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# Certificate

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# The beneficial roles of trace and ultratrace elements in plants

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## Abstract

The optimal elemental nutrition is the key to obtain high quality crop yields, presently and more so in future climate. Plants need a number of elements spanning the periodic table for their overall growth and development, including carbon (C), nitrogen (N), oxygen (O), potassium (K), zinc (Zn), copper (Cu) etc. Some of these elements are required in large amounts and are either easily available or provided to plants via external supply. The elements like Zn, Cu, iron (Fe) etc. are required in lesser amounts ranging from trace to ultratrace levels. Additionally, there are other elements, known as beneficial elements, which are although not essential but improve growth and stress tolerance of plants, for example selenium (Se) and silicon (Si). Various elements take part in plant metabolic activities as constituent of enzymes like Se in glutathione peroxidases and thioredoxin reductase, nickel (Ni) in urease and glyoxalase I, Zn and Cu in superoxide dismutases and molybdenum (Mo) in nitrate reductase. Certain elements participate in electron transport in mitochondria and chloroplasts and allow smooth operation of photosynthetic and respiratory processes. In addition, an optimum supply of beneficial and ultratrace elements help plants' tackle various abiotic as well as biotic stresses. Thus, maintaining a fine balance of plant mineral nutrition is a sustainable approach to ameliorate crop health and yield. The present review presents diverse roles of various essential and beneficial trace and ultratrace elements in *plants* and discusses future directions of research on these elements in plants.

**Keywords** Aluminium · Elements · Lithium · Nickel · Silicon

## Introduction

The world agriculture is facing serious consequences of a number of abiotic and biotic environmental factors and is heading towards an even harsher era. The normal growth and development of plants is seriously affected amidst prevailing multiple stresses, such as heavy metals, ozone, elevated carbon dioxide, extreme temperature regimes, pathogens, eventually leading to reduced yield (Tutz 2013).

Although overall agricultural production has been increasing for several crops, it has been attributed to agricultural expansion and application of modern agricultural methods and irrigation. Nevertheless, the increment in crop production has been lower in recent past as compared to that occurring in late twentieth century (Grassini et al. 2013).

An important aspect of agriculture is the quality of crop produce particularly in terms of elemental levels. The reduction in growth of plants, including roots perturbs the uptake, transport and homeostasis of elements required for normal metabolic activities. Prolonged stress, for instance presence of a toxic element (cadmium; Cd, arsenic; As) in the farming lands, consistently affects mineral nutrient homeostasis and ultimately leads to their decreased levels in grains / crop produce (Clemens and Ma 2016). Humans are dependent on plants directly or indirectly for their nutrition and therefore, elemental deficiency in crop plants poses problems of optimum nutritional supply to humans (White and Broadley 2009). In fact a number of diseases are known to occur and are prevalent in humans owing to elemental deficiency in diet (Himoto and Masaki 2020). Therefore, it becomes a

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## **Basic Instrument of Indian Drone (Traditional and Electronic Tanpura): A Study**

By

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## Abstract

The drone is an essential component of music. It is the drone which provides the tonal base upon which the musician develops modes of ragas. This was normally provided by traditional instrument commonly known as Tanpura. Traditionally drone is often provided by one or more *Tanpura* player(s), especially for vocal performances. Traditional Tanpura is made of wood. The body shape of the *Tanpura* somewhat resembles that of the sitar, but it has no frets – as the strings are always plucked at their full lengths. One or more *Tanpura* may be used to accompany vocalists or instrumentalists.

The fast growing modern technology has also impact on music and music instruments. Mr G. Raj Narayan in 1979 invented electronic Tanpura. He was founder of **Radel Electronics** famous in manufacturing of Electronic *Tanpura* in India. Although electronic tones are not directly related to computer yet these tones are produced through an electronic chip which, in turn, is dependent upon computer technology, Electronic tones are produced through a concept called digital signals. Many musical instruments were created through the means of electronic tones. This is how Electronic Tanpura came in existence. Its compact form, easy handling, and its accessibility made it popular among the music lovers. In past two decades this instrument gained popularity and became integral part of any musical concert. The use of Electronic Tanpura in music concerts has given rise to criticism but during covid pandemic we all have experienced the utility of these Electronic Gadgets.

