned Uterus in A Case of Previous Classical Caesarean Section Discovered on Laparotomy

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**KEYWORDS** malposition, Caesarean section

**INTRODUCTION:** Cesarean section is the commonest obstetric operative procedure worldwide. The incidence of cesarean section is continuously rising giving women frequently an obstetric status of “Previous Cesarean Section”. However this makes future obstetric performances and future abdominal explorations risky. The rate of cesarean section in the urban educated population in Chennai is 45%). In medical colleges and teaching hospitals in India the overall rate for cesarean deliveries is 24.4%. In a population based cross sectional study the public, charitable and private sector hospitals had cesarean section rates of 20%, 38%, and 47% respectively.

After any laparotomy it is fairly common to develop scar tissue, or adhesions, and cesarean sections are no exception. This scarring and adhesion formation is known to increase the major complications rate from 4.3% to 12.5% depending upon the number of previous cesarean sections. Intra-peritoneal adhesions have an incidence of 5.5% to 42.5%. Repeating a caesarean section in subsequent pregnancies is a common mode of delivery, and happens variably in 11% to 24% of cases of previous one cesarean section. Prior cesarean delivery forms a major indication for repeat cesarean deliveries. The adhesions so formed lead to such a varied per operative findings that surgical approach needs to be individualized.

**CASE REPORT:** A 30 years old unbooked female admitted in the emergency of tertiary care hospital at gestational age of 41 weeks 2 days with pain in abdomen for one day and absent fetal movements for five hours. She had history of previous one caesarean section 2 years back at Kochas, Bihar (indication not known to the patient). She was not booked as an antenatal case in this hospital. Patient had 3 unit blood transfusion during this pregnancy. On general examination, she was conscious and oriented to time, place and person with mild pallor, normovolumic pulse of 88/min, blood pressure 110/80 mmHg and temperature of 38 degree C. Systemic examination was also normal.

On per abdomen examination, fundal height was 36 weeks with cephalic presentation (4/5) and absent fetal heart rate with good uterine contractions. On per vaginal examination, cervix was almost fully dilated, fully effaced, station was at ‘0’ position, membranes were absent and caput was present. Patient was taken for an emergency caesarean section due to non-descent of the head and development of scar tenderness after proper consent and blood arrangement.

On opening the abdomen, thick band of adhesions were present between the anterolateral and lower part of the uterus, fundus and parietal peritoneum. Uterine anatomy was difficult to delineate. Uterine incision was given after identifying the previous scar which was placed horizontally on lower part of uterus. Fresh still born baby was delivered. Placenta and membranes were delivered completely. It was after this...
that the presence of previous classical scar mimicking lower segment caesarean section scar was identified due to spontaneous correction of the position of the uterus (figure 2). This created an unknowingly inadvertent second classical caesarean scar. Uterine incision was sutured. Hemostasis checked and secured. Abdomen was closed in layers. Postoperative course was uneventful. Patient was discharged on day 5 with proper counselling.

**DISCUSSION:**
Fixation of uterus by adhesions is a risk factor for rare pregnancy complications like uterine torsion, sacculations etc. The uterine anatomy can be grossly distorted so much so that usual site of incision can not be reached and identified properly. Entities reportedly associated with uterine malposition, torsion or sacculation include the following - uterine leiomyoma, mullerian abnormalities, pelvic adhesions, large ovarian neoplasms, adhesions due to previous surgery. In this case, the adhesions due to previous surgery made the longitudinal axis of uterus acutely dextroverted to right lumbar quadrant. When an attempt to trace the round ligament was made in order to delineate the anatomy, fundal area of uterus occupying the right lumbar quadrant, due to dextrversion, gave the impression of unicorneate uterus. This mal-alignment of the uterus is also the cause of non progress of labour in spite of good uterine contractions.

**CONCLUSION:**
Cases with previous surgery with dense adhesions and distorted uterine anatomy requires presence of an experienced surgeon. Previous scars can be misleading at times, therefore anatomy should be delineated by tracing round ligaments whenever possible. Such complications should specially be suspected in cases of previous section performed in remote areas by untrained and unupdated professionals who ‘routinely’ perform classical caesarean in this era.

**REFERENCES**
Role of Self Help Groups in Financial Inclusion

Introduction: Women's lack of economic empowerment not only impedes growth and poverty reduction, but also negatively impacts education and health outcomes for children. Thus, it is extremely important to ensure that women are economically empowered. Financial inclusion may be defined as the process of ensuring access to financial services and timely and adequate credit—where needed by vulnerable groups, such as women—at an affordable cost.

India’s Self Help Group-Bank Linkage Program was launched in 1992 as a flagship program by the country’s National Bank for Agriculture and Rural development. The objective is to meet the financial needs of the poor by linking SHGs with the formal credit agencies. Financial inclusion of India’s women can be best ensured through SHGs. This collection contains a paper that provides valuable insights into the importance and functioning of SHGs to ensure financial inclusion and hence economic empowerment of women in India. An attempt has been made to analyze the progress of the SHG-bank linkage program. Therefore the paper is divided into two sections, Section A discussing the Financial inclusion and SHG and Section B discuss the SKDRDP program, its objectives, approaches, and achievements and finally discussing about conclusions.

Objectives:
- To explain the role and importance of financial inclusion in Indian financial system.
- To examine the role of SHGs in financial inclusion.
- To evaluate the achievements and approaches of SKDRDP microfinance in including the excluded section of the society.

Method of Study: In the present study data is collected both from primary collected from SKDRDP office in Pavagada, and secondary sources like books, journals, magazines and research articles.

Section-A
Financial system in India and Objective of financial inclusion:
As on March 2009 India has a very intensive financial system with 170 commercial banks of which 166 are scheduled commercial banks. These scheduled commercial banks have 80325 branches, out of which 31796 branches are in rural areas. Apart from these, there are 97782 co-operative banks in India out of which only 1721 are operating in urban areas the rest being in rural areas. Thus, a massive network of banks prevails both in urban and rural India. Despite this, rural poor still rely and approach informal sources such as money lender for their financial needs, which exploit them in many ways. For bringing these poor people in the mainstream of financial system and developing them, the government of India and the Reserve bank of India have set up the objective of 100 percent financial inclusion of the poor and backward people. Financial inclusion implies increased access to formal financial system for financially excluded and thereby achieving their economic development. For the attainment of the objective of financial inclusion and inclusive growth it is assumed that the banking system will perform the central task in this process of development. Banks are performing well in this context but for attaining the objective of 100 percent financial inclusion banking will have to be made a household habit with the bank account in every household.

The broad objective of financial inclusion is to extend the scope of activities of the organized financial system to include within its ambit people with low incomes. Through graduated credit, the attempts must be lift the poor from one level to another so that they come out of poverty. Reduction of poverty and income and ensuring everyone a basic minimum standard of living are the objective of inclusive growth. In this context access to finance by the poor and vulnerable groups has to be recognized as a pre requisite for poverty reduction and social cohesion. It has to become an integral part of the efforts to promote inclusive growth. In fact, providing access to finance is a form of empowerment of the vulnerable groups.

What is micro finance?
Microfinance is a financial service of small quantity provided by financial institutions to the poor. These financial services may include savings, credit insurance, leasing, money transfer, equity transactions etc. That is any type of financial service provided to customers to meet their normal financial needs life cycle, economic opportunity and emergency.

What is Self Help Group?
A Self Help Group is a registered or unregistered group of micro entrepreneurs having homogenous social and economic background voluntarily, coming together to save small amounts regularly, to mutually agree to contribute to a com-
mon fund and to meet their emergency needs on mutual help basis. It is a voluntary association of people formed to attain certain collective goals, both economic and social. Each group consists of 10-20 members. A group could be exclusively male or female or even mixed. However majority of SHG’s are female groups.

SHG Approach and Financial Inclusion as an innovative credit channel, the Self Help Group (SHG) approach was introduced 1992, to link poor people with bank credit. Under this programme, about 40 million rural families have been linked with banks up to March 2007(NABARD). The distinguishing feature of this approach as compared to other sponsored credit schemes is learning the art of management of own money by the poor before availing bank loan. Moreover, the SHG approach does not involve any subsidy; hence, it is sustainable with its own strength. A number of studies have found that SHG approach reduces the transaction cost for banks have been replaced by peer group pressure and hence this approach has enabled social and economic inclusion of women by waiving the requirement of collateral.

Benefits of SHGs
The SHG has given the poor women an identity, access to information, and bargaining power. Some benefits to members are:

- Providing platforms for the poor women to discuss and resolve their problems;
- Helping members manage cash flow deficits (maintaining food intake and overcoming emergencies), leading to improvement in quality and productivity of their only capital/resource-human capital/resouce;
- Helping members avoid money lenders, especially to meet food and health emergencies;
- Helping members invest in asset creation, diversify their occupations, and improve their risk-bearing capacities;
- Promoting leadership qualities among their members;
- Fostering women, even from conservative communities and regions, to interact with outsiders, particularly officials, including men; and
- Establishing the linkage between banks and marginalized citizens, especially the women.

Section- B
Financial inclusion and SKDRDP
The Sri Kshethra Dharmasthala Rural Development Program, an organization in the field of self employment generation programs in the district, has intended to form 2,142 Pragathi Bandhu groups and to add 20,206 members to the groups for the year 2011-12 (Vishwanath Shetty).

Developed by SKDRDP, “Pragathi Bandhu” groups are unique models of self-help groups that center on the cultivation of waste lands through labour sharing. Such groups organize and empower small and marginal farmers and laborers through the transference of governance to the village level. By promoting compulsory labour sharing for performing individual and community tasks, each village member works for the other members for one day in a week. This has helped thousands of small farmers to achieve important farm works.

A plan of action has been designed to distribute Rs. 145 crore for the needy under micro-finance business programs and Rs. 631.97 lakh has been earmarked for the expansion and developmental work.

Annual Report 2010-11: During the year 32,005 SHGs were linked to the branches of SBI resulting in a cumulative saving of Rs. 21.39 crores and a credit outgo of Rs. 227.53 crores.

At SKDRDP, charity is one of the virtues we value the most. During the year SKDRDP has spent Rs.9.32 crores for various developmental activities. These include donations for community projects, gobar gas installations, construction of sanitation units, Krishi mela, water harvesting projects, Organic village etc. In addition to this, during the current year a sum of Rs.13.00 crores has been spent on house construction to the people in the flood affected areas of Dharwad, Gadag and Haveri Districts. The workers of SKDRDP identify the poorest of the poor for a monthly sustenance support. During the current year a sum of Rs. 43.15 lakhs has been paid as monthly pension to the poorest of the poor constituting 1,801 members.

Under the System of Rice Intensification program during the current year 9,453 farmers were assisted to cultivate paddy in 12,783 acres of land with a loan assistance of Rs. 7.66 crores for equipments and crop cultivation. The program has created awareness on SRI and the importance of cereal cultivation. SKDRDP supports the acquisition of basic infrastructure facilities, to make a better living habitat for the poor. In this regard during the last year 35,409 sanitation units, 53,101 houses were constructed by the stakeholders. SKDRDP Subsidy to the extent of Rs. 400/- to Rs. 1,500/- was given for sanitation units besides loans. Long duration loans were also extended for construction of dwelling units. A total of 2,308 Gobar gas units, 541 solar units were acquired with capital support and finance from SKDRDP. Under our Sampoorna Suraksha micro insurance program 15,82,000 members enrolled during the current year. So far a record number of 76,588 members have received benefit to the extent of Rs. 25.06 crores under the scheme during the year. The total claims settled since the inception of the scheme surpassed Rs. 100.00 crores and stood at Rs. 120.00 crores as on March 31, 2011.

SKDRDP is presently working with 13,13,042 families. For their convenience 1,18,918 self help groups have been promoted. These members contribute loan margins, borrow money, share it among themselves and repay at weekly intervals. The total loan margin available is Rs. 304.05 crores so far. In order to meet the financial need of the members SKDRDP has borrowed funds from commercial banks and disbursed to the SHGs for onward lending to the members. During the current year Rs.951.51 crores were disbursed to total of 1,12,000 SHGs. As on 31.3.2011 SKDRDP could show 64% growth in outstanding over the last year. The micro finance outstanding went up from Rs.662.00 crores as on 31.3.2010 to Rs. 1,025.85 crores during the year.

The SKDRDP Pavagada branch is presently working with 58,194 families and is promoting nearly 2935 Self Help Groups. The SKDRDP Pavagada is covering 9 divisions. Each division is sub divided in to 10 sectors. The members of the SHG, borrow money, share it among themselves and repay at weekly intervals. In order to meet the financial need of the members SKDRDP has borrowed funds from commercial banks and disbursed to the SHGs for onward lending to the members. The Pavagada branch was started in 2011. For the past two years it has disbursed Rs. 29,54,18,600 crores to the SHGs. By 31-March-2013 the micro finance outstanding is Rs. 19,51,41,868 crores. The beneficiaries have successfully repaid a loan amount of Rs. 10,02,76,732 crores.

Conclusion
It is apparent from the above discussion that though the scheduled commercial banks played a crucial role in the growth and advancement in urban areas yet in the context of the rural area these banks have not lived up to the expectations. Diminishing branch network of the banks in the rural areas indicates that rural areas are not given much importance and kept outside the periphery of growth. This goes against the objective of serving the rural people and more inclusive financial growth. This situation becomes even worse in the light of the fact that India is an agrarian economy. Share of smaller credit in the total credit disbursed by the scheduled commercial banks, has been decreased to a very insignificant
proportion. Smaller credit represents the poor, unprivileged people and its diminishing share shows that these people are not being provided with the adequate credit. Microfinance has been promoted through the SHG-bank linkage program with the objective of bringing the prevailing gap in the financial network and spreading banking facilities to the poor in rural and urban areas. The Pavagada branch is assisting the excluded through SHGs a subsidiary to the process of financial inclusion.

REFERENCES

Social networking is coordinated innovation that permits clients to create their own unique content, share views and interests with others through various communities. Social media is an innovation that relies on sharing and integrating across a set of communities that people form on the internet. There are different types of social media that have evolved over a span of time having different uses, characteristics and target interest groups. Social media has become increasingly popular all over the world gaining support across regions, age groups, countries and backgrounds. Innovative forms of social media continue to be created to reach out to as many people as possible. Individuals, organizations and institutions are using social media for achieving dramatic benefits by using these tools to reach out to other individuals, customers and community members in new ways.

Types of Social Media

There are different types and incarnations of social media cropping up all over the internet. The users can choose one or more on the basis of their likes, interest, age and convenience. Discussed below are the most commonly accessed and popular types of social media

Social networking - It is a website that allows its subscribers to connect with and share content with a set of people who have similar interests and backgrounds. Social networking is also considered a more casual form of the many forms and types of social media. The purpose of most social networking sites is to socialize with friends, classmates, people working in same organizations, or people with similar interests. These sites work by find a friend, add a friend, read friends blogs or notes, see what friends are up to with real-time updates, and unite with like-minded people. Some of the websites are general while others, like Linkedin, connect you with people in the similar profession so as to build networks and communicate with organisations that are similar to the one you want to work for.

Bookmarking sites - These websites are used by subscribers to save and organize links to the various online books, websites and other forms of web resources. The users can highlight the links called as ‘tags’, making the search easy to share with other subscribers and also search later. Social bookmarking sites help save your favourite websites and share them with your friends. They help you search specifically what you want based on the bookmarks rather than search hundreds of pages on the web. The most viewed and most popular searches are saved which help narrow down your search as per relevance and end up saving time. These bookmarking sites suggest content similar to the links or images you have already saved on the network.

Media sharing sites - These websites allow users to download, upload and share videos, pictures and music files with other subscribers of the site. Almost anyone can share and add content on these sites by accepting the copyright and privacy policy. You can upload information content, do it yourself videos, comedy events and shows. These media sites are also used by business houses to promote their products, services and build the brand. Media sites offer small amount of personal storage space and additional storage can be bought through paid subscriptions.

Discussion forums/ Blog - It is a website or a web page which is constantly written and updated by an individual or a group of people who maintain it. Blogs can be about sharing views, opinions and interests, or can be about sharing information. Blogs are generally updated on regular bases by the creators. They also acts as discussion forums where information is constantly updated and added related to the domain area of the blog. Some blogs are also being run and maintained under the multi author category where people keep posting articles, information and opinions and is edited by professionals. Such blogs are commonly maintained by media houses, newspapers, etc and are referred to as multi author blogs.

Micro blogging - This is also a form of blogging but is limited by short and limited messaging often up to 200 characters. It is nearer to texting or messaging. The blogger puts these short messages for other subscribers of the micro blogging site, to be viewed by a specific set of people he wants or open to all the subscribers of the site. These messages are called as microposts, which can be uploaded through the cell phone or from the computer. It can lead to sharing of information and events instantly. It is commonly also a tool to know general public sentiment on certain issues and events through the trend of posts that subscribers share.

Reasons for popularity of social media

Social media has gained immense popularity amongst people young and old across the globe. It has changed the way people relate and interact with each other. There are various factors that have led to the phenomenal acceptance of social media world over.

The uniqueness of social media as well as its far and quick reach have been two major reasons resulting in its popularity amongst people from all age groups and across the globe.

a. Opportunity to interact with people world over

Social media allows its users to access profiles of people all over the world with whom they can connect on the basis of similarity of interests and liking. It is easy to connect with...
people from any where in the world and one is not bound by geographical and time boundaries. It opens doors for understanding differences between cultures and languages far and wide

b. User friendly websites
The social media websites are user friendly making them convenient to use and subscribe. Subscription to these websites is generally free adding to their popularity. Moreover these websites are convenient to navigate and do not require much technical knowledge. They can be accessed anytime from your mobile phone or your computer leading to easy accessibility thus adding to their cult following.

c. Quick response
You get quick and immediate responses to your queries and interaction. It leads to quick feedback and immediate clarification of any miscommunication and misinformation providing with almost the same advantages as face to face communication would bring.

d. Creating and joining interest groups
Most social networking websites allow to create groups on the basis of interests, hobbies, likes and dislikes which are open for new members to join. This helps users to explore, enhance and share their interests with a large number of like minded people. It also fulfills the desire of people to connect to others and build communities.

e. Have a voice
For people who are not extroverts and are not able to speak and share their views in public, social media is a platform where they feel they can have a voice of their own on. Moreover people feel freer while talking on social media as it takes them away from the anxiety of facing a large crowd

f. Useful for business
Social media has evolved as a very useful business tool. Right from hiring the new employee to gaining inputs directly from the customers on new product launch. Even before launching, companies may come to know about the percentage of people interested in the business idea. It has immense reach. It increases your business exposure, increases visits to your site, helps build a customer base for what you sell, and gives you the opportunity to offer great promotional schemes. Organizations can build customer loyalty by having direct contact with the customers, leading to better business relationships and including customer suggestions into the product and service offerings. It can help organizations fight competition better.

All the factors discussed above have led to the emergence of the social media era all over the world. While on one hand we celebrate the coming of age of the social media, the problems associated with social media can’t be ignored either. These problems or issues involved with social media are taking huge proportions as the usage and reach of social media increases with every passing day.

Discussed below are the problems and challenges associated with social media.

Advantages of social media
One of the major criticisms of social media is that it is acting as deterrent to social interaction. Most people have developed addiction to social media so much so that the actual socializing with friends, neighbours and peers has come down tremendously. People prefer to spend time with friends on social media than people around them, leaving little time for real world interaction. This is leading to behavioral issues amongst youth with them not being able to relate well with those around them. Real world relationships are suffering and virtual world is taking over. Families are experiencing lesser bonding amongst themselves as members are choosing to spend more time on social media than with the family.

The absence of face to face interaction in social media is limiting the use and evolution of interpersonal skills among people. The unrestrained freedom to like, dislike or comment on the social media is making people less tolerant to contradicting and divergent viewpoints of others. Trolling is the best example of this phenomenon. Communication amongst people is becoming more abusive and less cultured, as in absence of face to face communication people are insensitive to the choice of words used for communication. Cyber bullying is another major problem experienced by users of social networking websites. People have gone to the extent of committing suicides or being forced into committing them because they could not cope up with the pressure created by the rejection of large number friends on a particular media site.

Privacy is another major issue involving social media. With the freedom of uploading and sharing any and everything on the web, one is not sure who might upload information about you on any of these media. Social media is encouraging people to share more and more about their personal lives leaving the society confused about what and how much needs to be shared with others.

Social media also leads to an inflated sense of belief among people that they are connected to a large set of friends without actually being able to differentiate between real and casual relationships formed on social media.

Even the businesses that have benefited immensely from social media, are debating the problems that social media brings along with it. The employees at the workplace are spending more time on the social networking sites than focusing on the performance. Research has shown that usage of social media often acts as a distraction for people which is leading to reduced spans of attention, less concentration on the work at hand and thus leading to decreased productivity at workplaces. Many organizations have gone to the extent of blocking the use of these websites during working hours to overcome the challenges associated with its usage. It has also been observed that many a times the company image suffers in case some negative information goes viral on social media. Further more, it becomes almost impossible to control and check this spread of information. Another issue is the freedom that people have to share their feedback about various services and products offered by companies, often leading to a dent in the company image and goodwill. Some times these bad reviews are also put up by competitors on the social media websites thus negatively influencing the brand image of the company.

Social media, like most other innovations, bring challenges and problems, along with the immense benefits that they deliver to mankind. The future of social media lies in identifying ways and measures to minimize these negatives and harnessing its benefits to the fullest. Self restraint and respect for other people’s freedom may be two of the most important ways to overcome problems associated with social media.

REFERENCES

Study of Damage on Tocklai Vegetatives TV1, TV6 and TV10 by Red Spider Mite Oligonychus Coffeae Nietner

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ABSTRACT

Three Tocklai vegetatives TV1, TV6 and TV10 were studied to know the damage made by Oligonychus coffeae Nietner. Per cent leaf area damage measured by a portable leaf area meter LI COR-3000 showed that highest damage was made by O. coffeae in TV1 (92.68 %) followed by TV10 (81.944 %) and TV6 (79.528 %). The hatching percentage and fecundity of TV1 also showed positive correlations with fecundity (r = 0.83574**) and hatching percentage (r = 0.69839**) of O. coffeae.

KEYWORDS

Damage, Oligonychus coffeae, red spider mite, tea

Introduction

Red spider mite Oligonychus coffeae Nietner belonging to the family Tetranychidae is one of the most devastating pests of tea plantations of India causing a great deal of damage and cause economic loss in the Indian tea industry. It is a perenn- nial pest which invades the tea monoculture habitat. Chroni- cled among the 12 species of perennial pests they are arach- nids closely related to ticks and spiders. They damage plants by lacerating cell sap from the matured upper leaf tissue (Das, 1959; Gupta 1985; Muraleedharan, 1992; Hajra, 2001; Haque, 2007) as in the older leaves the cells are flaccid and the flow of sap is slow which allows red spider mite to at- tack more (Harrison, 1938). The damage is observed as definite flecks and streaks of reddish colour followed by desiccation and eventually appreciable defoliation on older leaves which gradually spreads to the younger leaves injuring them to die. The red spider mites have a typical life cycle and breed at an alarming rate within a short time span during favourable con- ditions of hot dry seasons. Hence, they are very difficult to eradicate. They mostly lay eggs at dawn and dusk and due to their multiple generations in a year has a considerable propen- sity for developing resistance to miticide. In North-East India it is reported that it is an important pest causing a decap in the tea economy (Das, 1959). But prior to taking any effective control measure the knowledge of the extend of damage is necessary. The present work was designed to study the dam- age caused by O. coffeae on three different Tocklai Vegetative (TV) clones.

Materials and Methods

To study the per cent leaf infestation or leaf damage three matured fourth leaf of Tocklai Vegetative clones TV1, TV6 and TV10 were taken. Their area was measured with the help of a portable leaf area meter, Model LI-COR-3000. The “detached leaf culture” method of Helle and Sabellis, 1985 modified by Hazarika et al. (1995) and Saikia et al. (1999) was adopt- ed for this study. Fifteen adult females were released on each leaf and allowed to feed for a duration of 8 days. The infested area was removed and the leaf area was measured again. The area consumed per female per day was determined.