### Keywords

1. Traditional Instruments
2. Electronic Instrument
3. Advantages of Electronic Tanpura
4. Impact on Traditional Instrument
5. Criticism

## **Basic Instrument of Indian Drone (Traditional and Electronic Tanpura): A Study**

Historically, the majority of traditional Indian music was preserved by oral transmission of Rhythms and melodies from generation to generation. India has a wonderful history of teaching music. *Guru-shishya parampara* was in practice for education in music. Music material travelled a long and simple linear path from teacher to disciple, calling for a long-term apprenticeship. *Shruti* (committed to ear) and *Smriti* (committed to memory) were the ancient modes of transmitting any learning and Wooden instrument named – *Tanpura* (a long-necked plucked string instrument-) was in use for drone (Basic notes) in various forms of Indian Music. Traditionally drone is often provided by one or more *Tanpura* player(s), especially for vocal performances. The body shape of the *Tanpura* somewhat resembles that of the sitar, but it has no frets – as the strings are always plucked at their full lengths. One or more *Tanpura* may be used to accompany vocalists or instrumentalists. It has four or five (rarely six) metal strings, which are plucked one after another in a regular pattern to create a harmonic resonance on the basic notes of a key. *Tanpura* made in *Miraj (Barodra)* is known to be best for use in Northern Indian classical music.

### **Parts Of Tanpura :**

Various parts of Tanpura are Tumba ,Tabli, Langot , soot, Manke ,jawari, Ghurach, Dand, Gullu, Atti, Targahan , Khunti and Sira. Fine inlay work and leaf pattern made of Ivory is used to decorate Tanpura. Tanpura comes in different sizes and pitches: large for 'males' and smaller for 'female Vocalist .yet there is one other smaller version is used for accompanying Sitar or Sarod ic called '**Tanpuri.**' There are four metal strings, three are





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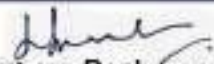
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## HIND DI CHADAR- SHRI GURU TEGH BAHADUR Ji\*

BY

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### ABSTRACT

Guru Tegh Bahadur Ji, the ninth Guru of Sikhs was born on 1st April 1621 at Ramdaspur. He was son of Guru Hargobind ji sixth Guru of Sikh Religion. He was named as Tyag Mal in childhood. He was a great Philosopher and a brave Warrior. He was so brave that he fought Battle of Kartarpur only when he was 13 years old. His father gave him title of Baba Tegh Bahadur. He spent most of times in Meditation and seclusion. He was declared Ninth Guru of Sikhs and he founded the city of Chak Nanaki at the foothill of Himalayas. Later on this city was renamed as Anandpur Sahib. Guru travelled through out India to unite entire Sikh organizations for facing the troublous times that was fast approaching. He thought it advisable to visit all the old shrines of Sikhs and where ever the Sikhs lived, to make them conscious of troubles that loomed ahead and organize them sound footing; the challenge of Aurangzeb, who was bent upon making India Dar-ul -Islam, so he started his journey from Punjab to various parts of India. When Kashmiri Brahmins reached to meet him seeking his help in defending them from cruel policies of Aurangzeb. Guru Tegh Bahadur stood for Kashmiri Brahmins and voluntarily Sacrificed his life for the sake of humanity. For his sacrifice he is also called named "Hind Di Chadar." Bani of Guru Tegh Bahadur has been incorporated in the Adi Granth..

### KEYWORDS

Hind Di Chadar.

"Shri Guru Tegh Bahadur Simriye kar nav nidh ave tae sab thai hoe sahay"

Guru Tegh Bahadur Ji, the ninth Guru of Sikhs was born on 1<sup>st</sup> April, 1621 at Ramdaspur (Amritsar) and was the youngest son of Guru Hargobind ji (sixth Guru of Sikh Religion) and Bibi Nanki. He was named as Tyag Mal in childhood. In his early childhood Tyag Mal learnt

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## “पंजाब की संगीत परम्पराएँ” एक ऐतिहासिक अवलोकन

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सूत्र

प्रारम्भ से ही पंजाब प्रदेश उपजाऊ धरती होने के कारण सभ्यता और संस्कृति के विकास की कर्मगुमि रहा है। लगभग 1500 ईसा पूर्व आर्यों का पंजाब प्रदेश में हुआ वे मूलतः यही बस गए इसी प्रांत में चारों वेदों की रचना हुई। प्राचीन दो धार्मिक महाकाव्य रामायण और महाभारत, कुश्धेत्र पंजाब सीमा के अंतर्गत थे। प्राचीन पंजाब प्रदेश की भौगोलिक सीमा का प्रस्तार अफगानिस्तान तक था, इसलिए विदेशी आक्रमणकारियों के दबाव के कारण पंजाब प्रदेश में जनजीवन अधिकतर युद्धों में नीता। मले ही एक लम्बे काल तक शास्त्रीय संगीत की परंपरा की कड़ियाँ लुप्त हो चुकी है फिर भी पंजाब प्रदेश में लोक गीत, लोकगाथाओं एवं लोकधुनों का विस्तृत स्वरूप देखने में आता है। 13 वीं शताब्दी अलाउद्दीन खिलजी के दरबारी गायक अमीर खुसरौ द्वारा सूफी गान परम्परा का प्रचार का मुख्य क्षेत्र पंजाब रहा। जब इस्लामी सभ्यता और कलाओं के प्रचार के विरुद्ध भारत में भक्तिआंदोलन ने जोर पकड़ा तो पंजाब के संत कवियों ने इसमें बल – बल योगदान दिया। गुरु नानकदेव ने संगीत और समाज को धार्मिक रचनाओं की ऐसी अदृश्य डोर से बांधा कि सम्पूर्ण पंजाब भक्तिमय रचनाओं का गढ़ बन गया। सिख सम्प्रदाय के इतिहास में “गुरुमत संगीत” की अविरल धारा यह निकली जो आज तक सिख सम्प्रदाय के गौरवमयी इतिहास की साक्षी है।

### पंजाब की संगीत परम्पराएँ – एक ऐतिहासिक अवलोकन

फारसी भाषा के दो शब्द ‘पंज’ तथा ‘आब’ का यौगिक शब्द रूप है जिसका अर्थ पाँच पानों से सीधी धरती। वेदों में अंकित पंजाब में यह सारा भू-भाग जो सिन्ध और उसकी सहायक नदियों सिन्धु, रावि, बिनाब, जेहलम, व्यास, सतलुज और सरस्वती से सिंचित था। इसलिए भारतवर्ष को ‘सप्त सिन्धु प्रदेश’ संज्ञा से परिभाषित किया जाता था। जिन पाँच नदियों की कवच से इस प्रदेश को पंजाब कहा गया उनमें सिन्धु और सरस्वती को छोड़ अन्य पाँचों नदियों के नाम आते हैं। भारतवर्ष का सीमावर्ती क्षेत्र पंजाब अपनी सुफला उपजाऊ धरती व समृद्धि के कारण सदैव ही विदेशी आक्रमणकारियों का शिकार रहा। निरन्तर राजनैतिक उथल-पुथल व आक्रमणों के आघात को सहन करती पंजाब की धरती अपनी संस्कृति, सभ्यता और कलाओं के दमपर आज भी विश्वविख्यात है।

ऐतिहासिक, राजनैतिक परिस्थितियों एवं संगीत का अवलोकन :