Results and Discussion

Significant differences observed from the investigations made on per cent leaf area damage (PLAD) of matured fourth leaf of tea by O. coffeae are presented on Table 1. Clonal plants of TV1 was more susceptible with 92.68±2.704 % leaf area damage compared to TV10 with 81.94±0.706 % leaf area damage and TV6 with 79.52±0.916 % leaf area damage. Thus the highest damage was made by O. coffeae in TV1 followed by moderate damage in TV10 and lowest damage in TV6. These findings are in conformity with research findings of Saikia (1999) who reported that the highest damage in TV1 from various tea pests is due to monoculture hab- itat. This was also extensively agreed upon by various work- ers (Thirugnanasuntharan, 1990; Mukhopadhay et al., 2001; Pathak 2004). This experiment also found the significant effect of fecundity and hatching percentage on the three TV clones and the extent of damage caused on the clones. Correlation studies presented on Table 2. showed that % leaf area dam- age (r = 0.83574**) leaf thickness (r = -0.56881*) and leaf area (r = -0.83310**) was positively correlated with fecundity of O. coffeae. Similarly % leaf area damage (r = 0.69839**), leaf thickness (r = -0.68149**) and leaf area (r = 0.8299**) was also positively correlated with % hatching of O. coffeae. Fig.1 and Fig. 2 shows the regression graph of per cent leaf area damage by O. coffeae on TV clones with fecundity and hatching which further elaborates the extend of damage. The magnitude of % leaf area damage with fecundity is ex- pressed by the equation y= -24.703+1.1532x and that of per cent hatching is expressed as y= -30.9444+1.2147. Table 3 shows maximum fecundity in TV1 (82.47±2.69), followed by TV10 (72.57±2.58) and minimum in TV6 (63.93±8.98). The hatching percentage was also observed to be greatest in TV1 (83.19±4.65) followed by TV10 (66.96±4.60) and the mite seems to cause the lowest percentage of hatching in TV6 (65.74±3.27). The results on Table 1. also show that leaf thick- ness was greatest in TV6 (46.2±12.050) followed by TV10 (39.2±1.095) and TV1 (37±2.739). This finding corroborates other workers as thickness of leaf may provide lower resist- ance as lower feeding was observed in thick TV6 leaves and thick cuticle may impart protection from herbivory (Hanna et al., 1982). Hence, in this study the leaf area was the largest in TV6 (0.730±0.075), followed by TV10 (0.665±0.061) and smallest in TV1(0.466±0.038) and showed that O. coffeae preferred TV1 with the smallest leaf area for laying eggs and increased hatchability for causing the highest damage.

Table 1 over here

Table 1. Comparison of certain physical leaf characters amongst the three TV clones

<table>
<thead>
<tr>
<th>Clones</th>
<th>Physical characters (mean±SD)</th>
<th>Leaf thickness (mm)</th>
<th>Leaf area (dm²)</th>
<th>Leaf area damage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TV1</td>
<td>37±2.739</td>
<td>0.466±0.038</td>
<td>92.68±2.704</td>
<td></td>
</tr>
<tr>
<td>TV6</td>
<td>46.2±12.050</td>
<td>0.730±0.075</td>
<td>79.52±0.916</td>
<td></td>
</tr>
<tr>
<td>TV10</td>
<td>39.2±1.095</td>
<td>0.665±0.061</td>
<td>81.94±0.706</td>
<td></td>
</tr>
<tr>
<td>S.Ed</td>
<td>4.330</td>
<td>0.0268</td>
<td>1.074</td>
<td></td>
</tr>
<tr>
<td>CD</td>
<td>NS</td>
<td>0.0549</td>
<td>2.340</td>
<td></td>
</tr>
<tr>
<td>CDwww</td>
<td>NS</td>
<td>0.074</td>
<td>3.280</td>
<td></td>
</tr>
</tbody>
</table>
Table 2. Correlation of biological characters of *O. coffeae* on various morphological characters of leaf of TV clones

<table>
<thead>
<tr>
<th>Correlation coefficient</th>
<th>Fecundity</th>
<th>% Hatching</th>
</tr>
</thead>
<tbody>
<tr>
<td>% leaf area damage</td>
<td>$r = 0.83574^{**}$</td>
<td>$r = 0.69839^{**}$</td>
</tr>
<tr>
<td>Leaf thickness</td>
<td>$r = -0.56881^{*}$</td>
<td>$r = -0.68149^{**}$</td>
</tr>
<tr>
<td>Leaf area</td>
<td>$r = -0.83310^{**}$</td>
<td>$r = -0.80299^{**}$</td>
</tr>
</tbody>
</table>

$^{**}$ indicates significance at 1% level

* indicates significance at 5% level

$r = \text{correlation coefficient}$

Table 3. Effect of TV clones on certain reproductive characteristics of *O. coffeae*

<table>
<thead>
<tr>
<th>Reproductive characters (Mean±SD)</th>
<th>TV1</th>
<th>TV6</th>
<th>TV10</th>
<th>SEd</th>
<th>CD$_{0.05}$</th>
<th>CD$_{0.01}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fecundity (no. of eggs/female)</td>
<td>82.47±2.69</td>
<td>63.93±8.98</td>
<td>72.57±2.58</td>
<td>1.821</td>
<td>3.694</td>
<td>4.982</td>
</tr>
<tr>
<td>Percent hatching (%)</td>
<td>83.19±4.65</td>
<td>65.74±3.27</td>
<td>66.96±4.60</td>
<td>3.255</td>
<td>6.602</td>
<td>8.903</td>
</tr>
</tbody>
</table>

Fig 1. Relationship between feeding (% leaf area damage) and fecundity of *O. coffeae*

Fig 2. Relationship between feeding (% leaf area damage) and hatching of *O. coffeae*
A Case Study on Banking Operations in Cooperative Sector With reference to Visakhapatnam District Cooperative Bank, Visakhapatnam

K.V. Nagaraj

ABSTRACT
In the world of turbulence, cooperative banks have taken different forms in different states according to their local needs and conditions. Some of the forms of cooperative include credit societies, marketing societies, consumer’s societies, producer’s cooperatives, processing cooperatives, industrial cooperatives etc. Though, the State of Andhra Pradesh is having so many forms of cooperative societies, the wide spread cooperatives are mainly the credit cooperatives. In the State of Andhra Pradesh, the rural cooperative credit system generally provide their members with a wide range of banking and financial services (loans, deposits, banking accounts etc.). Co-operative banks differ from stockholder banks by their organization, their goals, their values and their governance.

KEYWORDS
credit societies, marketing societies, consumer’s societies, producer’s cooperatives, rural cooperative credit system

Introduction
In the present scenario co-operative bank is a financial entity which belongs to its members, who are at the same time the owners and the customers of their bank. Co-operative banks are often created by persons belonging to the same local or professional community or sharing a common interest. Co-operative banks generally provide their members with a wide range of banking and financial services (loans, deposits, banking accounts etc.). Co-operative banks differ from stockholder banks by their organization, their goals, their values and their governance. In most countries, they are supervised and controlled by banking authorities and have to respect prudential banking regulations, which put them at a level playing field with stockholder banks. Depending on countries, this control and supervision can be implemented directly by state entities or delegated to a co-operative federation or central body.

Types of Co-operative Banks
The co-operative banks are small-sized units which operate both in urban and non-urban centers. They finance small borrowers in industrial and trade sectors besides professional and salary classes. Regulated by the Reserve Bank of India, they are governed by the Banking Regulations Act 1949 and banking laws (co-operative societies) act, 1965. The co-operative banking structure in India is divided into following 5 components:

Primary Co-operative Credit Society
The primary co-operative credit society is an association of borrowers and non-borrowers residing in a particular locality. The funds of the society are derived from the share capital and deposits of members and loans from central co-operative banks. The borrowing powers of the members as well as of the society are fixed. The loans are given to members for the purchase of cattle, fodder, fertilizers, pesticides, etc.

Central co-operative banks
These are the federations of primary credit societies in a district and are of two types those having a membership of primary societies only and those having a membership of societies as well as individuals. The funds of the bank consist of share capital, deposits, loans and overdrafts from state co-operative banks and joint stocks. These banks provide finance to member societies within the limits of the borrowing capacity of societies. They also conduct all the business of a joint stock bank.

State co-operative banks
The state co-operative bank is a federation of central co-operative bank and acts as a watchdog of the co-operative banking structure in the state. Its funds are obtained from share capital, deposits, loans and overdrafts from the Reserve Bank of India. The state co-operative banks lend money to central co-operative banks and primary societies and not directly to the farmers.

Land development banks
The Land development banks are organized in 3 tiers namely; state, central, and primary level and they meet the long term credit requirements of the farmers for developmental purposes. The state land development banks oversee, the primary land development banks situated in the districts and tehsil areas in the state. They are governed both by the state government and Reserve Bank of India. Recently, the supervision of land development banks has been assumed by National Bank for Agriculture and Rural development (NABARD). The sources of funds for these banks are the debentures subscribed by both central and state government. These banks do not accept deposits from the general public.

Urban Co-operative Banks
The term Urban Co-operative Banks (UCBs), though not formally defined, refers to primary co-operative banks located in urban and semi-urban areas. These banks, till 1996, were allowed to lend money only for non-agricultural purposes. This distinction does not hold today. These banks were traditionally centered on communities, localities, work place groups. They essentially lend to small borrowers and businesses. Today, their scope of operations has widened considerably.

The origins of the urban co-operative banking movement in India can be traced to the close of nineteenth century. Inspired by the success of the experiments related to the cooperative movement in Britain and the co-operative credit movement in Germany, such societies were set up in India. Co-operative societies are based on the principles of cooperation, mutual help, democratic decision making, and open membership. Cooperatives represented a new and alternative approach to organization as against proprietary firms, partnership firms, and joint stock companies which represent the dominant form of commercial organization. They mainly rely upon deposits from members and non-members and in case of need, they get finance from the district central co-operative bank to which they are affiliated or from the apex co-operative bank. If they work in big cities where the apex bank has its Head Office. They provide credit to small scale industrialists, salaried employees, and other urban and semi-urban residents.

Functions of co-operative banks

Visakhapatnam District Cooperative Bank, Visakhapatnam

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The cooperative banks play a very important role in both rural and urban financing. A sharp increase in primary co-operative banks has led to rapid development of businesses of cooperative bank not only in urban areas but also in rural area in recent years. Majorly the cooperative banks in rural India facilitate financing for farming, cattle, hatchery, personal finance, etc. whereas, in urban areas they facilitate finance for self-employment, small scale industries, home finance, consumer finance, personal finance, etc. hence some of the functions of cooperative banks are presented here under.

1) Commercial banks are joint-stock companies under the companies’ act of 1956, or public sector bank under a separate act of a parliament whereas co-operative banks were established under the co-operative society's acts of different states.

2) Commercial bank structure is branch banking structure whereas co-operative banks have a three tier setup, with state co-operative bank at apex level, central / district co-operative bank at district level, and primary co-operative societies at rural level.

3) Only some of the sections of banking regulation act of 1949 (fully applicable to commercial banks), are applicable to co-operative banks, resulting only in partial control by RBI of co-operative banks and

4) Cooperative banks function on the principle of cooperation and not entirely on commercial parameters.

Cooperative banks have taken different forms in different states according to their local needs and conditions. Some of the forms of cooperative include credit societies, marketing societies, consumer’s societies, producer’s cooperatives, processing cooperatives, industrial cooperatives etc. Though, the State of Andhra Pradesh is having so many forms of cooperative societies the wide spread cooperatives are mainly the credit cooperatives.

In the State of Andhra Pradesh, the rural cooperative credit system is divided into long-term and short-term, medium-term cooperative credit institutions which have a multiter structure. The short-term/medium-term cooperative credit institutions have a three-tier structure comprising of State Cooperative Bank (SCB) at the State level, Cooperative Central Banks (CCBs) at the district level and Primary Agricultural Credit Societies (PACSs) at the village level. The PACSs are not banks but societies at rural level. However, the PACSs the basic foundation for the whole edifice of Cooperative Credit. In the initial period, the long-term Cooperative Credit institutions have a two-tier structure comprising of State Cooperative Agriculture and Rural development Bank (SCARDB) and the Primary Cooperative Agriculture and Rural Development Banks (PCARDBS). But the Government of Andhra Pradesh has appointed a High Power Committee in 1982 headed by Sri Mohankanda to suggest a re-organization of credit cooperatives in the State. This Committee has recommended the introduction of Single Window System. After obtaining the approval from the Central Government, the Government of Andhra Pradesh has started “The Single Window System" with effect from 1-4-1987.

Though, there is not much of a difference in the structure of these societies after the reorganization, the functions have increased enormously. At the time of the introduction of Single Window System, there were 6,695 PACSs at the State. But, they were reorganized into 4,564 viable Societies to maintain the viability criterion. Similarly, the 27 DCCBs were reorganized into 22 DCCBs in order to maintain the norm of one district one DCCB. The Primary Agricultural Development Banks were abolished and their assets and liabilities were allotted to the respective DCCBs. With the approval of the Central Government, the Andhra Pradesh State Cooperative Agricultur al Development Bank was merged with the Andhra Pradesh State Cooperative Bank in April, 1994. At present there are 22 recognized cooperative banks are functioning in Andhra Pradesh. The details of cooperative banks and their functional status in Andhra Pradesh is presented in the following Table-1.

### Performance of cooperative societies under Single Window System

The PACS have always played an important role in providing credit to agriculture and allied activities in Andhra Pradesh. Further, with the introduction of Single Window System in 1987, these PACS have been playing critical functions by providing multi-term credit and multi-functional services to farmers in Andhra Pradesh. The data relating to the functioning of PACS before and after the introduction of Single Window System are presented in Table-2.4. From the Table it may be ob served that there is a significant growth in the membership of PACS in the State as well as in the District of Visakhapatnam after the introduction of Single Window System. The total membership of PACS in the State has increased from 80.73 lakhs in 1986-87 to 153.14 lakhs by 1998-99. During the period the total membership of PACS in the District has more than doubled from 2.96 lakhs to 5.19 lakhs. However in terms of the number of PACS there is a considerable decline both at the State and District levels. At the time of the introduction of Single Window System, the total number of PACS in the State were estimated at 6,785 and the same has decreased to 4.
678 by 1998-99. Similarly, the number of PACS in Visakhapatnam District has come down from 165 to 111 during the same period. This significant decline in the number of PACS has been attributed to the consolidation and amalgamation of PACS on the basis of viability criteria under the Single Window System.

### Table 2
Position of cooperative societies before and after the introduction of Single Window System in Andhra Pradesh and Visakhapatnam (Rs. In crores)

<table>
<thead>
<tr>
<th>Societies (Numbers)</th>
<th>Before single window system</th>
<th>After single window system</th>
</tr>
</thead>
<tbody>
<tr>
<td>6785</td>
<td>165</td>
<td>4678</td>
</tr>
<tr>
<td>Membership (lakhs)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>80.73</td>
<td>2.96</td>
<td>153.14</td>
</tr>
<tr>
<td>Share capital</td>
<td></td>
<td></td>
</tr>
<tr>
<td>62.05</td>
<td>2.07</td>
<td>589.00</td>
</tr>
<tr>
<td>Deposits</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18.85</td>
<td>1.09</td>
<td>309.88</td>
</tr>
<tr>
<td>Borrowings</td>
<td></td>
<td></td>
</tr>
<tr>
<td>332.36</td>
<td>5.90</td>
<td>3251.40</td>
</tr>
<tr>
<td>Working capital</td>
<td></td>
<td></td>
</tr>
<tr>
<td>433.70</td>
<td>10.06</td>
<td>6169.47</td>
</tr>
<tr>
<td>Loans advanced</td>
<td></td>
<td></td>
</tr>
<tr>
<td>250.59</td>
<td>9.62</td>
<td>3368.24</td>
</tr>
<tr>
<td>Loans recovered</td>
<td></td>
<td></td>
</tr>
<tr>
<td>214.13</td>
<td>8.93</td>
<td>1273.61</td>
</tr>
<tr>
<td>Loans outstanding</td>
<td></td>
<td></td>
</tr>
<tr>
<td>406.00</td>
<td>6.87</td>
<td>4434.38</td>
</tr>
<tr>
<td>Overdues</td>
<td></td>
<td></td>
</tr>
<tr>
<td>158.30</td>
<td>3.61</td>
<td>1485.23</td>
</tr>
</tbody>
</table>

Source: author's data

With regard to the actual performance of the credit cooperative societies, data reveal a significant growth in terms of share capital, deposits, borrowings, loans advanced, loans outstanding etc.,

The total share capital of the credit cooperative societies in the State increased from Rs. 62.05 crores in 1986-87 to Rs. 589.00 crores by 1998-99. During the same period the total share capital of credit cooperative societies in Visakhapatnam District has increased by six times from Rs. 2.07 crores to Rs. 12.79 crores.

The total deposits of credit cooperative societies in the State have gone by fifteen times from Rs. 18.85 crores in 1986-87 to Rs. 309.88 crores by 1998-99. On the other hand, the total deposits of credit cooperative societies in Visakhapatnam District experienced a five-fold increase from Rs. 1.09 crores to Rs. 5.75 crores in the corresponding period.

However, with regard to total borrowings of credit cooperative societies significant variations are found between the State and the District. While the total borrowings of the credit cooperative societies in the State have increased by ten times i.e., from Rs. 332.36 crores in 1986-97 to Rs. 3, 251.40 crores by 1998-99, the total borrowings of credit cooperative societies in the District have gone up by nearly 20 times i.e. from Rs. 5.90 crores to Rs. 102.90 crores, during the same period.

A significant growth is also observed in the case of working capital both at the State and the District levels under the Single Window System. When the total working capital of the credit cooperative societies in the State has increased from Rs. 433.70 crores in 1986-87 to Rs. 6, 169.47 crores by 1998-99, credit cooperative societies in Visakhapatnam District accounted for a significant growth from Rs. 10.06 crores to Rs. 186.77 crores during the same period.

The introduction of Single Window System also affected the total amount of loans advanced by credit cooperative societies both at the State and the District levels. While the total loans advance by credit cooperative societies in the State have increased from Rs. 250.59 crores in 1986-87 to Rs. 4434.38 crores (i.e. a ten-fold increase), loans outstanding of credit cooperative societies in the District increased from Rs. 6.87 crores to Rs. 102.62 crores (i.e. a sixteen fold increase) during the same period. A similar trend is also observed in term loans recovered and over dues of credit cooperative societies in the State on well on in the District.

However, the performance of credit cooperative societies in the District is found to be relatively poor compared to the performance of credit cooperative societies in the State with respect to loans outstanding and over dues. While the total loans outstanding of credit cooperative societies in the State have increased from Rs. 406.00 crores in 1986-87 to Rs. 4434.38 crores (i.e. a ten-fold increase), loans outstanding of credit cooperative societies in the District increased from Rs. 6.87 crores to Rs. 102.62 crores (i.e. a sixteen fold increase) during the same period. A similar trend is also observed in term loans recovered and over dues their performance is found to be not satisfactory.

### Conclusion
The Cooperative Bank, Visakhapatnam being a bank of farmers and business people who take short-term and long-term loans in the district. It collects unutilized savings of the public and mobilizes them in productive channels. The deposit mobilization of the cooperative banks enables the people of the rural area to recycle their funds particularly in the area of credit deployment. They are providing attractive interest rates on deposits. The credit deployment of the cooperative banks was broadly categorized into two viz., farm and non-farm advances. Farm advances include agricultural term loans and crop loans where as non-farm advances include advances to rural artisans, self-employed, self-help groups, small and cottage industries etc. The DCDB has given equal importance to both sectors as far as the deployment of credit is concerned. Through the cooperative banks extended their services even to the remote places of the district, the credit-deposit ratio was always higher than 100 percent except in the year 2013-14. To fulfill the gap in the credit-deposit ratio, the cooperative banks getting refinance from NABARD and Government etc. In addition to the banking services, it is also extending other valuable services such as crop insurance, debt relief and waivers, supply of agricultural input etc. Thus it is evident from the above study that Cooperatives Banks are playing a key role in the progress of Visakhapatnam district in particular and the Andhra Pradesh as a whole.
REFERENCES

1. Annual Reports, Department of Agriculture and Cooperation (DAC), Govt. of India.
2. Annual reports of DCCB, Visakhapatnam.
INTRODUCTION
Growing internalization of business has its impact on human resource management functions. The human resource department is required to cope up with problems on individual employee's attitude, culture, behaviors, ethics and morale. For decades, a lot of emphasis has been put on certain aspects of intelligence such as logical reasoning, math skills, spatial skills, understanding analogies, verbal skills etc.

Researchers were puzzled by the fact that while IQ could predict to a significant degree academic performance and, to some degree, professional and personal success, there was something missing in the equation. Some of those with fabulous IQ scores were doing poorly in life; one could say that they were wasting their potential by thinking, behaving and communicating in a way that hindered their chances to succeed.

In the present scenario there has been a remarkable change in the way in which the rules of work are seen. People are not evaluated by how smart they are, or how intelligent, or the training and expertise attained, but by how well they handle themselves and each other. This rule is applied for hiring, appraising, promoting, and even firing. These new rules can predict who is most likely to become a star performer and who is more prone to derailing.

Emotional intelligence (EQ) is the ability to identify, use, understand, and manage emotions in positive ways to relieve stress, communicate effectively, empathize with others, overcome challenges, and defuse conflict. Emotional intelligence impacts many different aspects of your daily life, such as the way you behave and the way you interact with others.

"Emotional intelligence is one of the few key characteristics that give rise to strategic leaders in organizations". When it comes to happiness and success in life, emotional intelligence (EQ) matters just as much as intellectual ability (IQ). Emotional intelligence helps to build stronger relationships, succeed at work, and achieve career and personal goals.

Factors of Emotional Intelligence
• A. Personal competence
  – Self-awareness
  – Self-regulation
  – Self-motivation
• B. Social competence
  – Social-awareness
  – Social skills

OBJECTIVE OF THE STUDY
Primary objective
"To study the emotional intelligence of employees in work place at Jay Ushin Limited"

Secondary objective
"To study the factors considered and their importance in Emotional Intelligence"
"To study how employees manage their emotions and handle pressure at work place"
"To study the barriers in Emotional Intelligence at work place"
"To provide suggestion to the employees to handle their emotional intelligence"

REVIEW OF LITERATURE
Rahim, Hussain, Saddam (2010)
Has investigated the effect of demographic factors like Age, Education, Job tenure, Gender and Marital Status on the level of Emotional Intelligence which leads to organizational performance among male and female employees. With increase in education level, EI has also improvement in its level. Satisfaction level of employees is also a good determinant of their performance.

Deepa, R. (2009)
Emotional intelligence (EI), which is an ability to manage one's own and others' emotions appropriately, has caught the attention of researchers in recent times. It has a significant impact on the personal and professional success of individuals. It has been empirically proven that EI impacts the performance and well-being characteristics of individuals and teams, and facilitates organizational effectiveness and competitive advantage.

Peter Taylor (2009)
Emotional intelligence is the ability to perceive one's emotions and to effectively manage one's behaviours in emotionally charged situations. It is also the ability to factor in the emotions of others as one interacts with them. All of these techniques have application in negotiations and supplier development. They are also essential in leadership and coaching. People respond much better to those who treat them with honesty, respect and civility.

Karen Albertsen(2009)
Emotional Intelligence helps the individuals to realize the fact that their decisions are going to affect others in a positive or a negative manner and therefore they should consider the consequences of their decisions. Finally, social skills allow the individuals to come close to their peers and subordinates and understand their emotional needs.”

Today's workplace is dynamic in nature and is characterized by time deadlines, cross-cultural teams, work pressures, and work-family conflicts, which in turn result in a highly stressed workforce. These factors have a negative impact on the well-being of employees and the effectiveness of an organization. The individual competencies of the workforce are strong determinants of an organization’s success.