पंजाब का इतिहास ईसा से लगभग आठ हजार वर्ष पूर्व आरंभ होता है ईसा से लगभग चार – पाँच हजार वर्ष पूर्व यहाँ हड़प्पा और मोहनजोदड़ो की सभ्यता का विकास हुआ। आज भी सग्रह संस्कृति की अमूल्य निधि, नृत्य करती हुई मूर्तियाँ तथा वाद्यों के अवशेष मौजूद हैं, जिनसे पता चलता कि पंजाब सिन्धु घाटी में ईसा से हजार वर्ष पूर्व भी संगीत का विकास हो चुका था और यहाँ के लोग संगीत प्रेमी



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## WORKING OF URBAN LOCAL SELF- GOVERNMENT: A STUDY OF MUNICIPAL CORPORATION, LUDHIANA, PUNJAB

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Churu, Rajasthan

### Abstract

The advancement of a zone or region significantly rest upon the obtainability of suitable framework and amenities. There are several developing nations whose inhabitants leads a challenging life because of the below standard level of service available to the public in the urban regions as a result it has an adverse impact on the development of such regions. The main responsibility lies on the shoulders of the local governing bodies as they are the ones who are whole soul of all the government process at grassroots level. In fact, amongst all the urban local governing bodies, the one that enjoys the highest level of financial independence and functions is Municipal corporations. However, its financial and tax-levable power differ from one region to another. The paper attempts to analyse the services offered and delivered by the municipal corporation of Ludhiana and its impact. One hundred thirty three respondents have been picked up from random sampling. Linear regression has been used to find the impact of services offered and delivered by the MCL. As per the results, lot of services are offered by MCL in the field of health, education, water supply and property for public convenience however in regards with delivery of these services a problem. MCL has to work little harder to achieve the significant results.

**Keywords:** Local Government, Urban Area, Facilities, Services and

"The best school of democracy and the best guarantee for its success is the practice of local self-government" Lord Bryce in his prehistoric times. Urban local self-government has conventionally been associated with India's management of public affairs. Reference of which has been done by Megasthenes. In his book titled "Indica" (Management). These self-establishment have been in practice since the Mughal era but were recognized in the course of British rule. In the early 19th (Swami Ranjan Bhanushayya, Anupam Dey Goutam Bandyopadhyay, 2017) it becomes a priority for the government to function a role for the growth of urban framework as every level which will in turn reinforce the very existence of the nation's economy. The constitution of India, operates on 3 levels of federal regime viz. The Union Government, the State Government and the Local Self Governments. The local self-government bodies are further been categorized into 3 segments such as Nagar Panchayats for area undergoing transformation from a rural to urban, Municipal Councils for smaller towns rural and Municipal Corporation for bigger towns/urban).

Authors (Bart Voorn, Mariëke L. Van Genugten, and Sandra Van Thiel, 2017); (Antonia F. Tavares and Camoé J. Pedro, 2017); (G. Grossi and C. Reichard, 2008) has define municipal corporation a legitimate word for a local board or governing body comprising (however not really restricted to) urban communities, regions, towns, townships, section townships, towns, and precincts. The functions of Municipal Corporation and the schemes pertaining to the matters, to be implemented by them, which are listed in the 12<sup>th</sup> schedule of the constitution, are as follows:

- Urban planning together with town planning.
- Regulation of land-use and construction of buildings.
- Outlining for fiscal and communal progress
- Water supply for household, industrial and trade purposes.
- Public health, sanitation conservancy and management of solid waste
- Advancement and development of Slums
- Mitigation of Urban poverty
- Provision of urban conveniences and amenities such as parks, gardens, play area

<sup>1</sup>An ancient Greek historian, explorer of the Hellenistic era, diplomat and Indian ethnographer

<sup>2</sup>An ancient legal text among the many Dharmasāstras of Hinduism

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# URBAN LOCAL BODIES: A STUDY ON COMPOSITION, CHALLENGES AND REMEDIES OF MUNICIPAL CORPORATION WITH SPECIAL REFERENCE TO MUNICIPAL CORPORATION, LUDHIANA, PUNJAB\*