Lorenzo, Fariselli, et.al (2008)
As in many fields, automobile is a complex and stressful environment where interpersonal interactions are of paramount importance. This study finds that in a sample of 68 professional midwives and obstetricians in a large urban hospital, emotional intelligence is strongly predictive of performance (66%).
stress is slightly predictive (6% to 24%), and emotional intelligence is predictive of stress management (6.5%).

Dong, Qingwen (2007)
Emotional intelligence is operationalized based on Goleman’s (1998) conceptualization including self-awareness, self-regulation, motivation, empathy, and social skills.

RESEARCH METHODOLOGY
INTRODUCTION
Business research is of recent origin and is largely supported by business organizations that hope to achieve competitive advantage. Research methodology lays down the various steps that are generally adopted by a researcher in studying the problems.

Research methodology is a way to systematically solve the research problems. It may be understood as a science of studying how research is done scientifically. It includes the over research design, the sampling procedure, data collection method and analysis procedure.

RESEARCH DESIGN
It is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy. It constitutes the blue print for the collection, measurement and analysis of data.

TYPE OF RESEARCH
Descriptive Research
Descriptive research is concerned with describing the characteristics of a particular group or individual

Sampling Design/Techniques
Sampling is the process of selecting a sufficient number of elements from the population, so that a study of the sample and an understanding of its properties or characteristics to the population elements. Sampling design is to clearly define set of objectives, technically called the universe to be studied.

• Sampling design- non probability sampling.
• Sampling technique – convenience sampling
• Population size – 1,600
• Sampling size- 200

DATA COLLECTION METHODS
While deciding about method of data collection for the study the researcher should keep in mind the two types of data collection.

Primary data
The primary data are those, which are collected afresh and for the first time and thus happen to be original in character. With help of the structured questionnaire, personally administered interview technique has been used for the collection of primary data from the respondents

Secondary data
The secondary data are those which have already been collected by someone else and which already have been passed through the statistical process. The secondary data has been collected from the company records, journals and various websites.

• Data collection method- Primary and secondary data

TOOLS USED
• Percentage analysis
• Weighted average method
• Chi square test
• ANOVA

ANALYSIS AND INTERPRETATION
WEIGHTED AVERAGE

Table showing the important Factors considered in Emotional Intelligence

<table>
<thead>
<tr>
<th>FACTORS</th>
<th>SA</th>
<th>A</th>
<th>N</th>
<th>D</th>
<th>SD</th>
<th>TOTAL SCORE</th>
<th>AVERAGE SCORE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-awareness</td>
<td>94</td>
<td>63</td>
<td>37</td>
<td>5</td>
<td>1</td>
<td>844</td>
<td>4.22</td>
</tr>
<tr>
<td>Self-regulation</td>
<td>89</td>
<td>76</td>
<td>29</td>
<td>3</td>
<td>3</td>
<td>845</td>
<td>4.225</td>
</tr>
<tr>
<td>Self-motivation</td>
<td>63</td>
<td>86</td>
<td>33</td>
<td>12</td>
<td>6</td>
<td>788</td>
<td>3.94</td>
</tr>
<tr>
<td>Social awareness</td>
<td>89</td>
<td>41</td>
<td>36</td>
<td>14</td>
<td>10</td>
<td>755</td>
<td>3.775</td>
</tr>
<tr>
<td>Social skills</td>
<td>77</td>
<td>54</td>
<td>58</td>
<td>9</td>
<td>2</td>
<td>795</td>
<td>3.975</td>
</tr>
</tbody>
</table>

INTERPRETATION
It is interpreted that among the factors of Emotional Intelligence Self-Regulation scores the highest average score of 4.225, Self-Awareness with 4.22, Social Skills with 3.975, Self-Motivation with 3.94, Social Awareness with 3.775.

CHI SQUARE TEST
Handling pressure based on experience
Null hypothesis (H0): There is no significant difference in handling pressure based on gender

Alternative hypothesis (H1): There is significant difference in handling pressure based on gender

<table>
<thead>
<tr>
<th>Opinion Gender</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly disagree</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>24</td>
<td>13</td>
<td>31</td>
<td>8</td>
<td>0</td>
<td>76</td>
</tr>
<tr>
<td>Female</td>
<td>10</td>
<td>85</td>
<td>24</td>
<td>3</td>
<td>2</td>
<td>124</td>
</tr>
<tr>
<td>Total</td>
<td>34</td>
<td>98</td>
<td>55</td>
<td>11</td>
<td>2</td>
<td>200</td>
</tr>
</tbody>
</table>

Output

<table>
<thead>
<tr>
<th>Chi-square</th>
<th>Degree of freedom</th>
<th>Asymp.fig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>11.520</td>
<td>4</td>
</tr>
<tr>
<td>Opinion</td>
<td>147.750</td>
<td>4</td>
</tr>
</tbody>
</table>

P value is < .05

Therefore hypothesis is rejected. There is difference in handling pressure based on gender

INFERENCE
The level of managing disruptive emotions and impulses differs between male and female respondents at work place

PERCENTAGE ANALYSIS

Table showing the Barriers to Emotional Intelligence

<table>
<thead>
<tr>
<th>Important barriers</th>
<th>No of respondents</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stress</td>
<td>104</td>
<td>52</td>
</tr>
<tr>
<td>Fear</td>
<td>78</td>
<td>39</td>
</tr>
</tbody>
</table>
There is significant relation between building bonds among work associates and their age.

**Null hypothesis (H0):** There is no significant relation between building bonds among work associates and their age.

**Alternative hypothesis (H1):** There is significant relation between building bonds among work associates and their age.

<table>
<thead>
<tr>
<th>Opinion Age</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Strongly disagree</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-30</td>
<td>64</td>
<td>23</td>
<td>14</td>
<td>6</td>
<td>117</td>
</tr>
<tr>
<td>31-40</td>
<td>33</td>
<td>29</td>
<td>5</td>
<td>5</td>
<td>72</td>
</tr>
<tr>
<td>41-50</td>
<td>5</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>51 and above</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>104</td>
<td>55</td>
<td>22</td>
<td>12</td>
<td>200</td>
</tr>
</tbody>
</table>

**OUTPUT**

<table>
<thead>
<tr>
<th>Sum of Squares</th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>19938.716</td>
<td></td>
<td>6646.239</td>
<td>15.450</td>
</tr>
<tr>
<td>Within Groups</td>
<td>90768.233</td>
<td>211</td>
<td>430.181</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>110706.949</td>
<td>214</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

P value is < .05. Therefore hypothesis is rejected. There is significant relation between building bonds among work associates and their age.

**GENERAL FINDINGS**

- Individuals who are having lower level of EI should work to improve this and it can result in understanding better emotions and managing them and it will be helpful in workplace and as a result the performance of an individual will be increased.
- Hence, it is the responsibility of the management to look after the total well being of the individual staff. A happy staff is an asset to the industry. He turns out more work.

**SUGGESTION**

- The company can focus on training to the employees about Social Awareness as it is the least scorer among the factors considered important in Emotional Intelligence.
- Training shall be given to the employees to Handle Pressure as it is a major factor as agreed by the respondents with an average score of 3.75 out of 5.
- Stress releasing techniques can be undertaken by the company as it is the major barrier of Emotional Intelligence as agreed by 52% of the respondents.
- Employees have to improve their level of Commitment as it scores the least among all the factors considered.
- Employers should time to time check the level of EI to provide feedback and get better performance out of them. Because when there is an effective communication between the two sides better will be the results for both the parties hence increased productivity and performance.
- The Organization should give training to employees to improve their EI, because EI can be learned at any age and at any time in life, it is not an inborn characteristic.
- If the company uses EI, it will remain successful in the future, because the workforce will be emotionally more stable and can handle under every situation.
- Organizations earlier used to give tangible benefits to the employees. These days they are looking for fulfillment of their emotional needs and expect the Organizations to take care of their emotional needs and behave empathetically by paying attention towards their Emotional Intelligence.
- The Organizations tend to choose those employees who are having a high level of emotional intelligence. Because these people are more emotionally balanced and they have a better understanding of every situation and they can perform very well in these situations weather it is stress, happiness, anger, love etc.
REFERENCES

Pollution of a water body. The 96 h LC50 tests are conducted thus they play a major role in understanding different types of quickly against the changes in the aquatic environment and the fishes act as a bio-indicator because they respond very deleterious effects for inhabiting aquatic organisms. Livingstone (2001), the injuries of pesticides to aquatic environments are incontestable and the significant increase of this chemical discharge in the water bodies from surrounding area has led to LC50 tests are conducted to measure the susceptibility and survival potentials of organisms to toxic substances.

MATERIALS AND METHODS

Test chemical: Technical grade Chlorpyrifos (20% EC) [IUPAC name: 0,0-diethyl 0–3,5,6–trichloro–2–pyridylphosphoro-thioate] with trade name PYRIPEX (manufactured by – SAFEX chemicals, INDIA ltd.) was purchased from local market.

Test organism: Heteropneustes fossilis Bloch is one of the most important species of freshwater catfish cultured in India. The fishes were collected from local market for experiments. The average length and average weight of the fishes (both sexes) were 9.2±1.5 cm and 12.4±2.0 g respectively. For determination of LC50 value, following 9 chlorpyrifos concentrations 0.5, 0.75, 1.00, 1.50, 2.00, 2.50, 3.00, 3.50, 4.00 mg/l and a control were taken. A set of 30 acclimatized fishes were chosen randomly for toxicity determination and mortality rate was determined at the end of 24, 48, 72 and 96 h. According to Probit analysis (1971), LC50 of Chlorpyrifos 20% EC to Heteropneustes fossilis for 96 h of exposure was determined as 1.776 mg/l with lower and upper confidential limits (95%) as 1.583 mg/l and 1.977 mg/l respectively.

RESULTS AND DISCUSSION

The mortality rate was determined at the end of 24, 48, 72 and 96 h. In this study the acute toxic effect of chlorpyrifos 20% EC on Heteropneustes fossilis was determined by the use of Finney’s probit analysis (1971). Confidential limits (upper and lower) were calculated and also used SPSS, version 17.0 for LC50 value of chlorpyrifos 20% EC with the help of Probit analysis.

The physico-chemical characteristics of water were determined by standard methods of APHA (1995) and Trivedi and Goel (1984). The water temperature of different experimental tanks was ranged from 27.91 to 28.90 ºC; the pH of water ranged between 6.90 and 7.72; the dissolved oxygen values varied from 27.91 to 28.90 ºC; the pH of water ranged between 6.90 and 7.72; the dissolved oxygen values varied from 3.81 to 3.97 mg/l and that of alkalinity from 77.40 to 3.97 mg/l.

The relation between the organophosphate pesticide (Chlorpyrifos) concentration and mortality rate of the fresh water catfish Heteropneustes fossilis according to SPSS analysis were shown in the table 1. The results indicated different mortality rate of fishes which increased with the corresponding increase in concentration of Chlorpyrifos. The mortality in control treatment and 0.50 mg/l concentration of Chlorpyrifos were virtually absent.

According to Probit analysis by Finney (1971), the median lethal concentration (LC50) of Chlorpyrifos 20% EC to Heteropneustes fossilis for 96 h of exposure was calculated as 1.776 mg/l. The lower and upper lethal confidence limits (95%) for chlorpyrifos indicate a range of 1.583 mg/l to 1.977 mg/l within which the concentration response for 96 h exposure (Table 2). So it is concluded that higher percentage of mortal-
Susceptibility of *Heteropneustes fossilis* to the different dose of Chlorpyrifos was duration and concentration dependent as mortality increased with an increase in its concentration. Almost same result was observed by Srivastav et al., (2012) while experimenting the morpho-toxicology of Chlorpyrifos to a freshwater catfish, *Heteropneustes fossilis*. The results of this study may help to understand the acute toxicity of the pesticide in the field and may works as early warning indicators of pesticide toxicity in the freshwater catfish, *Heteropneustes fossilis*.

![Figure 1: Percentage mortality of *H. fossilis* at 96 hrs. of exposure of different concentrations of chlorpyrifos.](image)

<table>
<thead>
<tr>
<th>Concentration (mg/l)</th>
<th>Number of fishes</th>
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<th>Expected responses</th>
<th>Residual</th>
<th>Probability</th>
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**REFERENCES**

Growth of Poliomyelitis Research Literature During 1999 to 2014: A Scientometric study

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Purpose: The purpose of this paper is to find out the growth of poliomyelitis literature. While very few number of Scientometric studies in the poliomyelitis literature. This is to understand information motives and needs, as well as obstacles in the Scientometrics study of Poliomyelitis literature.

Methodology: Statistical tools such as frequency distribution and percentage analysis and Bibliometric techniques such as Relative Growth Rate (RGR), Doubling time (Dt), were used for the study.

Findings: An average RGR of articles Rt(P) increased gradually from 0.68 to 2.32. Correspondingly, the values of Doubling time of the publication of articles Dt[P] increased gradually from 2000 (1.35 years) to 2014 (2.12 years). It indicates that the mean relative growth of poliomyelitis literature has an increasing trend may be due to interdisciplinary and multidisciplinary nature of research and the communication pattern of medical researcher.

ABSTRACT

Introduction
Poliomyelitis frequently called polio or infantile paralysis is an infectious disease caused by the exploded virus called poliovirus. Around 90 to 95% of infections indicated there is no symptoms. (http://www.cdc.gov/vaccines/pubs/pinkbook/downloads/polio.pdf) Whereas remaining 5 to 10% of people have minor symptoms like fever, headache, vomiting, diarrhoea, neck stiffness and pains in the arms and legs. (http://www.who.int/mediacentre/factsheets/fs114/en/). In 0.5% of cases there has been suffered by muscle weakness resulting in struggling to move. It is usually occur over a few hours to few days.

In 1789, Poliomyelitis disease was first recognized as a distinct condition by Michael Underwood and described a weakness of the lower extremity in children that was identifiable as poliomyelitis in England. In 1908, Karl Landsteiner researched and identified the virus that causes for Poliomyelitis.

In 1952, Polio has been dramatically increased in the United States and reported more than 21,000 paralytic cases. Finally in 1979, wild-virus polio acquired entire United States.

Worldwide polio eradication may be achieved within the next decade as well as WHO has improving their medicine service to the world wide. (cdc.gov)

Scientometrics is investigates quantitative aspects of science (MariDavis, 2001). Scientometrics is the older field of bibliometrics and the new areas of Cybermetrics and Webometrics (Jesubright, 2014) techniques used to analyze various quantitative or qualitative aspects of a publication. It is a scientific field that studies the evolution of science through some quantitative measures of scientific information, as the number of scientific articles published in a given period of time, their citation impact, etc. (Rajendran, 2011).

Objectives
1. To find out the rate of growth of poliomyelitis literature by calculating relative growth rates and doubling time for publications.
2. To fit both modified exponential curve and logistic curve for the original publications data studying actual growth pattern.

Methodology
The study focused on the Scientometrics analysis of research publications in Poliomyelitis. The data collected from the Science direct database and the research term used was ‘Poliomyelitis’. A total number of articles of 9250 records were identified in the field of Poliomyelitis worldwide during the period 1999-2014.

Microsoft Excel software was used to classify the collected data and the classified data were analysed. Statistical tools such as frequency distribution and percentage analysis and Bibliometric techniques such as Relative Growth Rate (RGR), Doubling time (Dt), were used for the study.

Statistical Method
To investigate the nature of growth of articles, exponential, linear and logistic were tested. The exponential growth is defined as

\[ F(t) = a e^{bt} \]

Where

\[ a \] = the initial size of literature i.e. at time t=0 and b, the continuous growth rate is related to the percentage by which the size increases each year.

The logistic has a lower limit and an upper limit or a ceiling beyond which the size cannot grow and can be represented mathematically as

\[ U = \frac{K}{1 + e^{-\mu t}} \]

Where,

\[ U \] = expected size of literature

KEYWORDS
Scientometrics; Relative Growth Rate; poliomyelitis; exponential trend.
K and $\mu$ = constants and $t$ = time.

Similarly, the linear growth is represented as

$$ U_e = a + bt $$

Relative Growth Rate (RGR) and Doubling Time (DT) had been applied. RGR means the increase in the number of articles per unit of time. The mean RGR of articles over the specific period of interval is represented as

$$ R_t(P) = \frac{1}{t} \left[ \log_e p(t) - \log_e p(0) \right] $$

$R_t$ = Relative Growth Rate of articles over the specific period of time.

$$ \log_e p(0) = \text{Logarithm of initial number of articles} $$

$$ \log_e p(t) = \text{Logarithm of final number of articles} $$

Similarly, RGR of subject's articles has increased in number of articles per unit of time. The mean RGR of subject articles $R_t(SA)$ over the period the specific period of time is determined as

$$ R_t(SA) = \frac{1}{t} \left[ \log_e p(t) - \log_e p(0) \right] $$

$R_t(SA)$ = Relative Growth Rate of articles over the specific period of time.

Doubling Time $D_t$ has been calculated using the following formula:

$$ D_t = \frac{0.693}{R} $$

$D_t$ (Doubling Time) is directly related to RGR and is defined as the time required for the articles to become double of the existing amount. If the number of articles in subject doubles during a given period, then the difference between logarithms of number at the beginning and at the end of this period must be the logarithm of the number 2. We used Napier logarithm and the taken value of $\log_e 2$ is 0.693. Hence, as per this (0.693) and an average growth rate we calculated by what time interval does the Napier logarithm of numbers increase by 0.693. So the Doubling time is calculated as

$$ D_t(SA) = \frac{\log_e 2}{R_t(SA)} = \frac{0.693}{R_t(SA)} $$

Here, $D_t(SA)$ = average doubling time of subject articles

### Table 1: Relative Growth-rate (RGR) and doubling time (DT) of articles in Poliomyelitis Literature 1999-2014

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of Articles</th>
<th>Cumulative No.of Articles</th>
<th>$\log_e 1p$</th>
<th>$\log_e 2p$</th>
<th>$R_t(P)$</th>
<th>Mean $R_t(P)$</th>
<th>$D_t(P)$</th>
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$R^2$(Linear trend for no. of articles ) = 0.907

$R^2$(Exponential trend for no. of articles ) = 0.887

$R^2$(Exponential trend for cumulative no. of articles ) = 0.931

Relative Growth Rate

As the table 1 clearly indicates, the value of an average RGR of articles $R_t(P)$ increased gradually from 0.68 to 2.32. Correspondingly, the values of Doubling time of the publication of articles $D_t(P)$ increased gradually from 2000 (1.35 years) to 2014 (2.12 years). The mean relative growth $R_t(P)$ for the first 8 years (from 1999 to 2005) indicates a growth rate of 1.88, where as for the last 8 years from (2006 to 2014) it was increased to 2.12. The linear and exponential growth trend is fitted to number of articles for the year 1999 to 2014. The table 1 and Fig. 1, 2 and 3 reveals that the $R^2$ value for the exponential trend (0.886) is less than that of linear trend (0.907), this indicates that the exponential trend is more suitably fitted as compare to linear trend. Further the exponential
trend is fitted to cumulative number of articles from 1999 to 2014. The R² value for this trend is 0.931, this shows 93.1% variation observed from the cumulative number of articles.

Furthermore, mean Doubling time $D[P]$ for the first eight years was 2.37 and it increased to 4.24 in the last eight years, i.e., from 2006 to 2014. It shows that the mean relative growth of poliomyelitis literature has an increasing trend. It may be due to interdisciplinary and multidisciplinary nature of research and the communication pattern of medical researcher.

Figure: 1- Linear trend in No. of Articles

![Linear trend in No. of Articles](image)

Figure: 2- Exponential growth of no. of Articles

![Exponential growth of no. of Articles](image)

Figure: 3- Exponential growth of Cumulative no. of Articles

![Exponential growth of Cumulative no. of Articles](image)

Conclusion

Many research papers have tried to estimate the growth of knowledge in various ways. It appears that, for the “growth of knowledge” subfield, the time is an absolute yardstick to measure the rate of its growth and critical assessments of the amount of new knowledge contributed by these publications so that valid measures of knowledge growth may be obtained. The year wise analysis of the growth of articles output as shows that growth was peer in the year 1999 to 2014 and then there is a gradually increase in the output during the year 1999 to 2006 and 2007 to 2014. The high productivity during these years may be due to their significance in Poliomyelitis literature having got prominence in Research. Another reason may be availability of good infrastructure facilities in the Research centres.

REFERENCES

Results of Proximal Femoral Nail in Intertrochanteric Fracture in Elderly Patients

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INTRODUCTION –

Intertrochanteric fractures are the most common injuries around the hip joint in the elderly patients [1]. These fractures are big challenge for the orthopaedic surgeons because of inherent problems of high complication rates, when treated either conservatively or operatively. The conservative treatment of these patients leads to complications like malunion and unwanted side effects of prolong recumbency. On the other hand, the surgical treatment of intertrochanteric fractures in elderly patients not only leads to prolong anaesthetic complications, but other surgical problems also like long exposure, blood loss, risk of infections and very frequently implant failure [2]. The problems of surgical treatment are further enhanced by the presence of osteoporosis in these elderly patients, since the fixation of proximal fragment depends entirely on cancellous bone present [3]. The goal of treatment of intertrochanteric fracture in elderly patient is to restore the patient to pre trauma status with minimum medical and surgical risk. This could only be possible by internal fixation of intertrochanteric fractures in the elderly patients. Various authors have used different implants for internal fixation of intertrochanteric fractures in elderly patients and have reported their advantages and disadvantages [4]. This study has been done to find out the results of proximal femoral nail fixation of intertrochanteric fractures in elderly patients suffering from multiple problems.

Material and methods

The study has been carried out at a tertiary referral centre, where we predominantly get old critically high risk patients with complicated fractures. The study was conducted on fortyeight elderly patients with intertrochanteric fractures who were referred to us over the period of three years between January 2010 to December 2012. All the patients were diagnosed outside as a case of post traumatic intertrochanteric fracture femur and received the primary care and firstaid. They were referred to us after being found to have associated comorbidity in the form of hypertension, diabetes mellitus, past history of myocardial infarct, bronchial asthma, low cardiac ejection fraction in echocardiography finding, low oxygen saturation level, or even severe osteoporosis.

On admission patients were evaluated by team of physicians

KEYWORDS

Proximal femoral nail, intertrochanteric fracture
and anaesthesiologists. After taking high risk consent, patients were operated for close reduction of intertrochanteric fractures and internal fixation with proximal femoral nail under GA or spinal anaesthesia at earliest possible, which ever best suited to the patient.

Fractures were classified as per AO classification [5]. Close reduction was done on fracture table and reduction was checked under image intensifier. Guide wire was inserted through the tip of greater trochanter after making approximately 2 cm incision just proximal to it. In most of the patients guide wire could be introduced through trochanteric opening, otherwise entry was made with the help of bone awl. Proximal femoral nail was passed into medullary cavity after adequate reaming. The cervical screws were inserted with the help of zig under guidance of image intensifier. The distal cervical screw was inserted first into inferior portion of the neck followed by proximal cervical screw. By inserting the distal cervical screw first, adequate nail length and place for proximal cervical screw can be easily adjusted [6]. The distal interlocking screws were also inserted with the help of zig. Post operatively patients were mandatorily kept in intensive care unit for twenty-four hours and stay was extended depending upon post operative condition of patients. Sitting on bed and quadriceps exercises were started from 2nd post operative day while non weight bearing walking was started from 5-6th day depending on general condition of patients.

Patients were discharged from 12 to 14th day after removal of stitches. Initial follow up was done at the interval of one month for six months and then depending on requirement. Results were evaluated on the basis of post operative general condition of patients, ability to perform exercises and walk with support, duration of bony union, and overall outcome. was assessed with the help of Harris Hip scoring system [7].

**Observation-**

With the time span of three years between Jan 2012 to Dec 2014, total forty eight patients were operated for proximal femoral nailing in intertrochanteric fracture. In the post operative period two patients expired during the hospital stay, two patients expired within one month of surgery, while four patients expired within three months after surgery. Thus in final study forty patients were included.

Average age of patients was 74.4 yrs with minimum age being 65 yrs and maximum being 86 yrs. There were thirty eight (38) female and twelve (12) male patients.

Mechanism of injury was fall on floor at home in thirty-six (36) patients and road traffic accident in four (4) patients.

Ten (10) patients were operated within five (5) days of admission, twenty eight (28) patients were operated within ten (10) days of admission after getting management of associated co-morbidities. Two (2) patients took more than fifteen (15) days for management and were operated after that. In all the patients permission from the hospital ethical committee was taken after getting high risk consent from patient's attendants.

As per AO classification of intertrochanteric fracture of femur, fifteen (15) were 31A1 type, twenty (20) cases were 31A2 type and rest of five (5) cases were 31A3 type.

In thirty eight (38) cases close reduction of the fracture was achieved. Two (2) cases of 31A3 type required minimal opening of fracture site for achieving the reduction.

Five (5) cases closed reduction required manipulation by Schanz pins inserted into the lateral cortex of both proximal and distal fragments.

Average duration of surgery was seventy four (74) minutes with minimum being forty-five (45) minutes and maximum duration being hundred and thirty (130) minutes. 10 mm x 24 cm proximal femoral nail with cervical screws at 135 degree from standard ISO 9002 certified Indian company was used in all patients.

**Results-**

Despite associated co-morbidities all the elderly patients in our series were able to sit, hanging the legs by the side of bed and were able to do quadriceps exercises within 2-3 days of surgery. This must have protected them from developing complications of prolonged bed ridden condition. Fourteen (14) patients who had Grade 2 bed sore at the time of admission had rapid healing of bed sore and none of rest of the patients developed till last follow up. Early sitting perhaps also helped to improve respiratory as well as cardiac conditions of these patients. This could be attributed to the surgical technique which is minimally invasive and less time consuming. Twenty-four (24) patients were able to walk non weight bearing during the hospital stay, while sixteen (16) patients could not do due to their associated co-morbidities. However ten (10) of these patients were able to walk non weight bearing during first follow up after interval of one month. Rest of six (6) patients were able to stand with support or move on wheel chair but were not able to walk due to poor general condition.

Partial weight bearing was allowed during second month follow up in all the patients who were able to walk. All the patients were able to walk with or without support full weight bearing after the radiological evidence of union at fracture site. Radiological evidence of union at fracture site was seen during third month follow up in twenty-seven (27) patients and during fourth month follow up remaining thirteen (13) patients. Thus average duration of union was calculated to be 3.3 months.

Full range of movements at knee were present in thirty two (32) patients at four month follow up. Restriction of knee movement in rest of patients were due to associated osteo-
arthritis.

Acceptable range of movement for flexion and abduction were present at hip in all patients at four month follow up.

Complications were seen in seven (7) patients in the form of superficial infection in two (2) patients which responded to IV and prolonged oral antibiotics, shortening in affected limb more than two centimeter in four (4) patients and one (1) patient developed deep vein thrombosis which was treated by low molecular weight heparin.

Harriss hip scoring was done at the fifth and sixth month follow up. On the basis of over all Harriss hip scoring, twelve(12) patients had excellent results, twenty four (24) had good result, and two (2) each had fair and poor results.

Discussion –
It has been known for over a century that some fractures are more common in elderly than younger people [8]. Various studies in Scotland, England , Sweden  and Singapore have shown that there are increasing trends of intertrochanteric fractures in elderly patients.

The intertrochanteric fracture are themselves a big challenge to manage because of large number of complications. To add upon, these fractures are further complicated when occur in elderly patients because of associated co-morbidities.

Proximal femoral nailing can be one of the solution to decrease these complications as it is minimally invasive, less time consuming thus reducing complications of anaesthesia as well as surgery.

From a biomechanical point of view, a combind intramedullary device inserted via semi closed procedure should be preferred.

The additional antirotation cervical screw prevent rotation and collapse of head neck fragment and an specially shaped tip together with a smaller distal shaft diameter results in less stress concentration at the tip. Thus biologically suited implant result in earliest possible mobilization and weight bearing. Thus by using proximal femoral nail for fixation of intertrochanteric fracture in elderly patients , they can be mobilized earlier to prevent complications of prolonged bed ridden condition.

Our study also indicates that minimally invasive and biologically stable fixation of intertrochanteric fracture of femur in elderly patients can help in decreasing mortality and morbidity in these patients.

Though our series is small and needs long follow up but shell it may be suggested that proximal femoral nail is better option for internal fixation of intertrochanteric fractures specily in elderly patients, also need less invasive maximally stable fixation for earliest rehabilitation.

<table>
<thead>
<tr>
<th>FRACTURE PATTERN ACCORDING TO AO CLASSIFICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>FRACTURE TYPE</td>
</tr>
<tr>
<td>-----------------</td>
</tr>
<tr>
<td>31A1</td>
</tr>
<tr>
<td>31A2</td>
</tr>
<tr>
<td>31A3</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

According to Null hypothesis (P>0.05)not significant .so sex ratio has no relation with fracture type .

<table>
<thead>
<tr>
<th>ASSOCIATED CO-MORBIDITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO-MORBIDITY</td>
</tr>
<tr>
<td>---------------</td>
</tr>
<tr>
<td>DIABETES</td>
</tr>
<tr>
<td>CARDIAC</td>
</tr>
<tr>
<td>BRONCHIAL ASTHMA</td>
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<tr>
<td>NORMAL</td>
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<table>
<thead>
<tr>
<th>COMPLICATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUPERFICIAL INFECTION</td>
</tr>
<tr>
<td>SHORTENING OF LOWER LIMB &gt; 2 cm</td>
</tr>
<tr>
<td>DEEP VEIN THROMBOSIS</td>
</tr>
</tbody>
</table>

Results- According to HARRIS hip scoring system

<table>
<thead>
<tr>
<th>RESULTS</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXCELLENT</td>
<td>12 (30% )</td>
</tr>
<tr>
<td>GOOD</td>
<td>24 (60% )</td>
</tr>
<tr>
<td>FAIR</td>
<td>2 (5% )</td>
</tr>
<tr>
<td>POOR</td>
<td>2 (5% )</td>
</tr>
<tr>
<td>TOTAL</td>
<td>40 (100% )</td>
</tr>
</tbody>
</table>

P> 0.05, So there is no significant difference in results in term of sex .

REFERENCES


The Entity’s Policy of Sales Facing the Challenges of the Environment

Prof. Alexandru Trifu  Ph. D. University “Petre Andrei” of Iasi

Lect. Ina Croitoru  Ph. D. University “Petre Andrei” of Iasi

The motivation of the establishment, organization and functioning of a firm (company, enterprise) is given by, or is the result of the demand of products and/or services on a specified market. This situation is determining its profile and the conditions under which this entity is going to act (to produce).

The commercial function of the firm (enterprise) includes as a basic sub-function the sales action (activity). The passing of products and/or services from supplier to the consumers (customers), through the logistics, is very important to the satisfaction of needs. But, determining is the fact whether the distribution logistics is direct or through various intermediates or links.

The paper analyzes a Romanian firm’s case on production and its sales segment, whose activity is deployed under endogenous constraints and also under the challenges of the economic and financial crisis and globalization phenomenon in Romania and in the world, started since 2008.

KEYWORDS  firm, sales, profit, environment

1. GENERAL REMARKS
The economic crisis is one of the most debated topics in the economic newspapers and journals and represents the main exogenous influence over the activity (especially the sales) of a firm.

The related studies have shown that the fields which were most affected by the crisis were the wholesales, the retail sales and the constructions which, otherwise, are the most exposed to bankruptcies.

The direct impact of the economic crisis is the decline in supply and sales implicitly, caused by the decline in the population’s purchase power. Also, another way to deal with the economic situation is to decrease the supplies of the luxury category and the introduction in consume of new product ranges at more affordable prices.

2. CONTENT AND OBJECTIVES OF SALES POLICY
The sales of goods policy is the main component of the economic policy in trade because, ultimately, it will result in the estimated yielded revenue, revenue underlying the realization of all economic and financial objectives.

We consider that, in fact, the major goal of a productive entity, or services’ provider, is to create a client, to create the need for purchase that good or service. This is the credo of Rene Ulrich and after that, of course, the goal of firms, enterprises, companies is to gain profit in order to resist on the market and to continue the process of production or providing services.

Some authors consider that the output of products (the sale process) has to be in the downstream of production, in straight interconnection with the beneficiaries and within a so-called holistic concept POM (Patrimony-Organization-Management).

Therefore, all the firm’s functions and sub-functions are included in the general system of existence, of management, of know how and of the profit gaining (by selling the products and/or services). Philip Kotler has underlined the importance of this firm’s functions system within Microeconomics, in the same way that can find these ideas in general overview in the substance of the Microeconomics.

In an analysis that we wish to briefly present, the policies for selling goods must begin with their objectives, targeting the vendor of goods and which refer to the overall economy (at a macroeconomic level) and to each economic operator in particular (at a microeconomic level).

The macroeconomic policy of selling goods is imposed by the very high importance role that commerce displays nowadays in the development of the national economy. Such a policy is conducted by the state through the government and the central bodies of state administration, primarily materialized in the creation of the legal and institutional framework necessary for carrying out trade and then in pursuing common goals of great importance mainly concerning insuring the internal market balance, boosting growth in the domestic industrial and agricultural production, widening the external economic relations, consumer protection and the promotion of trade urbanism.

On a microeconomic level, on the level of each economic operator, which interests us, the sales policy objectives circumscribe their freedom to act on what they want to achieve and the priorities pursued in their work.

The economic operators concentrate their efforts to achieve three main objectives in terms of sales policy: the growth in sales and market share, modernization of the technical and material base and profit maximization. To these goals others are added that consider the strategy to follow in order to achieve the adopted policy:

a) The increase in sales volume and market share of the company is the main objective, since, ultimately is efficiency depends on it. Such an increase can be achieved, on the other hand, by enlarging its own market and on the other by attracting new market segments to its competitors thus increasing its market share and the company concerned.

The assortment policy, tight included in the general sales policy, is defined by a series of criteria that form it and that ultimately lead to an increase in exports:

- The assortment positioning, namely its structuring compared to that of competitors, aiming to complete it;
- Strengthening the assortment by introducing of new products in the existing assortment to complement the product range so that the commercial areas can be efficiently used. The assortment strengthening also implies the introduction of complementary products such actions seeking the market domination to a certain group of goods and, ultimately, increasing profit;
- The assortment upgrading by removing what is obsolete;
- The assortment differentiation of different reasons: either to meet the demand of various segments of purchasers, or to strengthen the company’s image by selecting products that become attractive for consumer categories with higher incomes;

b) The modernization of technical and material conditions decisively the increase of sales and it means the renewal proceeding of the commercial network to meet the consumer demands. Such an objective entails several aspects, all of high importance in this area.

c) The increase in profit is directly determined by the company policy regarding the evolution of revenues and expenditures compared to the evolution of exports.

Speaking about the production process within an entity, in fact the value chain obtaining the outputs, relevant is considered the vision of Michael E. Porter, an outstanding theoretician and practitioner in management.

Briefly, the system conceived by Porter, has the following form:

Inbound Logistics → Operations → Outbound Logistics → Marketing & Sales → Services

This value chain is considered the Primary Activities, activities which are determining the financial results of the firm and support all the facts and items presented above.

Inbound logistics mean the relationships with the suppliers, generally speaking with inputs;
Operations imply the production process;
Outbound logistics include the storage of products and the distribution;
Marketing & Sales (our underline) regard the buyers/customers (consumers) information, their persuasiveness to purchase and the facilitation of the purchase;

Therefore, services include all operations necessary to maintain the product or service working, in the guarantee period, after the units of products considered were sold to the customers.

3. STUDY CASE-DOLCE LIDER LTD. SALES ACTIVITY

Funded in 2011, Dolce Lider (the Romanian term of Leader) Ltd. is a Romanian pastry confectionery company who succeeded to develop during the period of crisis, due to the entrepreneur’s talent, the use of an applied SWOT analysis and benefit the opportunity of supplying the most anniversary events- a market segment developing in Romania after 2000 and mostly after 2007 in Bistrița, in the region of North Transylvania.

With a relatively small investment at the beginning, the firm succeeded to benefit after the second year of activity, mainly as a result of increasing sales and developing new products for a more and more increasing market segment (marriages, communions, private parties) simultaneously with the production of the traditional pastry.

In order to sale its products, Dolce Lider Ltd uses the direct sales both for:
- the retailing - through its own stores, this kind of selling representing an important percentage due to the fact it can be used for selling any kind of merchandise/products and offers the possibility to use any method in achieving the sales goals, in this case the seller playing an even more important role than the product;
- the wholesales - this time appealing to professional salespersons who deliver the merchandise directly to the consumers, in which case the salesman plays the same key role.

Dolce Lider Ltd takes into account that the role of promotion is to supply the information needed to educate the other players on the market, to stimulate the demand, to develop new products... The main objective of the marketing manager of Dolce Lider is to design the promotional communication, like advertisement for example, adapted to the specific group of consumers, the clients of the stores (small quantities, frequent consumers) and the large groups such as companies or events organizers (big quantities, periodical consumers) respectively, allotting a certain budget for a giver period of time (tab.1).

<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
<th>Week</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Notes payable</td>
<td>60</td>
</tr>
<tr>
<td>2.</td>
<td>Salaries payable</td>
<td>120</td>
</tr>
<tr>
<td>3.</td>
<td>Promotion expenses</td>
<td>100</td>
</tr>
<tr>
<td>4.</td>
<td>Externalized services</td>
<td>60</td>
</tr>
<tr>
<td>5.</td>
<td>Other expenditures</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td>Total current liabilities</td>
<td>400</td>
</tr>
</tbody>
</table>

Source: internal data of the company

Table 1. Example of marketing budget for 8 weeks.
The budget is done to sustain the entire promotion mix, this one consisting of:

1. advertising component- by communicating non-personal messages to a selected audience, thus reaching either a large target group or a carefully chosen market segment; the implementation of this type of promotion is done through media: local press, radio, television.
2. personal selling - aimed to keep the customers informed;
3. sales promotion - using products as direct inducement to customers or salespersons, adding extra-value to the product or increasing the customer's incentive to buy the product;

Dolce Lider Ltd. produces many types of products and aims to establish the price in order to maximize the sales and profit per the entire products portfolio. The manager knows that sometimes products with smaller price, even if they don’t bring the expected profit, they are supplied on the market to complete the product portfolio and create the special image for the rest of the products.

CONCLUSIONS AND RESULTS
There are two major aspects of Dolce Lider Ltd’s activity that can be improved.

First, given the fact that the number of clients has increased from year to year and new products are developing. In this respect, one suggests the following steps:

1. A careful assessment of target market’s evaluation of price and of the ability to purchase;
2. The continuous determination of demand;
3. The demand/cost/profit relationships analysis;
4. The evaluation of the competitors’ prices, given the fact that this is a developing field, and lately, in Romania, the telemarketing boosted the firm’s possibilities to sell products via Internet faster and more safe;
5. The selection of a correct pricing policy and specific price for every type of product.

Second, the firm should reconsider the wholesales and the promotion activity in this respect:

- Sampling - may be offered by direct mailing, especially for the new products to penetrate the market;
- Premium or trading stamps - for the loyal customers that buy big quantities of products;
- Displays at the “point-of-purchase” - gives the possibility for the customer to choose and stimulates him to try other than the usual products he usually uses;
- Participation in trade-shows and exhibitions - as a wholesaler, the firm can contact new retailers for its products.

The stocks should be prepared for overcome the difficulties of supply, the hard times for the providers, the gaps in the supply entire system and, by consequence, for a smooth and optimal sales in order to enter and to resist on the specified market.

As well, the activity of the productive entity must take into account the environmental challenges: the competition, the economic and financial crisis, the political and economic constraints and regulations and to pursue the selling of goods and services required by the customers at an optimal, fair, price, influenced by the ratio quantity/quality.

Even the area in which the firm’s distribution stores are situated, allows them to have a large number of customers, most of them loyal to the firm, the sale is hampered by the existence of hypermarket units (which are everywhere now). They are “the great enemy” of this kind of shops representing SME’s, entities with a lower economic power.

REFERENCES
Research Paper

Evaluation of Counter-Terrorism Committee

Abhinav Pandya Consultant, ILO

KEYWORDS

The organization which this paper is going to analyze is the United Nations Counter-Terrorism Committee. This paper seeks to analyze the CTC in terms of its log frame, philosophical foundations of its strategic objective, organizational structure, work strategy, its performance in terms of the fulfillment of the strategic objective and finally the bottlenecks in achievement of the targets. It also seeks to provide the necessary recommendations to for the achievements of the targets as articulated in the log frame. Since the organization has no formal log frame so I have created the log frame from its objectives, modus-operandi stated in different policy statements and declarations. The paper discusses the log frame and the rationale behind it and in the end makes necessary recommendations to Counter-Terrorism Committee.

Background and Context:
The Counter-Terrorism Committee (CTC) was established by the resolution 1373(2001) which was adopted unanimously on 28th September 2001 in the wake of September, 2001 terrorist attack on United States. The committee was formed to monitor the implementation of the resolution 1373, which required U.N. member nations to create legal and institutional mechanisms to counter terrorist activity at home, in their regions and around the world. They were required to take the following steps:

a) Criminalize the financing of terrorism
b) Freeze without delay funds related to any person involved in the acts of terrorism
c) Deny all forms of financial support for terrorist groups
d) Suppress the provision of safe heavens, sustenance or support for terrorists
e) Share information with other governments on groups practicing or planning terrorist attacks
f) Cooperate with other governments in the investigation, detection, arrest, extradition and prosecution of those involved in such acts; and
g) Criminalize active and passive assistance to terrorism in domestic law and bring violators to justice

The resolution also calls on states to become parties to relevant international counter-terrorism legal instruments. In 2005 Security Council passed resolution 1624 which pertained with the incitement of terrorist acts. It asked the states to prohibit by law, deny safe heavens to anyone about whom there is credible information certifying his or her involvement in the acts of terrorism. This resolution also asked the states to continue international efforts to enhance dialogue and broaden the understanding among civilizations. The CTC has incorporated this resolution in its agenda and now it is the part of its dialogue with U.N. member countries. Mr. Mohammed Loulichki (Permanent Representative of Morocco to U.N.) assumed the chairmanship of the committee in January 2013.

Process and Structure:
Basically, CTC functions with a policy advise from CTED ( Mentioned below in detail). The following paragraphs will provide information about the working strategy, CTED, its administrative structure, priorities and key activities undertaken by it:

Working Methods:
• Country visits - at their request, to monitor progress, as well as to evaluate the nature and level of technical assistance a given country may need in order to implement resolution 1373 (2001);
• Technical Assistance - to help connect countries to available technical, financial, regulatory and legislative assistance programmes, as well as to potential donors;
• Country Reports - to provide a comprehensive snapshot of the counter-terrorism situation in each country and serve as a tool for dialogue between the Committee and Member States;
• Best Practices - to encourage countries to apply known best practices, codes and standards, taking into account their own circumstances and needs; and
• Special meetings - to develop closer ties with relevant international, regional and sub-regional organizations, and to help avoid duplication of effort and waste of resources through better coordination.

Counter-Terrorism Committee Executive Directorate:
In 2004 Security Council passed resolution 1535 and created CTC Executive Directorate (CTED) to assist the work of CTC and coordinate the process of monitoring the implementation of the resolution 1373 (2001). It includes all 15 Security Council members. It became fully operational in 2005 and its mandate was extended till 2013 by Security Council resolution S/RES/1963 (2010). It comprises 40 members half of whom are legal experts analyzing reports submitted by the states in areas such as legislative drafting, border and customs control, financing of terrorism, law enforcement, refugee and migration law, arms trafficking and maritime transportation security. CTED also has an officer for human rights matters. It has an Assessment and Technical Assistance Office (AIO). CTED also has five technical groups to disseminate the expertise on technical matters in three geographical clusters. These groups deal with the issues of arms trafficking, terrorist financing, border control, law enforcement and general legal issues including legislation, extradition, mutual legal assistance, issues raised by resolution 1624 and aspects of human rights in the context of resolution 1373.

In AIO, there is a quality control unit to keep the quality and consistency in CTED documents.

CTED is like the policy making body for CTC. It is thedefacto secretariat. Dr Mike Smith became the Executive Director of CTED. He is of the rank of Assistant Secretary General.

Priorities of the Counter-Terrorism Committee Executive Directorate:
The organizational plan of the Executive Directorate, endorsed by the Security Council identified the priorities of the Executive Directorate as follows:

(a) To ensure the collection of information for monitoring the efforts of member states in their implementation of resolu-
tion 1373 (2001), including through visits with the consent of the State concerned;
(b) To strengthen the facilitation of technical assistance aimed at increasing the capabilities of Member States in the fight against terrorism and ensuring that its provision is adjusted to the countries' needs;
(c) To enhance cooperation and coordination among international, regional and sub-regional organizations in the fight against terrorism, as well as among other United Nations bodies;
(d) To ensure consistency among all the activities of the Counter-Terrorism Committee while maintaining a tailored approach to each State Member of the United Nations and with regard to every subject under resolution 1373 (2001);
(e) To provide adequate and complete follow-up of all the Committee's decisions;
(f) To ensure the correct exchange of information at the proper level, from the Offices (Assessment and Technical Assistance Office and Information and Administrative Office), the Executive Directorate itself and between the latter and other relevant bodies of the United Nations.
(g) To participate actively in the Counter-Terrorism Implementation Task Force established to assist Member States in their implementation of the Global Strategy.

Key Activities and Tools of CTED:
In the task of advising CTC, the CTED has developed following activities and tools:
(a) Conducting dialogue with Member States on their implementation of resolutions 1373 (2001) and 1624 (2005), including through selected visits and, as appropriate, the identification of technical assistance needs;
(b) Developing the preliminary implementation assessment as the primary tool for assessing countries' implementation of resolution 1373 (2001) and drafting a total of 193 such assessments (one for each Member State, plus one for a non-member State);
(c) Preparing an annual global assessment (implementation survey), on the basis of the preliminary implementation assessments, to help the Committee identify particular gaps and general trends;
(d) Developing the website of the Counter-Terrorism Committee containing, inter alia, the technical assistance matrix and the directory of best practices;
(e) Maintaining close, collaborative and cooperative relations with other United Nations bodies working in the area of counter-terrorism, in particular the Analytical Support and Sanctions Monitoring Team of the Security Council Committee established pursuant to resolution 1267 (1999) concerning Al-Qaida and the Taliban and associated individuals and entities, the Expert Group of the Security Council Committee established pursuant to resolution 1540 (2004) concerning the non-proliferation of weapons of mass destruction, the United Nations Office on Drugs and Crime and the other members of the United Nations Counter-Terrorism Implementation Task Force.

Part 2: Purpose and Objectives of the Evaluation:

Purposes:
The purpose of the evaluation is to determine whether the Counter-Terrorism Committee achieved its intended outcomes by 2012. It is going to be a summative evaluation as it is happening after the end of the time period stated in the strategic objective. Basically, it is to assess the progress of CTC’s work on the various performance indicators until 2012 because the task of CTC is still going on and its mandate is still relevant.

This evaluation will focus on outcomes, rather than outputs as outcomes define the long-term and real success or failure achieved by the organization. By focusing on the outcomes, it will find out that whether the initiatives mentioned in the logical framework were taken by the CTC or not and if they were taken to what extent they were complied with, by the member states.

Major issues to be addressed:
The logical framework provided below enlists the objectives, outcomes, outputs, performance indicators, baseline and the data sources for the evaluation. Since the organization does not have its own logical framework so in this paper I have created the logical framework based on the reference of the study of the official documents pertaining to the CTC’s mandate, mission, activities and the minutes of the meetings. In this evaluation major emphasis will be on the impact generated by the measures taken on the outcomes. This exercise will also explore and critically analyze the causal links between the activities and final outcomes. The idea behind this is to measure the changes happening in the real world. This evaluation will also address the qualitative issues influencing the functioning of international public sector agencies like diplomatic, religious, cultural and political factors. In the functioning of international agencies the geo-political factors play a very important role so any evaluation initiative needs to take them into account to find out the true measure of the success or failure. Finally, this exercise will end up with identifying the reasons for success or failure and will give appropriate recommendations to improve the performance.

Evaluation Approach and Methodology:
1) Whether CTC provided the services or products mentioned in the output section or not and if yes then the factors which aided and which hindered will be explored.
2) Whether the countries complied with the legal, financial, political and cultural mechanisms instituted by the CTC i.e. whether the countries were supportive or not. If not, what were the reasons and if yes, what were the reasons. This is the key issue to be addressed in the evaluation plan.
3) The changes needed for streamlining the process of implementing CTC’s mandate.

Evaluation Design and Execution:
The evaluation will require following methods for acquiring information:
1) Primary Research: The evaluation will start with the basic research into the activities like number of the country visits undertaken by CTC, the status of financial, technical, regulatory and legislative assistance provided by the CTC and the status of linkages between the donor countries and recipient countries. The primary research will also include the findings about the number of special meetings held with international, regional and sub-regional organizations for achieving effective co-ordination in the counter-terrorism efforts, the status of best practices disseminated and adopted by the member states, the status of inter-faith dialogue initiatives, the number of country reports and how far they have complied with the obligations of the information asked by the CTC and implementation of the legal, financial, regulatory and legislative mechanism implemented by the member states.
2)Interviews and Surveys: The surveys and interviews will be the most important sources of information for this evaluation. Firstly the evaluation will begin with interviewing the internal stakeholders. The rationale behind interviewing the internal stakeholders is that their number is less, for instance, CTED has just 40 staff members. And interviewing them is feasible as well as very valuable for deriving substantial information for evaluation analysis. This includes interviewing the internal stakeholders like CTC staff and CTED staff. The main intention behind this will be to find out behavioral patterns and opinions of the organizational staff regarding the activities undertaken by CTC. This kind of exercise is very important for evaluation because success or failure of any initiative depends to a large extent, on the attitude and morale of the organization's staff. The interview questions will differ according to the category of staff surveyed. For instance, the researchers will be interviewed with the questions like this, 'How far the country reports satisfy the criteria established down by CTC? , being a staff member, what are the subjective and objective factors that you consider while analyzing reports in terms of least and the best compliance?' For technical assistance wing questions will pertain to the services provided by their wing and their opinion about the shortcomings and the recommendations needed. Then there will be a few general questions to assess the attitude of the staff towards the activities undertaken by CTC.

For external stakeholders, the evaluation team will conduct interviews and surveys. The external stakeholders will include member countries, international, regional, sub-regional organizations, client groups like international banks and non-profit organizations. The CTC negotiates with sovereign governments and independent organizations like regional, sub-regional and non-profits so the survey cannot be addressed to a government or an organization. However, for collecting authentic data, the evaluation team will get the list of key individuals of the countries, regional and sub-regional organizations who played a linchpin role in the negotiations with CTC. For example, in the case of non-profit organizations the organizational heads will be interviewed, in the case of governments, the diplomatic representatives will be interviewed or surveyed. The choice of deciding between the interview and survey will be based on the individual cases. For instance, if any nation, which has been accused of harboring terrorists and providing safe heavens to them, then in that case its representative will be interviewed to know the details and other responses. Those non-complying members will be interviewed. The countries which requested and did not get the technical assistance will be interviewed. If the process of compliance has been smooth with a certain region then, it will fall in the category of surveys. Those non-profits whose record has been controversial, their heads will be interviewed. This is being done to minimize the effort and expenditure as all the nations, organizations can not be interviewed (as it will require huge amounts of expenditure on travel and interviews and it is often a difficult and politically sensitive process to get access to such representatives). These interviews and surveys will be aimed at exploring the behavioral patterns of the external stakeholders. The questions will be tailored to fulfill this purpose. For example, ‘Did your country ratify the international legal conventions against terrorism?, If not, then what are the reasons for non-compliance? , Did your country implement the financial, regulatory and legislative measures specified by the CTC? , If not, then, what are the reasons for non-compliance? , Is your country satisfied with the technical and financial assistance facilitated and provided by CTC? If not, then what are the reasons for that and what can be the possible solutions? (This question will be the part of the interview, which will be done of a country representative which requested and did not get the technical assistance.)

The surveys will be distributed via the web in the case of non-profits to keep the finances within limits and in the case of member countries and organizations, official mails will also be sent because in some countries and organizations official mails sent through posts have more credibility. In the case of external surveys and interviews, political factors may come up as an hindrance so the evaluation team will have area experts (those who are familiar with the politics, society and culture of external stakeholders).

In the case of non-responsive the evaluation team will try to convince the non-responding stakeholders of the importance and purpose of the survey. It will also try to observe the patterns of similarity and differences among responders and non-responders.

3) Case Studies will be done to find out detailed impact of interventions in the respective member countries. The criteria for selecting cases will depend on the gravity of the situation. Since the agenda of CTC include non-military dimensions of terrorism like governance, socio-cultural, economic, religious and political factors so evaluation team will select the model cases as representative of these aspects in different settings. This will help the evaluation team to give sound recommendations for future activities and programs of CTC especially about the issues concerning area-specific diverse programs. For instance, in South Asia Afghanistan will be selected. It presents a classic example of feudal polity, bad governance, economic woes, poverty, religious extremism and other socio-cultural factors abetting and sustaining terrorism. In Africa, Somalia could be selected for case study because it also presents the classic example of all the above-mentioned conditions abetting and sustaining terrorism but in Somalia’s case the society, culture, politics and religious dynamics are different from Afghanistan. This exercise will give a good insight into the qualitative factors sustaining terrorism, active in different socio-political settings and the differences among them. It will be an important source of information to find out the results of technical assistance provided, status of donor-recipient linkages, assistance provided to establish regulatory frameworks. They will done through focus groups and semi-structured interviews so that the team can get information and the perceptions in detail.

4) Content Analysis: It is the cheapest, easiest and non-intrusive method of collecting information. To begin with, the evaluation team will define the process for analyzing the official and other relevant documents by drafting a codebook and then in accordance with the codebook. The evaluation team will analyze the official documents of CTC and CTED. The evaluation team will also analyze the official reports of the member–states on security, terrorist threat and financial intelligence. The team will also go through the reports of INTERPOL, regional, sub-regional and international organizations and it will also analyze the bilateral extradition treaties of the member states.

Logical Framework: Counter Terrorism Committee United Nations
Date of preparation: 3/1/2013
Date of revision: 4/3/2013
Counter Terrorism Committee

Summary Problem Statement:
Overall Objective: “To monitor and increase compliance for the implementation of resolution 1373 and 1624 from all the U.N. member states, by the end of 2012.”
<table>
<thead>
<tr>
<th>Outputs</th>
<th>Outcomes</th>
<th>Performance Indicator of Outcome</th>
<th>Data Source</th>
<th>Method of collecting data</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Encouraging the U.N. member-states to ratify all the international conventions, treaties and the laws against terrorism, including working out an effective plan of action for this which will include moral persuasion, incentives and diplomatic pressure</td>
<td>1) Improved compliance with international and legal mechanisms for counter terrorism.</td>
<td>1) Country Reports</td>
<td>1) Content Analysis</td>
<td></td>
</tr>
<tr>
<td>2) Providing technical and legal assistance for creating FIUs (Financial Intelligence Units) and freezing of funds associated with terrorist groups and individuals, including creating a rational, moral, economic, social and humanitarian argument and basis for convincing states to set-up FIUs and freeze funds of terrorist individuals and organizations.</td>
<td>2) Reduced access to financial resources by terrorist groups and individuals.</td>
<td>2) Country Reports, Surveys, Interviews. Individual reports of states on security and terrorist threat.</td>
<td>2) Content Analysis of the official documents of CTC and member -nations, Surveys, Interviews with internal and external stakeholders</td>
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<td>3) Encouraging the states to submit reports in time and allow for increased site visits by:</td>
<td>3) Increased involvement and association of U.N. member-states in and with counter-terrorism strategy, procedures and measures.</td>
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<td>4) Encouraging and enabling the states to deny safe heavens, sustenance and support to terrorist groups, arrest and detain individuals charged of involvement in terrorist activities or inciting terrorist activities by:</td>
<td>4) Reduced fear of terrorist threats, bombings and increased levels of safety felt by citizens of the U.N. member countries.</td>
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<td>5) Developing information-sharing protocols to facilitate sharing of the information between member countries about the terrorist groups, individuals and enhancing the levels of cooperation among member nations and regional organizations in the arrest, detention and extradition of such entities by organizing conferences to draft legal mechanisms for this.</td>
<td>5) Enhanced co-ordination between different member countries in the execution of counter-terrorism agenda i.e. resolution 1373 and 1624</td>
<td>5) Country Reports</td>
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<td>6) Enhanced technical assistance to developing countries and LDCs in legislative drafting, technical equipment and border control mechanisms.</td>
<td>6) Improved administrative legal and financial infrastructure in developing or L.D.Cs (Least Developed Countries)</td>
<td>6) Country Reports and interviews pertaining to the status of technical and financial assistance provided.</td>
<td>6) Content Analysis of the official documents, surveys and interviews done by the evaluation team.</td>
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The CTC was formed in 2001 for the implementation of resolution 1373 but its mandate and agenda has gone through many changes because of the different resolutions passed in the decade of 2000 like 1624 and 1535 etc. The formation of CTED brought a major change in the organizational structure of the CTC. In the wake of all these developments it is an appropriate time to define its objectives and chart its course as well as evaluate its performance so far.

The strategic objective is the ultimate condition which an individual, organization or an agency wants to see in effect at the end of a specified time period. It should be specific, measurable, achievable, time bound and relevant. The CTC is the part of U.N. global counter terrorism strategy. It is the main instrument through which this mission is to be fulfilled. But this paper is dealing with CTC as an international agency. So the strategic objective for CTC needs to be spelled categorically in terms of the purpose for which the agency has been created. Keeping these criteria in mind the ideal objective for CTC should be:

“To monitor and increase compliance for the implementation of resolution 1373 and 1624 from all the U.N. member states, by the end of 2012.”

This objective is rationally justified and it seems to be fulfilling the requirements mentioned above for the following reasons: Firstly, it has a time frame. The reason for keeping the target year as 2020 is that now CTC is clear with its mandates and tasks and it is also well equipped in terms of organizational structure after the formation of CTED. The different resolutions like 1540, 1624, 1566 have more or less clearly defined it’s purposes and tasks. In 2005 it started site visits and inspections so the scope of its authority is also clearly defined. Lastly it is now the highest repository of information about counter-terrorism capacity of U.N member states as, as early as 2004 it has 550 reports from the U.N member states about the status of their implementation of 1373 resolution and counter-terrorism capacity. Hence CTC is in the position to achieve this objective because of clear mandates, well-defined authority, huge data base and organizational resources in terms of staff and clearly defined legal frameworks.

Outcomes: Analysis
Outcomes are the changes in the behavior of the parties involved or the environment as a result of initiatives taken by an organization as a part of program of action to pursue a desired objective. They are beyond the control of the organization and are influenced by factors of the external environment. They could be various factors like the political dynamics, stakeholder interests, interests of the pressure groups etc.

Many outcomes are desired for pursuing an objective. Generally, they are confused with performance indicators or outputs which are in the nature of activities. Keeping this definition in the background this paper seeks to outline the outcomes of CTC.

1) Improved compliance with international legal mechanisms for counter terrorism.

This is an appropriate outcome for CTC, considering its objective and activities. The CTC’s objective is to monitor the implementation of resolution 1373 and in pursuance to that it becomes imperative for it to secure increased compliance with the international legal mechanisms of the counter-terrorism strategy, from all the U.N. member states. This is not under the control of CTC as it cannot force any country to comply with such legal arrangement.

2) Reduced access to financial resources by terrorist groups and individuals.

This is an appropriate outcome because it is beyond the control of the agency as CTC can only pursue the member states to put in place financial structures and laws to this effect and even after putting the laws in place it does not have the complete control over the access to financial resources by terrorist groups.

3) Increased involvement and association of U.N. member-states in and with counter-terrorism strategy, procedures and measures.

This is an apt outcome because it is something which is required to achieve the strategic objective of CTC but it is not in the control of CTC given its authority.
4) Reduced fear of terrorist threats, bombings and increased levels of safety felt by citizens of the U.N. member countries.

This is an apt outcome because it is not under the control of the CTC. It can only take measures permissible by its agenda and authority to achieve this end.

5) Enhanced co-ordination between different member countries in the execution of counter-terrorism agenda i.e. resolution 1373 and 1624.

This outcome is very important for the achievement of strategic objective of CTC but it is not under the control of CTC to make this happen perfectly and completely as CTC has no power to impose sanctions. It can work through negotiations and persuasion only.

6) Improved administrative, legal and financial infrastructure in developing or L.D.Cs (Least Developed Countries)

7) Better governance and improved socio-economic opportunities in conflict ridden nations, especially for the dissatisfied groups.

This is a desired outcome because in many nations the fertile breeding grounds for extremism are provided by poverty, lack of opportunities for economic growth, social and political freedom and the suppression of minority groups, denial of right to self-determination to them either by the governments or majority extremist groups. So in order to achieve a terror free world these larger factors will have to be corrected but it is not in CTC's control to govern all these changes in the social, political and economic environment.

8) Increased concern and respect for human rights in counter-terrorism measures and strategy.

This outcome is very essential to curb the forces of terrorism emanating from fundamentalism. If human rights are violated in pursuing counter terrorism agenda then the whole exercise may become self-defeating. It can provide reasons for dissatisfaction and ensuing extremism.

Outputs: Critical Analysis

Next logical step in the Results Based Management framework of an organization is outputs. Outputs are products or services produced by the organization in order to realize the desired objective. The outputs are the result of activities or initiatives taken by the organization and are completely within the control of an organization. The outputs are casually related to the outcomes, at least from the agency's point of view as outcomes cannot be fully controlled by the agency. Keeping these criteria in consideration the paper comes out with the following outputs for CTC.

Encouraging the U.N. member-states to ratify all the international conventions, treaties and the laws against terrorism, including working out an effective plan of action for this which will include moral persuasion, incentives and diplomatic pressure.

1) To achieve better compliance with international legal mechanisms against terrorism it is essential for CTC to make the member states sign the U.N.'s 12 anti-terror conventions and International convention for terrorist bombings (1997) and International convention for suppression of the financing of terrorism (1999).

2) Providing technical and legal assistance for creating FIUs (Financial Intelligence Units) and freezing of funds associated with terrorist groups and individuals, including creating a rational, moral, economic, social and humanitarian argument and basis for convincing states to set-up FIUs and freeze funds of terrorist individuals and organizations.

To achieve the outcome of reduced access to financial sources it is essential to freeze the accounts of terrorist groups and individuals. Apart from this their access to funds from charitable institutions and illegal money transfers also needs to be checked. All informal sources of money transfer like money laundering or Hawala needs to be registered. The financial intelligence units and laws need to be created in accordance with the guidelines provided by CTC and also the cooperation between different member-nations need to be achieved for controlling cross border movement of funds.

3) Encouraging the states to submit reports in time and allow for increased site visits by:

(3.1) Verbal persuasion at an individual level and through multilateral conferences

(3.2) Incentives of economic and political nature

(3.3) Providing technical, legal and financial assistance in drafting of reports

(3.4) Creating smooth, effective and quick mechanism, involving the member countries in the process, for facilitating the timely submission of accurate reports.

(3.5) Devising easy and simple (technically and politically) procedures for facilitating country permissions for increased site visits.

4) Encouraging and enabling the states to deny safe heavens, sustenance and support to terrorist groups, arrest and detain individuals charged of involvement in terrorist activities or inciting terrorist activities by:

(4.1) Appealing to moral conscience of the member-states, by framing an economic, political and humanitarian argument for this.

(4.2) Making efforts to facilitate legal arrangements between the nations for extradition of individuals involved in terrorist acts

(4.3) Making efforts to mobilize member countries against those who give safe heavens to terrorist groups and individuals.

(4.4) Facilitating technical, financial and legal assistance to member countries at its own level and by other resourceful and capable member countries in developing investigative and intelligence infrastructure to nab terrorist organizations and individuals.

5) Developing information-sharing protocols to facilitate sharing of the information between member countries about the terrorist groups, individuals and enhancing the levels of cooperation among member nations and regional organizations in the arrest, detention and extradition of such entities by organizing conferences to draft legal mechanisms for this.

6) Enhanced technical assistance to developing countries and LDCs in legislative drafting, technical equipment and border control mechanisms etc.

7) Encouraging regional bodies like SAARC, ASEAN, neighboring governments, international non-profit organizations and other global bodies like U.N.'s other departments to provide development assistance and facilitate security capacity building in conflict ridden and poor countries.

8) Specifying the set of conditions which constitute substantial grounds for arrest and freezing of funds after consideration of several facets of the matter like verification procedures, distinction between the sympathizers of the cause and people actually involved in the acts of carnage and violence.

On the closer analysis all the outputs seem to be in control of
the organization and in sync with its ultimate strategic objective. It has direct control over all these outputs as it provides technical assistance to all the U.N. member nations in developing legislative, financial and administrative infrastructure to counter terrorism and it does site visits. CTED analyzes the reports and CTC facilitates in matching donor countries and recipient countries in furnishing technical and development aid.

Performance Indicators: Critical Analysis

Next logical step in the log-frame model is performance indicators. Basically, these are the predicted results/trails to verify that the objectives have been met or not. They verify that the whole effort of the agency has been in the right direction or not. If the predicted features are not visible then it calls for finding the hindrances in the achievement. They are mainly in the nature of activities. They are the tangible products of the agency's efforts. Keeping these criteria in mind the paper proposes following performance indicators for CTC:

1) Total number of countries that ratified the international conventions against terrorism

This is an apt performance indicator as the objective of CTC is to increase compliance of the member-states with international counter-terrorism conventions and laws, and the ratification of such conventions by member countries as a result of CTC’s efforts shows the progress in willingness of member countries to work towards the realization of this strategic objective of CTC.

2) Total figure of money or accounts worth frozen, total number of informal sources of money transfer registered, the number of arrests made in money laundering and the status of laws passed achieve above goals in different countries.

This is a suitable performance indicator as it measures the progress done towards realization of the objective of CTC in terms of specific developments reflecting progress towards the outcomes of freezing of financial assets and blocking the access to money supply.

3) Total number of reports submitted and analyzed, the status of the response shown by member nations to the suggestions made in the feedback on reports and the status of legal, financial and administrative infrastructure prepared by countries to implement the counter-terrorism agenda i.e. resolution 1373.

4) The reduction in the incidents of terrorist violence, number of terrorist organizations blacklisted, expelled and terrorist individuals arrested and the safety/security index i.e. the average level of safety felt by citizens (as known through surveys).

5) Number of agreements signed between the CTC and regional, sub-regional organizations for cooperation in intelligence sharing, number of joint initiatives taken by member countries, number of bilateral extradition treaties signed between member states.

6) The status of administrative structure, law, financial and technical abilities of developing countries and LDCs i.e. the number of countries that have such mechanisms, the number of laws passed, the effectiveness of such laws not only in terms of wording but also in terms of implementation.

7) The status of governance in conflict ridden countries i.e. the rights like freedom of speech, expression available to them, the number of unemployed, poor, availability of jobs for minority groups and amount of development aid made available to them through the efforts of CTC and also the status of its use for development projects.

8) Decrease in the number of cases registered for human rights violations, number of laws passed for the protection of human rights, number of officials punished for violating human rights and the number of officers appointed for seeing into the matters pertaining to human rights.

9) The total number of requests made for assistance in non-technical legislative matters, technical matters like customs, border control and equipment, cyber security.

Conclusion and Critical evaluation of the Performance of the CTC so far:

The formation of CTC in the wake of September, 2001 attacks is a landmark event in the history of counter-terrorism measures. Before that counter-terrorism was not pursued in a very systematic and institutional manner. It was pursued mainly through the international conventions like the one for terrorist bombings (1997), for suppression of financing of terrorism (1999) and 1267 committee on AlQuaida formed by General Assembly. But the creation of CTC marks the beginning of the systematic, institutional, organized and global program of action against terrorism.

The menace of terrorism has become an all pervading one threatening the peaceful existence of humanity so it becomes imperative to tackle it in a systematic manner based on the cooperation between different countries and international organizations. It also becomes imperative to look at the problem in all its facets. Not only the military aspects have to be taken into account but also the other aspects like financial network of terrorist groups, development issues, religious fundamentalism, suppression of minorities and denial of self-governance issues also need to be taken into account. The formation of CTC marks a departure from U.S. centered approach based on coercion and military approach to a broad based strategy harnessing the strengths of both preventive and protective measures. It signifies a strong effort for nonmilitary, cooperative law enforcement measures to counter terrorism with the mobilization of international community.

On a closer analysis one comes across the fact that CTC has made considerable achievements in pursuing its objectives. U.N. member-states’ compliance with CTC reporting requests have been high. All the 191 member states submitted their preliminary reports to CTC giving details of their efforts to implement resolution 1373. By 2004, CTC had about 550 reports from all the member countries (Cortright, David; A Critical Evaluation of the UN Counter-Terrorism Program: Accomplishments and Challenges). The CTED analyzed all the reports and sent Preliminary Internal Assessment to all the member countries. It is a feedback suggesting the member countries about what they need to do in terms of legal, administrative, financial and technical infrastructure in order to achieve the implementation of resolution 1373 and 1640. This made the states more aware and informed about the details of counter-terrorism strategy, reports and actions needed to be taken. These high levels of member-state responses indicate the importance which member-states give to the objective of CTC and these also indicate the concrete steps taken by member-states to enhance their enforcement capacity to comply with the CTC’s counter-terrorism mandate (Cortright, David; pg.5). The increased compliance and enthusiasm among the member-states for CTC’s counter-terrorism mandate can also be seen in the form of increase in the assistance requests for legislative drafting, police & law enforcement training, immigration and border control training, immigration and border control equipment and travel document fraud detection training. In 2004 about 59 countries requested assistance in legislative drafting and since then the number has been consistently increasing.

After the formation of CTC the number of countries ratifying international conventions against terrorism has increased dramatically. There was 20 to 40% increase in the ratification of conventions on specific areas of terrorist activity like preventing and punishing crimes against internationally protected persons, measures against taking hostages, protecting nuclear materials and marking plastic explosives etc.

The CTC has made important strides in seeking international cooperation in its efforts. Many regional organizations have created their own counter terrorism units, especially in...
Asia-Pacific, Europe and Latin America. But Middle East and North Africa have not developed their counter-terrorism units. Broader coverage is also needed in South Asia and Eastern and Southern Africa. In Caribbean nations also counter-terrorism units have been formed but the progress in Africa has been the slowest. An important reason for this is the civil conflicts, unstable governments and lack of economic and technical resources.

Coming to the areas where CTC has not achieved much it can be said that it still needs to include poor and developing countries in its decision making. The initial years saw most of the resolutions drafted by U.S. and U.K. It needs to include countries like India, Latin-American countries and African nations in its decision making. The slowest progress has been made in the field of bilateral extradition arrangements. It has not been able to develop strong partnerships with organizations like SAARC (South Asian Association for Regional Cooperation). This is not a very good sign for its success considering the fact that South Asia is the epicenter of terrorism. So far arrangements which it has made with other regional organizations have been mostly very formal in nature without something substantial coming out in terms of action.

Due to the formation of many parallel bodies like 1267 committee on Al Quida and Taliban monitoring group, 1540 committee (Prohibits states from providing any form of support to non-state actors that attempt to acquire nuclear, chemical and biological weapons), 1566 committee (cooperation in fight against terrorism and additional measures against terrorism leads to potential for duplication of efforts and bureaucratic inefficiency).

Another hindrance for CTC is the late submission of reports by member countries. Thus it can be said that CTC has done a significant job as a friendly facilitator in promoting the counter-terrorism agenda. It has created a model for pursuing the counter-terror task through non-military, law-enforcement based efforts with the active cooperation of international community. It does not have the power to impose sanctions or identify specific terrorist groups or states. Its effort has been based more on cultivating mutual trust between the countries and ensuring transparency and consent.

But to sum up it can be said that the task of CTC is not just technical, but it is political also at some level. It needs to pursue the matters of human rights more effectively. It should try to involve poor and developing nations more in its decision making. For organizational efficiency the parallel committees should function in coordination with CTC. Last but not the least, it should make efforts in the direction of promoting inter-faith and inter-cultural dialogue, economic development aid for poor nations, and good governance in conflict ridden nations because terrorism is a phenomenon which has roots in religious fundamentalism, socio-economic deprivation and denial of right to self-determination.

In the lack of agreed definition of terrorism there occurs policy paralysis in the drafting and implementation of anti-terror program. CTC should take up this matter seriously and identify the cases of suppression of rights and cases of unreasonable violence to pursue an agenda. It needs a dialogue with sincere intentions and firm will. It will be too much to expect from CTC to come out with substantial results in this matter but still a good start will make some progress in this arena of philosophical ignorance where definition of terrorism brings every positive strategy to a halt.

Remaining Sections of the Log Frame:

Baseline
a) Different domestic and international laws against terrorism and sources of financing it.
   a) Resolution 1373, 1624 and 12 anti-terror conventions.

Data Source
b) Individual reports of states on security and terrorist threat.
c) Member-States police and financial intelligence agencies and the information derived from INTERPOL.

REFERENCES
Study of the apices of human Mandibular premolar teeth with the use of cone beam computed tomography

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Aim: The aim of this study was to determine the distance of the apical constriction from the apical foramen and size of the apical Foramen in human Mandibular premolars using Cone beam computed tomography [CBCT].

Methodology: Forty freshly extracted Mandibular premolars were collected.10 premolars were arranged on a wax occlusal rim with a base, 4 sets were prepared for exposure. Each set was exposed to CBCT, at 60kv voltage, 2mA current and an exposure time of 12 sec. Each tooth was analysed by inbuilt software (Planmeca Romexis viewer 3.5.1.R) which was utilised to perform multi-threshold segmentation for analysis.

Results: The mean distance from the Apical Constriction (AC) to the Apical Foramen is 0.72mm with a standard deviation (SD) of 0.43mm and a Mean diameter of the Apical foramen (AF) of Mandibular premolars being 0.69 mm with a standard deviation of 0.37mm.

Conclusion: This study demonstrated that the mean distance of the apical constriction from the apical foramen was 0.72mm; therefore, the Biomechanical preparation and obturation should end at this point and the mean size of apical foramen was 0.69mm. The study focuses on the importance of Cone beam computed tomography in finding the accurate location of the apical constriction and the Apical foramen.

INTRODUCTION:
Proper sealing of the root canal is very important in preventing the passage of bacteria and their toxins into the periapical area thereby preventing infection. The main anatomic and histological references for determining ideal apical limit for root canal therapy are Cemento Dentinal junction (CDJ), apical constriction (AC) and apical foramen (AF). Apical limit of root canal instrumentation and obturation was always been a controversy. Researchers have concluded that best prognosis of root canal therapy will be achieved when the apical limit terminates at the CDJ. As it is difficult to determine the position of the CDJ by radiography apical constriction serves as the termination point of root canal therapy.

Mandibular Premolars exhibit high degree of variation in their root canal anatomy. This variation is highest seen in Mandibular first Premolars so, often mandibular first premolars have been considered as Endodontist’s enigma.

CBCT allows the clinician to view the tooth and pulpal structures in thin slices in all three anatomic planes: Axial, Sagittal and Coronal. This capability allows visualization of periapical pathology and root morphology with higher resolution and accuracy. CBCT imaging has been helpful in providing important information in endodontic problems where conventional radiography has failed.

Hence the Aim of the present study was to evaluate the distance of the apical constriction from the apical foramen and size of the apical foramen in human Mandibular premolars using CBCT.

MATERIALS AND METHODS:
Forty patients were randomly selected with an age group of 18 to 25 years which were referred to department of oral and maxillofacial surgery for extraction of Mandibular premolars for orthodontic purposes. After obtaining patient consent according to Declaration of Helsinki, All the extractions were carried out.
Inclusion Criteria:
A) Premolars with no or minimal caries
B) Premolars with mature apices
C) Premolars with vertucci’s Type 1 configuration
D) Premolars with single constriction

Exclusion criteria:
1) Premolars with resorption
2) Premolars with multiple canals

All teeth were disinfected according to OSHA regulations, in jars containing 10% formalin (Emplura formaldehyde solution) until the initiation of laboratory studies. Samples were stored in 5.25% sodium hypochlorite solution (Reachem, Reachem Laboratory chemicals) for 48 hours at room temperature to dissolve debris. All samples were then rinsed and soaked in running water to remove debris. The teeth were cleaned by scaling and polishing. Soft tissue debris, bone chips and calculus were removed.

Premolars were arranged in sets of 10 on wax occlusal rims mounted on a stone cast. Four such sets were prepared for exposure. All images were taken in PlanmecaPro Max 3D Max with image capturing parameters at 60kv voltage, 2mA current and an exposure time of 12 sec. Each tooth was analysed by inbuilt software (Planmeca Romexis viewer 3.5.1.R) which was utilised to perform multi-threshold segmentation for analysis. Axial, coronal and sagittal two-dimensional sectional images were displayed on a 32-inch Dell LCD screen with a resolution of 1280x1024 pixels in a dark room. The criteria to characterize the major foramen as opposed to other minor foramina in this investigation was the opening of the largest resolution of 1280x1024 pixels in a dark room. The criteria to characterize the major foramen as opposed to other minimal caries
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RESULTS:
The results of the study showed that the mean distance from the apical constriction to the apical foramen is 0.72mm with a standard deviation of 0.43mm. The mean size of the apical foramen was found to be 0.69mm. The mean distance of apical constriction to apical foramen is 0.72mm. Dummer et al 6 concluded that the mean distance from apical constriction to apical foramen is 0.99±0.57mm which differed from this study, probably due to the difference in the teeth and the technique used in both the studies. So the root canal preparation and obturation should end at 0.72±0.43mm short of apex in Mandibular premolars this is closely in accordance with 1mm short of radiographic apex which is popularly followed in routine pulp space therapy of any tooth.

CONCLUSION:
To conclude, CBCT could be used as an important diagnostic tool for accurate measurement of the size of the apical foramen and distance of the apical constriction. In cases of adjacentRCTs it is recommended to opt for a CBCT evaluation which allows the clinician to accurately determine the location of the apical constriction, number of canals and the foramina at the same time. This could reduce the overall radiation exposure.

The mean size of apical foramen was found to be 0.69mm. The mean distance from the apical constriction to the apical foramen is 0.72mm in Mandibular premolars. Hence the Biomechanical preparation and obturation could be limited to 0.72±0.43mm short of the apex.

DISCUSSION:
In recent years several studies have been conducted to establish the exact location of the apical constriction and the position of the apical foramen. There is little literature reported on the distance of the apical constriction to apical foramen. The present study utilized CBCT which provides an accurate three dimensional view of the canals there by eliminating the need to section teeth and measure the distance by traditional radiography or stereomicroscope which are not highly reliable. CBCT accurately measured the smallest diameter of 0.28mm thus providing highly accurate measurements.

The present study showed the mean size of the apical foramen in Mandibular premolars is to be 0.69mm differed with Morfis et al study which demonstrated the mean size of the apical foramen to be 0.36mm. The difference might be due to the use of SEM in their study and the population observed in the study. The apical limit for the BMP and obturation is the apical constriction.

The most commonly followed apical limit for biomechanical preparation and obturation is the apical constriction. Cemento Dentinal junction coincides with the apical constriction in majority of cases. Ponce et al10 in their study concluded that CDJ is the point at which two histological tissues meet. The present study was done on patients under age group 18-25 years as the CDJ continuously undergoes modification.

Naseri et al 8 in their study concluded that determining the location of the CDJ is not possible radiographically so apical constriction serves as a safe apical limit for pulp space therapy. According to Martos et al9 the majority of cases. Ponce et al 2 in their study concluded that CDJ coincides with the apical constriction in majority of cases. Ponce et al10 only 37.64% of Mandibular premolars had the location of foramen at the apex. Available literature suggests majority of the measurements to date were done from the foramen to the anatomical apex of the tooth. There is little available literature measuring the distance from the apical foramen to apical constriction studies have suggested that the obturation should end at the apical constriction. Based on these conclusions in our present study it is more accurate to measure the distance from apical constriction to apical foramen than from the apex to apical constriction.

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The present study showed the mean size of the apical foramen in Mandibular premolars is to be 0.69mm differed with Morfis et al study which demonstrated the mean size of the apical foramen to be 0.36mm. The difference might be due to the use of SEM in their study and the population observed in the study. The apical limit for the BMP and obturation is the apical constriction.

The most commonly followed apical limit for biomechanical preparation and obturation is the apical constriction. Cemento Dentinal junction coincides with the apical constriction in majority of cases. Ponce et al6 in their study concluded that CDJ is the point at which two histological tissues meet. The present study was done on patients under age group 18-25 years as the CDJ continuously undergoes modification.

Naseri et al 8 in their study concluded that determining the location of the CDJ is not possible radiographically so apical constriction serves as a safe apical limit for pulp space therapy. According to Martos et al9 the majority of cases. Ponce et al2 in their study concluded that CDJ coincides with the apical constriction in majority of cases. Ponce et al10 only 37.64% of Mandibular premolars had the location of foramen at the apex. Available literature suggests majority of the measurements to date were done from the foramen to the anatomical apex of the tooth. There is little available literature measuring the distance from the apical foramen to apical constriction studies have suggested that the obturation should end at the apical constriction. Based on these conclusions in our present study it is more accurate to measure the distance from apical constriction to apical foramen than from the apex to apical constriction.

The present study showed that the mean distance of apical constriction to apical foramen is 0.72mm. Dummer et al6 concluded that the mean distance from apical constriction to apical foramen is 0.99±0.57mm which differed from this study, probably due to the difference in the teeth and the technique used in both the studies. So the root canal preparation and obturation should end at 0.72±0.43mm short of apex in Mandibular premolars this is closely in accordance with 1mm short of radiographic apex which is popularly followed in routine pulp space therapy of any tooth.

CONCLUSION:
To conclude, CBCT could be used as an important diagnostic tool for accurate measurement of the size of the apical foramen and distance of the apical constriction. In cases of adjacentRCTs it is recommended to opt for a CBCT evaluation which allows the clinician to accurately determine the location of the apical constriction, number of canals and the foramina at the same time. This could reduce the overall radiation exposure.

The mean size of apical foramen was found to be 0.69mm. The mean distance from the apical constriction to the apical foramen is 0.72mm in Mandibular premolars. Hence the Biomechanical preparation and obturation could be limited to 0.72±0.43mm short of the apex.
REFERENCES

INTRODUCTION:
Conflict is difficult to define. It is often understood as clash of interest. A conflict appears when persons work in group. It arises when the behaviour of one person obstructs, interferes with or blocks the interest of another person. He then feels that his interests are being adversely affected. It also surfaces when people conclude that the actions of other are incompatible with their own and they bring to react to it. It is built in our system and is too basic to be ignored.

Those who believe in managing conflicts are known as fighters. They believe that if there were no conflicts, there would be no challenges. In fact, every conflict helps the person to move forward. Having accepted conflict as the part of the game the manager must seek effective cooperation from those who work with him. The cardinal principle to solve a conflict is to discuss it with the team rather than suppressing postponing or avoiding it. A business leader in the contemporary corporate world must be aware of conflicts and should be able to solve them through open discussion. Adequate and proper skill must be developed in the team to understand, handle and solve every conflict. The perspective should be to learn managing the conflict rather than running away from it.

TYPES OF CONFLICT:
* Conflict within an individual
* Conflict between individuals
* Conflict between an individual and a group
* Conflict between groups with in an organization
* Conflict between organizations.

PRODUCTIVE CONFLICTS:
It is being accepted that productive conflicts help individuals and organizations in more than one way.

These are: conflict makes you more aware and capable to confront problems you face. A feeling that the work is obstructed or is being affected adversely because of certain problem makes you determined to solve the problem.

Conflicts strengthen relationships between you and others working with you. They heighten the morals of your colleagues. Those who work together realize that the actions of other are incompatible with their own and they bring to react to it. It is built in our system and is too basic to be ignored.

Conflicts promote awareness of self and others. Through conflicts, one can know the reasons that make others angry, frustrated and frightened and also what is important to them. In solving conflicts we come to know for what we are fighting. It tells us a lot about our personalities. We also realize what makes our colleagues unhappy. It creates a harmonious understanding between the team members and helps them to accept each other better.

Conflicts enhance development of the personalities of those who are involved in solving conflicts. While solving a conflict you can find out how your style affects your team members. Your team members can also know what technical and interpersonal skill are required to upgrade their personalities.

Conflicts provide psychological strength to a personality people become more focused and their perspective becomes clearer when they tackle conflicts. Through conflicts, they understand perspectives of others in a much better way and become less egoistic.

Conflict can become exciting and interesting, people feel thrilled, involved and animated in confronting conflicts that are a welcome break from an easy-going life.

Conflicts provide vents to steam off the frustrations and grievances against each other. The team members would feel more relaxed and closer to each other after they have expressed their annoyances during the conflict solving process.

HANDLING CONFLICTS:
Conflicts can be handled in several ways. Some people being shouting at others or some may cry and seek help from others on the other hand, the real troubleshooters maintain their composure, serenity and presence of mind. They analyse the conflict and think the ways in which that can be resolved. People who have the experience of handling conflicts successfully suggest three ways to manage crisis.

Cooperative dependence: It involves people who have to manage the crisis. All concerned persons are encouraged to share their views openly. They are motivated to explore and understand opposing views. Each one can understand the weakness in their perspectives and appreciate the desires and requirements of others. They can discuss the whole problem to integrate various ideas thrown at the time of discussion. A unanimous or widely acceptable solution can be arrived at in
the end. It would be based on the ideas and views of all and would be workable on a joint basis. The focus of this method is co-operative dependence.

**Competitive approach:** It is contrary to cooperative dependence method. This approach can be adopted when the first one fails. Various persons who represent different interests defend their own positions and try to win over others. Some times deadlocks are created because each one tries to assert her/his views. Many may use the influence of superior authority or heavy weight in the society to get her/his vies implemented. If such a situation arises, the team leader has to take his own decision and get it implemented with his authority.

**Conflict avoidance:** It is the most commonly preferred and used method of handling a problem. The team leader tries to postpone the conflict till such time it is possible to do so. He does not expose the team with arising crisis and hopes that it might not arise at all. He may also think that by the time the crisis becomes inevitable, he may not be there at the scene. In fact, avoiding conflict is not a good management. It not only gives a false sense of confidence in the work relationships but also undermines the capacity to identify and solve problems. It also shows poor and weak leadership.

Whatever method is selected to solve the conflict essential requirement is free and fair discussions. People should talk about the conflict, share their feeling and ideas freely and keep communication channels open. The discussion should be used to let all team members know each other. It should be when the conflict arises and after the conflict is handled successfully.

The whole process of devising the strategy and its implementation should be critically analysed. Discussions and deliberations help people to understand the specific problems, how the conflict began and how it was resolved. The key to making discussion constructive is to maintain, emphasis and strengthen cooperative dependence. During the discussion, it should be emphasized that each one gained more by working together, listening carefully and understanding issues and feelings through-and-through are critical. No one should try to dominant and control others. The effort should be to arrive at a consensus and reach an agreement. Once this is done all should cooperate to solve the crisis.

**CONCLUSION:**
Conflicts are natural phenomena that in fact are essential for everyone. Those who face them, learn many lessons in problem solving, but those who have not faced conflicts would develop an escapist tendency. However, those who see them as challenges and fight them out are the ones who succeed. So managing conflict skill to be developed at on-campus level among technical graduates to make employable them easily. Also modern corporate sector respects those leaders who can manage conflicts.

**REFERENCES**

Attention-deficit/hyperactivity disorder (ADHD) is an illness characterized by inattention, hyperactivity, and impulsivity. The most commonly diagnosed behavior disorder in young persons as well as children.

It is found that ADHD is associated with other disorders also. In fact, symptoms like those of ADHD are often mistaken for or found occurring with other neurological, biological, and behavioral disorders. Nearly half of all children with ADHD (especially boys) tend to also have oppositional deficit disorder, characterized by negative, hostile, strong feeling and defiant, refusal behavior. Conduct Disorder, (marked by aggression towards people and animals, destruction of property, deceitfulness or theft and serious rule-breaking) is found to co-occur in an estimated 40 percent of children with ADHD. Approximately one-fourth of children with ADHD (mostly younger children and boys) also experience anxiety and depression. And, at least 25 percent of children with ADHD suffer from some type of communication/learning disability. There is additionally a correlation between Tourette's syndrome, a neurobiological disorder characterized by motor and vocal tics, and ADHD- only a small percentage of those with ADHD also have Tourette's, but at least half of those with Tourette's also have ADHD.

Types of symptoms of ADHD:
There are actually three different types of ADHD, each with different symptoms: predominantly inattentive, predominantly hyperactive/impulsive and combined type.

Those with the predominantly inattentive type often:
• Fail to pay close attention to details or make careless mistakes in schoolwork, work, or other activities.
• Have difficulty sustaining attention to tasks or leisure activities.
• Do not seem to listen when spoken to directly.
• Do not follow through on instructions and fail to finish schoolwork.
• Have difficulty organizing tasks and activities.
• Avoid, and dislike, engaging in tasks that require sustained mental effort.
• Lose things necessary for tasks or activities.
• Easily distracted by external stimuli.
• Forgetful in daily activities.

Those with the predominantly hyperactive/impulsive type often:
• Fidget with their hands or feet or squirm in their seat.
• Leave their seat in situations in which remaining seated is expected.
• Move excessively or feel restless during situations in which such behavior is inappropriate.
• Have difficulty engaging in leisure activities quietly.
• Are “on the go” or act as if “driven by a motor”.
• Talk excessively.
• Blurt out answers before questions have been completed.

Those with the combined type, the most common type of ADHD, have a combination of the inattentive and hyperactive/impulsive symptoms.

Causes of ADHD
It is important to realize that ADHD is not caused by dysfunctional parenting, and those with ADHD do not merely lack intelligence or discipline.

- ADHD is a biologically based disorder. Theories suggest that cigarette, alcohol, and drug use during pregnancy or exposure to environmental toxins such as lead (found in Paints & Pencils) may be linked to the development of ADHD.
- Research also suggests a strong genetic basis to ADHD-the disorder tends to run in families. In addition, research has shown that certain forms of genes related to the dopamine neurotransmitter system are linked to increased likelihood of this disorder.
- While early theories suggested that ADHD may be caused by minor head injuries or brain damage resulting from infections or complications at birth. However, research found this hypothesis to lack substantial supportive evidence. But, scientific studies have not verified dietary factors, another widely discussed possible influence for the development of ADHD, as a main cause of the disorder.

Depending on the types of ADHD, a number of researches have been conducted to find out the possible factors causing ADHD. These factors may be found to fall in following these categories.

1. Genetic or hereditary factor
2. Organic or physiological factor
3. Environment factor

1. Genetic or hereditary factor: - It has been found and many characteristics commonly found in ADHD children are transmitted from generation to generations. This relationship between inheritance and ADHD has been established on the basis of following results:

   a) Nearly 20% to 25% of hyper active or impulsive children have been found to have at least one parent of his nature.
   b) Emotional imbalances, disorders of memory and thinking, speech and learning have found to run in families.
   c) Going deep into the genetic research, USA scientists and psychologists have attained success in identifying particular genes that may responsible for reading and other problems.

2. Organic or Sociological factors: - Study of most of ADHD causes reveals that patients may suffer from mal-functioning or dysfunctioning of Central Nervous System consisting of...
brain, spinal cord and message carrying nerves. This dysfunction, however minimal it may be, is caused by factors like below:

a) Brain damage caused by an accident or by lack of oxygen before, during or after birth resulting in neurological difficulties.
b) Damage or injury to spinal cord and message carrying nerves etc. leading to malfunctioning.
c) Dysfunctioning of Central nervous system may be caused by biochemical imbalances generated by factors below:
   i. Coloring and flavourings in many food items.
   ii. Vitamin deficiency may cause inability of a child’s blood stream to synthesis a normal amount of vitamins essential for normal functioning of central Nervous System.

3. Environmental factors: - ADHD may be caused by improper and unconditioned condition and factors present in an individual’s physical, social, cultural and educational environment. Some of these factors may be cited as:
   i. Poor or inadequate instructions received on accent of their own family set up or lack of motivation, skill and ability on the part of teachers.
   ii. Emotional disturbance.
   iii. Imitation and company of ADHD children.
   iv. Social and cultural deprivation.

Treatment
Many treatments- some with good scientific basis, some without, have been recommended for individuals with ADHD. The most proven treatments are medication and behavioral therapy.

Medication
Stimulants are the most widely used drugs for treating attention-deficit/hyperactivity disorder. But most recently, the FDA has approved a non-stimulant medication for the treatment of ADHD.

Behavioral Therapy
Treatment strategies such as rewarding positive behavior changes and communicating clear expectations of those with ADHD have also proven effective. Additionally, it is extremely important for family members and teachers or employers to remain patient and understanding.

Children with ADHD can additionally benefit from caregivers paying close attention to their progress, adapting classroom environments to accommodate their needs, and using positive reinforcements. Where appropriate, parents should work with the school district to plan an individualized education program (IEP).

Teaching Strategies for ADHD
Successful Teaching for children with ADHD integrate the following three components:

- Academic Instruction;
- Behavioral Instruction; and
- Classroom Accommodations

The first major component of the most effective instruction for children with ADHD is effective academic instruction. But before giving any instruction to the ADHD student teacher should:

1. Evaluate the child’s individual needs and strengths.
2. Select appropriate instructional practices of the chapter and age of students to gain their attention.

In order to conduct the most productive lessons for children with ADHD, effective teachers periodically question children's understanding of the material, probe for correct answers before calling on other students and identify which students need additional assistance. Teachers should keep in mind that transitions from one lesson or class to another are particularly difficult for students with ADHD. When they are prepared for transitions, these children are more likely to respond and to stay on task. The following set of strategies may assist teachers in conducting effective lessons:

- Be predictable and Support the student's participation in the classroom.
- Check student performance regularly.
- Review previous lessons.
- Set learning expectations.
- Set behavioral expectations.
- Simplify instructions, choices, and scheduling.
- Ask probing questions.
- Help students correct their own mistakes.
- Lower noise level.
- Divide work into smaller units.
- Highlight key points.
- Eliminate or reduce frequency of timed tests.
- Check assignments.
- Preview the next lesson.

Effective teachers of children with ADHD also guide them with follow-up directions and Effective teachers conclude their lessons by providing advance warning that the lesson is about to end, checking the completed assignments of at least some of the students with ADHD, and instructing students how to begin preparing for the next activity.

Effective teachers of students with ADHD also individualize their instructional practices in accordance with different academic subjects and the needs of their students within each area.

They first identify the areas in which each child requires extra assistance and then use special strategies to provide structured opportunities for the child to review and master an academic lesson that was previously presented to the entire class. Strategies that may help facilitate this goal include the following (grouped by subject area).

1. Silent reading time.
2. Follow-along reading.
3. Partner reading activities.
4. Storyboards.
5. Storytelling.
6. Playacting.
7. Word bank.
9. Recorded books.
10. “Backup” materials for home use and of course writing.

Since ADHD Children are poor readers, teachers need patience and a Cool behavior. Their writing ability is also not very good. It is seen that usually they are having very poor handwriting with silly spelling mistakes as their command on languages are not good.

But all effective teacher need is patience, cool name and sweet behavior as these children are not mischievous as or naughty as people assume them. They are having mental ailment which is seen in their behavior only and that is especially during their learning process.

It is estimated that three to five percent of School-Age Children are suffering from ADHD. Government should frame special Education Policies for these children. Merely giving extra time to complete Answersheet during exams (as given by CBSE) is not sufficient.

These children are part and parcel of our society. Let us protect and help them with our effective teaching.
कौटिल्य अर्थशास्त्र: राजभारसंगति
Administration According to Arthasastra of Kautilya

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ABSTRACT
कौटिल्य अर्थशास्त्रात राजभारसंगतिक विचारांत आर्यावर्तीधर्मकालात आर्यावर्तीयांना पंढरीकातील देशसिरूप, राज्यविभागे, राज्रूप, राजमिहिर, राजपदश्रुती, राजाधिकारांत अविश्वसनात भवते. दणडप्रवृत्त अर्थशास्त्रातील विचारांत आर्यावर्तीधर्मकालात आर्यावर्तीयांना पंढरीकातील देशसिरूप, राज्यविभागे, राज्रूप, राजमिहिर, राजपदश्रुती, राजाधिकारांत अविश्वसनात भवते. दणडधराभारी निर्देशांकातील आर्यावर्तीधर्मकालात आर्यावर्तीयांना पंढरीकातील देशसिरूप, राज्यविभागे, राज्रूप, राजमिहिर, राजपदश्रुती, राजाधिकारांत अविश्वसनात भवते.

KEYWORDS
कौटिल्य, अर्थशास्त्र, राजा, मनी, पंढरीक, दणडधराभारी, निर्देशांक, दणडप्रवृत्त.
Research Paper

A Conceptual Analysis on Stress Among College Students

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ABSTRACT

Stress is the common response of an individual either intentionally or unintentionally as well as it has become the core apprehension in the life of everyone. College students constantly have more multifaceted inconvenience due to academic pressure; adaption to new environment, fear of failure, struggle to create uniqueness, inferiority, attaining social familiarity, changes in family relations etc., and avoidance of stress is not feasible, thus the subsequent best things are to decrease stress. The extent of stress results from actions or conditions that have the possible to cause change. In this study an attempt has been made to identify the causes of stress and coping measures to be taken to reduce the stress among the college students.

KEYWORDS

Stress, Academic Pressure, Financial Task

INTRODUCTION

Stress is the insistent outcome caused by stable strain and subsists in every part of our life. The changeover from adolescence to adulthood is a complicated journey in the field of education for the college students. At this stage students faced with fast physical changes and mental development along with they may experience with inappropriateness and adaptability. College students constantly have more multifaceted inconvenience due to academic pressure, adaption to new environment, fear of failure, struggle to create uniqueness, inferiority, attaining social familiarity etc., As a matter of fact the stress is rated as the world’s second deadliest destroyer. Further there is numerous other reasons that basis for stress in students both positively and negatively. The occurrences of the situation from the stress are labelled as stressors.

REVIEW OF LITERATURE

1. Dr. Rajasekar (2013) examined the impact of academic stress among the management students. Students have different expectations, goals and values that they want to fulfill, which is the only possible if they are integrated with that of the institution. The study also provides better insights to the academic administrators for initiating efforts to reduce the intensity of academic stress.

2. Narasappa Kumaraswamy (2013) briefly describes the research carried out in the last three decades especially regarding stress, anxiety & depression. It focuses stress among college students, nature of psychiatric morbidity and emotional problems of the college students. His study suggested that to have mentor mentee programme compulsorily in all colleges. A student health committee should be formed in each college with mental health professionals as its members. There should be regular seminar & workshop for teachers & college students on various issues of psychological problems and its coping mechanisms.

3. Sunny P Mathew(2014) identifies the various symptoms of reasons of stress experienced by youngsters in a small area of Kottayam District in Kerala state; and also suggests the ways of minimizing the stress among youngsters. He also explains about the best way to manage the students stress and role of parents, faculty members and friends to combating stress.

OBJECTIVES OF THE STUDY

1. To examine the basis of stress among the college students
2. To analyse the strategies for coping stress

Basis of stress among the college students

1. Inter Personal Stress:
   The inter personal stress could crop up among the college students due diverse reasons like transform in societal actions, roommate disagreement, rapport with opposite gender, clash with boy companion or girl companion, disagreement with parents, working with new set of people. The students may experience stress with any one of the cause or combination of more than one factor.

2. Intra Personal Stress
   New tasks, financial problems, speaking in public, alter in the eating practice, change in sleeping habits, demise of the family member, injury are the causes for stress among the college students under the factor intra personal category. Generally students who are moved from location to another location for their academic reason will face this intra personal stress.

3. Academic Stress
   Academic stress caused due to increase in the class workload, inferior status than predicted, expectation of graduation, severe disagreement with the mentor etc. All the adolescence age students will come across these types of academic stress.

4. Environmental Stress
   Computer associated problems, positioned in an new place, staying in the academic place for extended period of time, transformation in the living environment causes the environmental stress among the students in the college level. There are also occasions that parents disapprove their children’s going into relationship. Some students affirmed that they missed to attend their classes in anticipation of their graduation. With increased in more class work load such as reports and term papers, they suffered from the changes in their eating habits and new responsibilities. There is no much worry about environmental stressor because it can easily be resolved by the school ad-ministration.

STRATEGIES FOR COPING STRESS

1. Adaption to college life as soon as possible
   College students should adapt to the new environment as soon as possible and pay attention to their physical and mental health. Acquire a positive attitude with their friends. They should gain knowledge to understand, admit and recognize themselves to the new situations.

2. Observe stress coping measures
   College students should give attention to stress coping measures by adopting regular exercise, eating habits and sound
sleeping for seven hours in a day. They may also get assistance from the professional institutions to get out of the stress.

3. Obtain emotional support from the family
Family members must support their children to cope the stress of emotion as they did not able to find out trusted friends in the new environment. The college students should not give up their enthusiasm still in the new situation to maintain the emotional balance.

Conclusion
The emotional security of college student’s needs cautious attention. The colleges should start Counselling centres in the campus to take-up the psychological issues of the students at the early stage. There should be regular workshop for the students on stress management, time management, health education programs and reduction in the curriculum can be the vital approaches to cope the stress among the college students.

REFERENCES
The origin of Christianity in India has been the subject of controversy because valid and reliable dates about early Christianity in India are not historically ascertainable. But a small section of the people has a strong belief that the beginning of Christianity in India dates back to the first century A.D. In the first century A.D., merchants of the Roman empire regularly sold sail from the ports of Egypt, down the Arabian Sea to Malabar where they exchanged Roman gold coins and the products of the Mediterranean World for Indian textiles, pearls and spices. St. Thomas, one of Jesus’s chosen Apostles might have reached India on such a merchant ship. Pothacarnury, a Catholic Arch Bishop of Bangalore made a strong claim that St. Thomas, the Apostle brought Christianity to our country in 52, A.D.

In 1840 he added an aisle to the Church of Settihalli. He built a Chapel at Fraserpet and the following year a Church at Shimoga. In spite of his illness, he was anxious to complete a Church in the town of Mysore. Krishna Raja Wodeyar was himself a victim of this epidemic. He made known to the Government the great advantage of vaccination. Small Pox was causing great havoc among the population of Mysore. In 1726, Chamaraja Wodeyar was himself a victim of this epidemic. He made known to the Government the great advantage of vaccination.

In 1889, new missionaries came from France and all of them worked as hard as their predecessors. 1891 was a memorable year for the State. His Highness Sri Krishnarajendra Wodeyar IV was installed as Maharaja. His Highness bestowed gifts to the orphanages and other charitable institutions. Bishop Coadou decided to start the hospital of St., Martha’s in Bangalore. Thus, every year a new project was proposed while the earlier ones continued to develop. On January 1, 1843 by Charbonnax. He was then called back to Bangalore.

In 1891 was a memorable year for the State. His Highness Sri Krishnarajendra Wodeyar IV was installed as Maharaja. His Highness bestowed gifts to the orphanages and other charitable institutions. Bishop Coadou was chosen as the last Vicar apostolic and the first Bishop of the Diocese of Mysore. He administered successfully the Christians of Settihalli, Shimoga and Virajpet, gaining everywhere the reputation of being a zealous, saintly missionary. St. Joseph’s College in Bangalore was started during 1831-1947.

In 1889, new missionaries came from France and all of them worked as hard as their predecessors. 1891 was a memorable year for the State. His Highness Sri Krishnarajendra Wodeyar IV was installed as Maharaja. His Highness bestowed gifts to the orphanages and other charitable institutions. Bishop Coadou decided to start the hospital of St., Martha’s in Bangalore. Thus, every year a new project was proposed while the earlier ones continued to develop. On January 1, 1887, Coadou blessed the chapel of Mount Kattay near Settihalli.

Bishop Basle constructed a number of convents and Churches in Bangalore. It was to his credit that a Home for the Aged was constructed for the first time in Bangalore. On August 22, 1916 he was appointed Bishop of the Diocese. His episcopate was laid in a period of strain and hardship because of the
Great War, Bishop Teissier was able to manage all the existing good works and the functioning of the various institutions. The last Bishop of the French Foreign Missionary was Bishop Despatures from 1922-1942. The young and energetic priest arrived at Bangalore on September 22, 1897. On October 29, 1912 Fr. Despatures was consecrated as Bishop of Mysore. Several important personages of the Maharaja’s court assisted in the ceremoney and, Krishna Raja Wodeyar III sent him a telegram of congratu1ation. He became a friend of the Maharaja, who, on several occasions, presented gifts to the Diocese, permitting the Bishop to construct new Churches, schools and Convents. Because of his financial assistance, a new bulletin called “Doora of the Sacred Heart of Jesus” was published in the year 1924.

Another remarkable achievement was in the year 1927. when he added one more storey to St. Martha’s Hospital. St. Peter’s Provincial Seminary was opened on Aug 3, 1934. In 1936, St. Philomena’s Shrine at Mysore, an architectural gem was solemnly blessed. Its foundation stone was laid amidst a great concourse of people, on 28th October 1933, by Krishna Raja Wodeyar, St. Philomena’s Cathedral is Undoubtedly among the grandest Churches in India. It is in Gothic style. Today, St. Philomena’s Cathedral is known as St. Joseph’s Cathedral. It is admired by all the tourists who visit this city of palaces.

Another masterpiece of architecture, is known as St. Francis Xavier’s Church. It was opened on the feast of Corpus Christi on May 26, 1932. The time had now come for the splitting of the mission into two Dioceses namely, the Diocese of Mysore and the Diocese of Bangalore in the year of 1942. Since 1845, Bangalore had Bishop Thomas Pothacamury appointed as Bishop of the Diocese of Bangalore and the Diocese of Mysore was entrusted to Bishop Feuga. A new order of things had set in and the history of the Diocese of Mysore began a new chapter.

Conclusion: From the general survey of the MEP in the Diocese of Mysore from 1776--1942, we find they worked hard, their trials were great in a country so different from their own in language, manners, customs, habits of living and climate. They worked with heroic zeal, selfless spirit and unshakable confidence. It is certainly a great compliment to these Bishops that they spread the message of Christianity in the princely State of Mysore. The golden memories left behind by these eminent personalities are being cherished by today’s generation. The fruits of their hard labour are being relished by the young and the old, the clergy and the laity. Their spirit still vibrates through the length and breadth, and every nook and corner of Mysore in the sphere of education, health care and architecture.

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Effect of Hook Ended Steel Fibre on Workability and Strength of High Strength Concrete with Marble Powder Admixture

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ABSTRACT
This paper deals with experimental investigation of M50 grade High strength concrete with hook ended steel fibre and marble powder admixture to study strength characteristics (compressive strength and split tensile strength). The present work is carried out with M50 grade concrete with partial replacement of cement by 0%, 5%, 10%, 15%, 20% &25% marble powder and also addition of 0%, 0.5%, 1.0%, and 1.5% by hook end steel Fibre volume fraction of concrete. The cubes and cylinders are cured for 7 and 28 days. The results are presented graphically. The results indicate the optimum dosage of 10% marble powder and 1% hook ended steel Fibre improves strength characteristics.

KEYWORDS
High strength concrete, Marble powder, hook ended steel fibre, compressive strength, split tensile strength

1. INTRODUCTION
Cement concrete is most extensively used construction material in the world. To effective use of waste materials, cost concern of cement production, this paper presents an option of using marble powder as mineral admixture and steel Fibres as supplementary materials. Indian marble industry annual output is 68 million tones. Marble Powder in large quantity is generated during marble cutting, sawing, shaping, processing and grinding in marble industries, this is around 40% of marble stone mined and handled usually rejects at the mine sites or at processing units in the range of 250-400 tones. Leaving the waste materials to the environment can cause environmental problem [P.A.Sirhule 2012]. Hence reuse of marble waste material in the building industry itself is recommended. [Baboo Rai 2011]. Dr. A.M. Shende (2012) stated that even such properly designed and prepared cement concrete mixes have some limitations like (i) low tensile strength (ii) Brittleness and low ductility (iii) low post cracking capacity (iv) Incapable accommodating large deformations. Generally concrete is strong in compression but it is very weak in tension even it is just 1/10th of its compressive stresses makes micro cracks under smaller load at tensile end, as the time elapses these cracks increase their magnitude and gradually propagate to the compression end of the member, finally the member breaks. So, to improve tensile strength to prevent crack propagation steel Fibres are randomly arranged and uniformly distributed in concrete matrix.

Valeria et al (2005) stated that marble powder had very high Blaine fineness value of about 1.5 m²/g and 90% of particles passing through 50µm sieve (d₇₅ = 7µm). Hanifi Binci et al (2007) found that marble dust concrete has higher compressive strength than that of the corresponding limestone dust concrete having equal w/c and mix proportion. Dr. A.M. Shende (2012) in their investigation the experimental results of split tensile strength for M40 grade concrete containing 0% et al (2012) in their investigation the experimental results of split tensile strength for M40 grade concrete containing 0% steel Fibre (PCC) and 1% hook end steel Fibre with 50,60,67 aspect ratio were compared with mathematical model developed was found to be valid over 85% confidence limit.

The present paper aim to potential use of marble powder and steel Fibre and to do parametric study on compressive and split tensile strength with variable of grade of concrete, percentage of marble powder and steel Fibres.

2. Materials and Methods
(i) Cement: - Ordinary Portland cement of 53 grade ACC brand is used in experiment. And tested as per IS:8112-1989 the properties are specific gravity 3.02, normal consistency 32%, fineness of 2%, initial setting time 40 minutes and final setting time 390 minutes.

(ii) Fine aggregate: - The locally available natural river sand is used as fine aggregate and tested as per IS: 383-1970 Its specific gravity 2.60, grade Zone II, fineness modulus 2.96.

(iii) Coarse aggregate: - Crushed granite aggregate with 0.5mm, length 25mm specific gravity is 2.667, passing through 90µsieve.

(iv) Water: - Portable water is used for the experimentation.

(v) Marble Powder: - Marble Powder which is used in laboratory investigation is obtained from dressing polishing, cutting and processing unit in Industrial estate, Anantapur. Its specific gravity is 2.667, passing through 90µsieve.

(vi) Hook Ended Steel Fibre :- The hook ended steel Fibre which is used in laboratory investigation is obtained from dressing polishing, cutting and processing unit in Industrial estate, Anantapur. Its specific gravity is 2.667, passing through 90µsieve.

(vii) Super Plasticizer: - Sulphonated Naphthalene polymer based Fosroc conplast SP430 is used as super Plasticizers.

The dosage is 0.5% by weight of cement.

Variables Studied

(i) Concrete Mix: - The mix ratio of cement: sand: coarse aggregate is 1:1.572:2.408 and w/c ratio is 0.36.

(ii) Test Program for Casting: -. a) First group is the control mix with 0% marble powder and 0% steel Fibre (PCC)

b) The second group consists of concrete in which cement is replaced 5%, 10%, 15%, 20%, and 25% by weight of cementitious material with marble powder.

c) The third group consists of concrete with 0.5%, 1%, 1.5% by volume fraction of concrete addition of hook ended steel Fibre.

d) The fourth group consists of concrete in which cement is replaced 5% to 1.5% by volume fraction of hook ended steel Fibre.

(iii) Size of specimen: - 150mmx150mmx150mm size of cubes for compressive strength test and 150mm diameter and 300mm height of cylinder for split tensile strength test.

(iv) Curing period: - Specimens are cured in curing tank for 7 and 28 days.

(v) Compressive Strength test: - After 7 and 28 days curing
period, the cubes are tested on digital compression testing machine as per IS 516-1959. In each category three cubes are tested and their average value is reported. The compressive strength is calculated as follows.

\[
\text{Compressive strength (N/mm}^2) = \frac{\text{load}}{\text{Area}}
\]

(vi) Split tensile strength test: - After 7 and 28 days curing period the cylinders are tested under compression testing machine. In each category three cylinders are tested and their average value is reported. Split tensile strength is calculated as follows.

\[
\text{Split tensile strength (N/mm}^2) = \frac{2P}{\pi DL}
\]

Where P is load, D and L are diameter and length of cylinder

3. Results and Discussion

Table 1 and figure 1.A, 1.B represents 7 and 28 days compressive strength.

Table 2 and figure 2.A, 2.B represents 7 and 28 days split tensile strength.

The results indicate that the compressive strength of cubes and split tensile strength of cylinders after 7 and 28 days testing are

(i) With the inclusion of marble powder the strength of concrete gradually increase upto certain limit 10% cement replaced by marble powder then gradually decrease. 7 and 28 days compressive and split tensile strength values are increased by +17.91%, +20.69% and +25.52% respectively compared to initial values.

(ii) With the inclusion of steel fibre the strength of concrete marginally increase upto 1% addition of Fibre then with the increase in percentage of Fibre the strength values decreases. These strength values are more compared to only marble powder replacement. 7 and 28 days compressive and split tensile strength values are increased by +21.69%, +24.63% and +41.41%, +41.67% respectively compared to initial values.

(iii) With the inclusion of both marble powder content and steel Fibre the strength of concrete gradually increase upto optimum percentage i.e. 10% cement replaced by marble powder and addition of 1% steel fibre, then gradually decreases. The increase in strength values are more compared to only marble powder content and only steel fibre content mixes. 7 and 28 days compressive and split tensile strength values are increased by +30.10%, 29.97% and +47.27%, +46.35% compared to initial values respectively.

<table>
<thead>
<tr>
<th>Mix Id</th>
<th>%MP</th>
<th>%SF</th>
<th>7 days Split tensile Strength N/mm²</th>
<th>% Change in Strength</th>
<th>28 days Split tensile Strength N/mm²</th>
<th>% Change in Strength</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>0</td>
<td>0</td>
<td>-7.85</td>
<td>-20.69</td>
<td>21.69</td>
<td>25.86</td>
</tr>
<tr>
<td>B</td>
<td>0.5</td>
<td>0</td>
<td>+11.33</td>
<td>+23.86</td>
<td>+24.63</td>
<td>+25.39</td>
</tr>
<tr>
<td>C</td>
<td>1.0</td>
<td>0</td>
<td>+23.86</td>
<td>+25.52</td>
<td>+30.10</td>
<td>+30.69</td>
</tr>
<tr>
<td>D</td>
<td>0.5</td>
<td>0.5</td>
<td>+20.69</td>
<td>+24.63</td>
<td>+29.97</td>
<td>+30.52</td>
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<tr>
<td>E</td>
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<td>0.5</td>
<td>+25.39</td>
<td>+26.65</td>
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<td>+30.69</td>
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<tr>
<td>F</td>
<td>0.5</td>
<td>1.0</td>
<td>+25.86</td>
<td>+26.65</td>
<td>+30.10</td>
<td>+30.69</td>
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<td>G</td>
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<td>1.0</td>
<td>+30.69</td>
<td>+30.69</td>
<td>+30.69</td>
<td>+30.69</td>
</tr>
</tbody>
</table>

TABLE 1: Results of Compressive strength in N/mm²

FIGURE 1.A: 7 days compressive strength values

FIGURE 1.B: 28 days compressive strength values
FIGURE 2.A: 7 days split tensile strength values

FIGURE 2.B: 28 days split tensile strength values

4. Conclusions
1. The compressive strength of cubes and split tensile strength of cylinders are increased up to optimum percentage limit then with the increase in marble powder content and steel fibres the strength values decrease.
2. Considering the strength criteria, the recommended optimum dosage is 10% marble powder and 1% hook ended steel fibre as supplementary materials. This dosage exhibited better reactivity with cement hydration products and showed improvement in strength properties compared to controlled concrete.
3. The use of marble powder in construction might be cost effective because this material is cheaply available and also eradicates disposal problem and keep environment green.

REFERENCES
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Mini-Implants Orthodontics – Relationship Between the Design Characteristics and the Mechanical Properties

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ABSTRACT
The objective of the present work was to evaluate the influence of self-drilling thread and compaction tread on primary stability of orthodontic mini-implants (MI). Forty mini-implants with dual-thread design (compaction and self-drilling) were initially observed using a scanning electron microscopy. After, the mini-implants were inserted in artificial bone to measure the insertion and removal torques. The results shows that the contact area amongst the compact tread and bone is higher than the normal thread, due to the smaller thread pitch. The compact tread showed a slight increase of insertion and removal torque in contrast to the self-drilling shape. The highest value of insertion and removal torque obtained by compact thread translate better primary stability, however it may cause micro damages in the bone, which should be considered regarding osseointegration.

KEYWORDS
mini-implants, insertion torque, threads.

Introduction
The mini-implant (MI) primary stability is an important factor for their mechanical retention. It is related to the surgical technique, the bone type, diameter, length and shape of the threads of the device (Lim, Cha & Hwang, 2008). The cylindrical MI shape is more effective, since the higher compaction tension is introduced in the tapered bone crest region, having smaller surface contact area (Kim, Baek, Kim & Chang, 2008). The compacting threads had better distribute stress, because the screw threads in the cervical portion present greater surface contact with the cortical bone. The devices that have self-tapping and compacting threads have a higher mechanical stability, however the tension in the adjacent bone tissue is more intense and may cause microfractures. The design may contribute to higher stability insertion sites that have low bone density. Cho et al. (2012) analyzed four types of mini-implants with different designs in artificial bone and mentioned that devices with greater thread depth, lower pitch and smaller taper generated increased tension between the bone and the screw. There was a higher removal torque with increased thread depth measuring up to 0.32 µm. The removal opposition was reduced by decreasing the taper and the length of the MI.

The causes for losses of MI are several: the poor osseointegration, inflammation of the gingival tissue, excessive insertion torque, which is responsible for increased heat and micro fractures, bone degeneration, may occur in the device interface with bone tissue (Lim, Cha & Hwang, 2008).

The aim of this study was to investigate the influence of self-drilling and compacting threads on primary stability by insertion torque and removal of the mini-implant in artificial bone.

Experimental
The mini-implants used in the present work had general shape and dimensions as showed in Figure 1, as well as the several types used in the present work. It consisted of a head dome, a perforated hexagonal, a neck portion and the threads.

Figure 1. Description of the mini-implants regarding threads type and principal dimensions (Conexão, 2013).

<table>
<thead>
<tr>
<th>Dimensions (mm)</th>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 3</th>
<th>Group 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>D</td>
<td>1.8</td>
<td>1.8</td>
<td>1.5</td>
<td>1.5</td>
</tr>
<tr>
<td>L2</td>
<td>8.1</td>
<td>8.2</td>
<td>8.1</td>
<td>8.2</td>
</tr>
<tr>
<td>LT</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

The mini-implants produced Ti6Al4V, ASTM Grade V. This alloy has higher hardness and lower biocompatibility than pure titanium (Muguruma et al., 2011). The alloy chemical composition showed 86.1% titanium, 9.8% of aluminum and 4.1% vanadium in mass % as shown in the spectrum of Figure 2a. This data were obtained using energy dispersion spectroscopy (EDS) in a scanning electron microscopy (SEM). The machined surface of threads internal part of the mini-implants is shown in Figure 2b. The surface machining finishing was very homogeneous and it was not observed any contaminations but few machining shavings.

Figure 2. a) Semi-quantitative chemical analysis of the implants as obtained by EDS. b) Back-scattered electron micrograph of the internal surface of threads region of the MI showing a very homogeneous finishing.
The used MI had threads with three types of design: compacting threads (CT), normal threads (NT) and self-drillling (SDT). The first three threads near the neck had CT design, showing less deep and shorter distance between the threads (pitch) than the NT that comprised the design of the remaining MI threads, besides the self-drilling portion that had a conical shape. The mini-implant typical shape is showed in Figure 3.

Figure 3. Measurements obtained using back-scattered electrons SEM micrograph. The CT thread had a pitch of 3.12 µm, the SDT 3.41 µm. The inner diameter was 1.48 µm. The depth of the CT (P1) is smaller than the depth of the SDT (P2).

The internal diameter of the CT is greater than the internal diameter of the NT due to the depth of the compacting screw be smaller. The internal diameter is also called the minor diameter of the MI. The external design of the threads showed a taper from the apex to the fifth thread and the taper bore followed this as it increases toward the compacting screw. The outer diameter is what characterizes the diameter of the MI as 1.5 mm and 1.8 mm used in this study. It was inserted 40 mini-implants at 90º inclination to bone samples prepared with artificial bones from Sawbones (S) - (Sawbones, 2013) and Nacional Osos (NO) - (Nacional, 2013), which are described in Table 1. Surface analysis was performed using scanning electron microscopy - SEM before insertion testing. The measured insertion and removal torques was undertaken using a digital torque meter, the data were captured and analyzed.

The artificial bones used were trabecular and cortical with artificial densities and thicknesses similar to human ones from regions of maximum densities such as mandible as specified in Table 1 (Misch, Qu & Bidez, 1999).

Table 1. Description of mini-implants and bone samples with different densities of artificial trabecular bone and cortical thicknesses.

<table>
<thead>
<tr>
<th>Materials</th>
<th>Artificial bone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Groups</td>
<td>Density of the trabecular artificial bone g/cm³ (PCF)</td>
</tr>
<tr>
<td>1</td>
<td>1.8 x 8 x 1</td>
</tr>
<tr>
<td>2</td>
<td>1.8 x 8 x 2</td>
</tr>
<tr>
<td>3</td>
<td>1.5 x 6 x 1</td>
</tr>
<tr>
<td>4</td>
<td>1.5 x 6 x 2</td>
</tr>
</tbody>
</table>

PCF: pound cubic feet

It specimens were trepanned into cylindrical blocks 20 mm in diameter (Figure 4). A device was developed in the CCTM / IPEN laboratory to hold the cylindrical blocks in front the torque meter.

Figure 4. Trepanned 20 mm in diameter cylindrical blocks and specifications. 1) Density of 0.64 g/cm³ trabecular and 1.5 mm cortical. 2) Density of 0.20 g/cm³ trabecular and 2.0 mm cortical. 3) Density 0.32 g/cm³ trabecular and 1.5 mm cortical. 4) Density 0.64 g/cm³ trabecular and 1 mm cortical.

Results and discussion

There was a gradual and smooth increase in insertion torque in all groups. The insertion torque (IT) was used to compare the dynamic mechanical insertion of two types of threads. In the region of self-drilling thread (SDT) the time for the torque increase was greater than the compacting thread. The insertion torques in the last four seconds of each test, corresponding to the insertion of compacting threads time were compared between groups. Group 1 showed an increase from 4 Ncm to 8 Ncm, the group 2 from 1 Ncm to 4 Ncm, the group 3 from 1 to 4 Ncm and group 4 from 3 Ncm to 6 Ncm.

The maximum insertion torque (MIT) and the maximum removal torque (MRT) were used to evaluate the pattern of attachment between each group. The MIT and MRT were higher in the group with the highest density of trabecular bone, even compared with the MI group 2 formed with the same length and diameter.

The average value of insertion torques for each group was calculated. The highest average value of insertion torque was 21.4 Ncm in-group 1 and the lowest in-group 2 was 9.5 Ncm. Both groups were used MI measuring 1.8 mm in diameter and 8 mm in length. The density of the artificial trabecular bone in group 1 was larger than that in group 2, but the artificial bone cortical thickness was greater in group 2. The MIT for group 1 was 24 Ncm and for group 2 it was 10 Ncm. The time interval was greater in the insertion of self-drilling screws, taking 4 to 6 seconds to 1 Ncm increase, however the compacting screw insertion of the interval was lower in average of 1 to 2 seconds.

The MRT of group 3 had a progressive decrease, however presented a shorter time span in the two thread types when compared the MIT. The MRT is higher than in most MRI test groups 1 and 4, which have the higher trabecular bone density (of 40 PCF). The third group is greater than the MTR group 4, most probably due to the thickness of the cortical bone. In Figure 5, it is show a typical torque in Ncm versus time in seconds response for insertion and removal of the MI. The MRT...
of group 3 had a progressive decrease, however it presented a shorter time span in the two thread types when compared to its MIT. The MRT for group 3 is higher than in most MRT test groups 1 and 4, which has the higher trabecular bone density of 0.64 g/cm³ (40 PCF). The group MRT in group 3 is greater than the MRT of group 4, most probably due to the thickness of the cortical bone.

Figure 5. a) Typical insertion torque curve for 10 tests from group 3 with MI of 1.5 mm diameter x 6 mm long. b) Typical removal torque of the 10 tests of group 3.

The SEM analysis revealed slight distortions practically rounding the edges of fillets MI and the edges of the active tip and there was no fracture, as shown in Figure 6. It was also observe a cleaning of small machining shavings still adhered to MI surface.

Figure 6. Back-scattered electron micrograph of the self-drilling tip of the mini-implants before insertion (6a) and after removal (6b) showing some edges have been rounded and the machining shavings have been removed.

The torque test in vivo has become a challenge due to variations in thickness and bone density. All MIT values increased with increasing thickness of the cortical bone, but the screw diameter was the most influential factor in determining the torque and concluded that MIT increased with the outer diameter was the most influential factor in determining the thickness and bone density. All MIT values increased in shortest time interval in the region of compacting threads and influence the time interval.

The thread pitch and depth of influence on the time interval and increased insertion torque and removal.

The thread test in vivo has become a challenge due to variations in thickness and bone density. All MIT values increased with increasing thickness of the cortical bone, but the screw diameter was the most influential factor in determining the torque and concluded that MIT increased with the outer diameter was the most influential factor in determining the thickness and bone density. All MIT values increased in shortest time interval in the region of compacting threads and influence the time interval.

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A Critical Analysis of the Support Provided by the Government and the Legal System for the Maintenance and Welfare of the Elderly

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ABSTRACT
It hardly needs to be emphasised that due to the rising life expectancy across the country, there has been a significant rise in the number of older persons in our country too. We all know that India has had a long-standing tradition of giving the elderly a position of respect in all spheres of life. However, the position and status of the elderly in the contemporary society is being undermined due to several factors including the breakdown of the joint family system. The objective of this paper is to analyse the various reliefs provided by the Indian Legal System and the Government, for the maintenance and well being of the elderly.

KEYWORDS  elderly, Government, legal system, breakdown, contemporary society;

1. INTRODUCTION
"It's not how old you are, it's how you are old." - JULES RE-NARD

Elderly or old age consists of ages nearing or surpassing the average life span of human beings. The boundary of old age cannot be defined exactly because it does not have the same meaning in all societies. Government of India had adopted National Policy on Older Persons in January, 1999. The policy defines “senior citizen” or “elderly” as a person who is of age 60 years or above. Sec. 2(h) of the Maintenance and Welfare of Parents and Senior Citizen's Act, 2007 also defines 'senior citizen' as a person being a citizen of India, who has attained the age of sixty years or above.

2. STATUTORY PROVISIONS
(a) HINDU ADOPTIONS AND MAINTENANCE ACT, 1956
In order to tone down the problems of the elderly people, the legislature had laid down various enactments including the Hindu Adoptions and Maintenance Act, 1956. Hindu law recognizes and puts the obligation of maintenance of aged parents on their sons, who are not able to maintain themselves out of their earning and property. Maintenance of aged parents was recognized as a personal legal obligation enforceable by sovereign or the state. “The Hindu Adoption and Maintenance act 1956 is the first personal law statute in India which imposes an obligation on the children to maintain their parents.” It was not only the duty of the sons to take care of their aged parents, the daughters are equally liable for it. The most important that we can infer from this is that financially unstable parents are the ones who could go for maintenance as guaranteed under this act. Though this act was an important milestone it had limited scope with respect to the maintenance of parents. Moreover this act is a part of Hindu personal laws, and is not secular in nature.

(b) THE CRIMINAL PROCEDURE CODE,1973
In order to provide relief every elderly person, irrespective of their religion, the Criminal Procedure Code 1973 made it obligatory for every person to maintain his or her parent's. In Baban vs. Parvatibai, Parvatibai after her husband's death adopted a child. She filed a claim for maintenance against her adopted son Baban, and the ground on which the case was mainly contested on was that was not his real mother and an adoptive one. It was held by the Court that “upon adoption the son occupies the position of a natural born son in the family. Consequently, the adoptive father becomes his father and the adoptive mother becomes his mother for all purposes. It would be anomalous if only the adoptive father were to be given a right to maintenance and not the adoptive mother.” The decision holds high on equitable justice as the adoptive mother or father treats his/her adopted son as his/her real son providing him all the love, care and affection and so he/she should be entitled to hold the position as that of a real mother or father.

(a) THE MAINTENANCE AND WELFARE OF PARENTS AND SENIOR CITIZENS ACT,2007
This Act places the obligation of maintaining a senior citizen by his or her, grand children or any legal heir. This provision has to be commended by the law makers for they were able to look into the matter of such importance with greater insights. There are many families in India in which children are being brought up by grandparents. So as a result they act in place of parents so the law has looked into the fact that these people should be included for claim of maintenance as they too require support from the their families and also in some cases there maybe only grandchildren due to death of the son. A major flaw in this Act which should have had been addressed but unfortunately did not is that it does not mention the responsibility of son/ daughter in law to maintain their parents in law. As we know that son/ daughter have equal share in property and if they will inherit the property it is but obvious that there better half will do the same. Now the question that arises is if they enjoy the benefits, shouldn’t they be held responsible for their duties as well? They utilize the benefits of the property as the legal heirs do (in normal circumstances) and are left unperturbed when the issue of maintenance arises. This is quite a matter of concern which was overlooked by the law makers but should have found a place in the act due to its very premise.

3. GOVERNMENTAL INITIATIVES:
It is a well known fact that ageing poses twin challenges. Firstly, we need to ensure care and protection of the elderly so that they can lead a healthy, dignified and productive life. Secondly, the older people must be looked upon as partners in progress rather than as a burden on the society. The Government of India on recognising the challenges posed by this demographic change took certain initiatives to ensure that the process of ageing for the people is both active and productive.

A. National Council for Older Persons
The National Council for Older Persons (NCOP) was constituted in 1999 under the Chairpersonship of the Minister for Social Justice and Empowerment. The NCOP is the highest body...
to advise the Government in the formulation and implementation of policy and programmes for the aged. The Council was reconstituted in 2005 with members comprising Central and State Governments representatives, representatives of NGOs, Citizen’s Groups, retired person’s associations, and experts in the field of Law, Social Welfare, and Medicine.

B. Central Sector Scheme of Integrated Programme for Older Persons (IPOP)
An Integrated Programme for Older Persons (IPOP) is being implemented since 1992 with the objective of improving the quality of life of senior citizens by providing basic amenities like shelter, food, medical care and entertainment opportunities and by encouraging productive and active ageing through providing support for capacity building of Government/Non-Governmental Organizations/Panchayati Raj Institutions/local bodies and the community at large. Under the Scheme, financial assistance up to 90% of the project cost is provided to non-governmental organizations for establishing and maintaining old age homes, day care centres and mobile Medicare units.

C. National Programme for Health Care for Elderly (NPHEC)
NPHEC was implemented by the Ministry of Health and Family Welfare from the year 2010-11 with an approved outlay of Rs.288 crore for the remaining period of the 11th Five Year Plan. The Ministry also provides the following facilities for senior citizens:

- Separate queues for older persons in government hospitals.
- Geriatric clinic in several government hospitals.

D. Indira Gandhi National Old Age Pension Scheme (IGNOAPS)
IGNOAPS was implemented by the Ministry of Rural Development under which Central assistance is given towards pension at Rs. 200/- per month to persons above 60 years and Rs.500/- per month for senior citizens of 80 years and above belonging to a household below poverty line, which is meant to be supplemented by at least an equal contribution by the States. With effect from 1 July, 2013, the pension schemes under NSAP have been brought under the ambit of Direct Benefit Transfer (DBT), wherein the money is directly transferred into the bank account of beneficiaries. 121 Districts in 26 States/Union Territories were selected under Phase I and Phase II for implementation of the DBT. It has been decided to roll out DBT all over the country.

E. Income Tax Exemptions
Income Tax exemptions are provided to the senior citizens by the Ministry of Finance. Some other facilities provided by the Ministry are as under:

- Income tax exemption for Senior Citizens of 60 years and above up to Rs. 2.50 lakh per annum.
- Income tax exemption for Senior Citizens of 80 years and above up to Rs. 5.0 lakh per annum.
- Deduction of Rs.20,000 under Section 80D is allowed to an individual who pays medical insurance premium for his/her parent or parents, who is a senior citizen.
- An individual is eligible for a deduction of the amount spent or Rs.60,000, whichever is less for medical treatment of a dependent senior citizen.

F. Insurance Regulatory Development Authority (IRDA)
IRDA which is working under the Ministry of Finance has issued instructions on health insurance for senior citizens to CEOs of all General Health Insurance Companies like:

- allowing entry into health insurance scheme till 65 years of age,
- transparency in the premium charged,
- reasons to be recorded for denial of any proposals etc. on all health insurance products catering to the needs of senior citizens. Likewise the insurance companies cannot deny life insurance to senior citizens,
- to design their products in such a way that various options are available to policy holders so that those who are unable to pay can go for reduced premium with reduced sum assured.

G. Pensions Portal
A Pension Portal has been set up by the Department of Pensions, Government of India, to enable senior citizens to get information regarding the status of their application, the amount of pension, documents required, if any, etc. The Portal also provides for lodging of grievances. As per recommendation of the Sixth Pay Commission, additional pension will be provided as per details given below to older persons:

<table>
<thead>
<tr>
<th>AGE GROUP</th>
<th>% OF PENSION ADDED</th>
</tr>
</thead>
<tbody>
<tr>
<td>90+</td>
<td>100</td>
</tr>
<tr>
<td>95+</td>
<td>90</td>
</tr>
<tr>
<td>100+</td>
<td>80</td>
</tr>
</tbody>
</table>

H. Twelfth Five Year Plan and Senior Citizens
The major focus in the Twelfth Plan has been the consolidation, expansion and strengthening of the various programmes into comprehensive coordinated system to fulfill the aspirations of these vulnerable sections of the society. With a view to ensure the well-being of senior citizen, efforts need to be made for (i) setting up a National Commission for Senior Citizen to look into their grievances on priority for redressal and ensure that services and facilities meant for them are being provided; (ii) establishment of Old Age Homes for Indigent Senior Citizens with integrated multi-facility centre of varying capacity in 640 districts of the country, through State Governments; (iii) setting up of a Helpline and District level help lines for older persons; (iv) setting up of Bureau for Socio-Economic Empowerment of Senior Citizens at district level; (v) creation of National Trust for the Aged; (vi) issue of Smart Identity Cards for senior citizens; and (vii) health insurance for senior citizens.

4. CONCLUSION
Considering God is a distant thing, people nowadays don’t even treat their parents humanly. For those helpless parents the Indian legal system and the Government have provided a reclusion in the form of the various statutory provisions as mentioned above in the paper. These statutes can have positive effect on the lives of unfortunate parents but only if they exercise their authority and stand up for what is rightfully theirs. They shouldn’t let their children use them and throw them as per their wish. These legislative actions can only prove to be effective when parents use them as a tool to protect themselves. As for the children, they should accompany their parents and support them, instead of completely neglecting them. We are so busy growing up, that we tend to forget that our parents are also growing old.

REFERENCES


**Research Paper**

**Modem Aggregated Functions Invocation By Layer-4 Intelligence**

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**ABSTRACT**

The Object Oriented Systems Radio Interface Layer (OOS RIL) like android, windows and iOS, Customer-AT and windows messenger provides the similar functionality with same level of abstraction. And these components expect the higher level of abstraction than the modem platform APIs. Modem aggregated function invocation by layer-4 Intelligence fills the gap of modem telephony layer-4 functionality. This layer needs to build the telephony state machines and layer-4 logic around these state machines. And Modem aggregated function invocation layer exposes this functionality through the controlled APIs.

I. INTRODUCTION

Now is the era of “smart phones”, there are essentially two processors in smart phones. Application processor where operating systems like android, iOS, windows etc, installed and along with user interface. Communication processor where all the GSM and all high-tech inter communication magic will happen.

In the most of modern smart phones the application processor, baseband processor and all the peripheral devises like microcontroller, memory blocks, RTC, UARTs, SPI, USB ports, SD/MMC card controllers and an ISO7816 SIM card reader etc, are integrated to one device/hardware called Smartphone or System on a Chip as shown in Figure 1.

![Figure 1 Smart Phone Architecture](image)

However, to maintain the layered structure of hardware, the Application processor and Communication processor still communicates via UART (serial line), USB, and SPI or through shared memory (RAM) and/or a combination of these. To communicate directly with communication processor there will be always be some path that directly accessible from outside. Exactly how this is done, is mostly unknown due to the closed source and protectionist nature of the SoC manufacturers, to the great dismay of the developer community.

There are several methods of controlling and invoking the modem applications like Customer-AT commands, Radio Interface layer (RIL), Remote procedure calls (RPC) or Windows messengers.

The Object Oriented Systems Radio Interface Layer (OOS RIL) like android, windows and so on, Customer-AT and Windows messenger provides the similar functionality with same level of abstraction. And these components expect the higher level of abstraction than the modem platform APIs.

Due to this gap, all these components end up with the duplication of functions. To fill this gap, needs a modem middleware component on top of platform API’s i.e. ‘Modem Aggregated Function Invocation by Layer-4 Intelligence’.

**Customer-AT commands:**

C-AT commands are used to control modem. Customer-AT -attention is the abbreviation of C-AT. “AT” is the prefix that informs the modem about the start of a command line. It is not part of the AT command name.

Here are some of the tasks that can be done using AT commands with a GSM/GPRS modem or mobile phone:

- Establish a data connection or voice connection to a remote modem (ATD, ATA, etc).
- Send and receive fax (ATD, ATA, AT+F*)
- Write (AT+CPBW), Read (AT+CPBR) and Find (AT+CPBF) from phonebook entries

**Radio Interface Layer**

The AOS provide support for this framework in the Radio Interface Layer (RIL), which acts as the interface between the radio HW and the Java Application Programming Interface (API). However, the RIL is divided into 4 parts or layers as shown in figure 2.

L3. RIL is available to all except some commands.
L2. The RIL Daemon (RILJ) is an interface between Android Operating System and the Vendor RIL.
L1. The Vendor RIL, which is a closed-source and HW-specific implementation.
L0. The Vendor RIL modem HW and firmware then acts on the Layer-1 Customer-AT Commands.
II. DESCRIPTION OF THE SYSTEM

A. PROPOSED SYSTEM

"Modem Aggregated Functions Invocation by Layer-4 Intelligence" is a layer newly introduced between the application layer and communication layer which fills the gap of modem telephony layer-4 functionality. This layer needs to build the telephony state machines and layer-4 logic around these state machines. This Modem aggregated function invocation layer exposes the functionality through the controlled APIs as shown in Figure 3.

B. IMPLEMENTATION PROPOSAL

Modern aggregated function invocation by layer-4 Intelligence provides the Layer-4 functional APIs.

This layer majorly contains the two sub components:
1. State management layer
2. Logic Layer

State management layer: This sub component builds and manages the telephony state machines and all components will be given a registered id called context-id and this will be fixed throughout the process. State management layer maintains the table which contains the response callbacks for each request and indication callbacks.

Logic Layer: This sub component builds the modem aggregated function invocation layer 4 functional use case by using the state management layer.

POSSIBLE SOLUTIONS FOR IMPLEMENTING MAFIL

We can implement the proposed system MAFIL -4 Intelligence in three different ways we will discuss each of them with their advantages and disadvantages.

Solution 1: Building the Layer-4 components independent of each other

Independently all the modem application components and OOS RILs(Android, Windows, Tizen and etc.) can implement the whole functionality on top of the platform interfaces as shown in Figure 4.

Disadvantages:
1. No reusability of code.
2. Code duplication across the components.
3. All components need to go through stability cycle.

Advantages:
1. No advantages.

Solution 2: Introducing the new application middleware component in the Modem scope

Introduction of the new application middleware component in the system by considering the required Layer-4 functionality, so that all these components can be re-used the functionality from the new component. This component will be implemented from the scratch. As shown in Figure 5.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Criterion</th>
<th>Solution 1</th>
<th>Solution 2</th>
<th>Solution 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Reusability</td>
<td>Low</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>2</td>
<td>Stability</td>
<td>High</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>3</td>
<td>Efforts</td>
<td>High</td>
<td>High</td>
<td>Low</td>
</tr>
</tbody>
</table>
Figure 5: Solution 2

Advantages:
1. No Code duplication across these components
2. More cleaner approach

Disadvantages:
1. Its takes time to mature and stabilize
2. Stability of C-AT and other stable components will be effected heavily
3. Huge development efforts

Solution-3: Introducing the new application middleware component in the system by considering the common re-usable parts from exiting stable components
C-AT is one of the stable components and cleanly modular across the vertical functional domains. C-AT already exposed the logic layer APIs to the AT parser as internal C-AT APIs, these APIs are independent of AT semantics. This particular layer can be plugged out from C-AT and build the base for ‘Modern aggregated function invocation layer’. As shown in Figure 6.

Figure 6: Solution-3

Advantages:
1. No Code duplication across these components
2. The benefits of this approach would be to leverage on already stable & tested functionality

Disadvantages:
1. MBIM handler and RPC RIL need to move to new MAFIL-4 APIs.

Evaluation Criteria
The reusability, how much the code can be re used to avoid duplication is one of the criteria. Stability after changing the methodology whether they will affect the existing methods or not. Effort the number of person required to implement the selected solution. The below table Table-1 shows the evaluation criteria.

Table 1 Evaluation Criteria
Based on above criteria Solution 3 is selected for implementation.

C PSEUDO CODE
This pseudo code tells how the clients of MAFIL will requests the MAFIL.

Begin If modem is in off mode Start the modem If MAFIL is not busy Fill the parameters required for performing the activities.

Validate the parameters If all parameters are correct Send request to MAFIL

Else
Return the error
Else
Wait for MAFIL to be Idle
End
IV. RESULTS AND DISCUSSIONS
V. CONCLUSIONS
The process of communication is very important between in the processor is very important in mobile devices has wide scope for enhancements. Be it reduction in time, lowering power consumption, efficient memory utilization etc. There is always a scope and need for improvements. These enhancements have direct impact on the quality and longevity of mobile devices in the global market. The proposed work, Modern Aggregated Function Invocation by layer-4 intelligence, provides higher level of abstraction without any duplication. Provides the application specific APIs with higher granularity then the platform APIs, Not intended to replace/hide the platform APIs and Scope of these APIs is to promote the re-usability across the application components. Instead of making all the logical activities in one module like clients of MAFIL it is distributed to MAFIL also. Maintenance is reduces as by centralizing the core functionalities. Since there are many clients to MAFIL all the core functionalities are moved to MAFIL instead of keeping at the clients of MAFIL. Optimized memory usage if we are using multiple clients.