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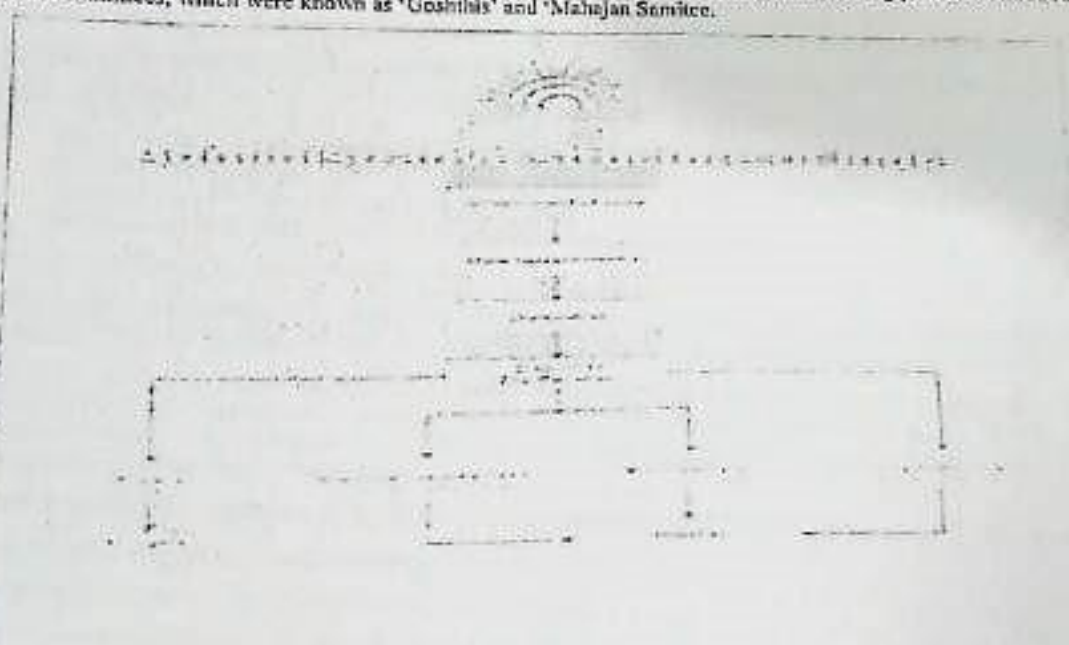
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## ABSTRACT

Urban local bodies mean towns, cities, metropolitan areas. ... Nagar panchayats (these are smaller towns which are in the process of transforming rural area to urban area). Urban Local Bodies created to take care needs of the urban society. Local Bodies have the responsibility of providing urban municipal services as per provisions of the Twelfth Schedule of the Constitution of India. Recently in India, three tier system of governance (Union, State and Local) tends to exist in effective and efficient administration of the nation. The Municipal Corporations are one of them. Local government institutions are not new to India and had come to us from the ancient times. Kautilya and other authorities called these institutions and Vedas, mainly the Rig veda, shows that ancient Hindus also live a corporate life.

In India, Municipal Corporation refers to that local government that administers a city of population 3,00,000 or more. The main focus of the paper is to study the composition, challenges and remedies of municipal corporation with special reference to Ludhiana Municipal Corporation.

The origin of local self-government had very deep roots in ancient India. On the basis of historical records, excavations and archaeological investigations, it is believed that some form of local self-government did exist in the remote past. In the Vedas and in the writings of Manu, Kautilya and others, and also in the records of some travelers like Megasthenes, the origin of local self-government can be traced back to the Buddhist period. The Ramayana and the Mahabharata also point to the existence of several forms of local self-government such as Paura (guild), Nigama, Puga and Gana, performing various administrative and legislative functions and raising levies from different sources. Local government continued during the succeeding period of Hindu rule in the form of town committees, which were known as 'Goshthas' and 'Mahajan Samitce'.



Urban local bodies have existed in one form or the other since times immemorial. Thus the history of local urban bodies though long is a chequered history. Though the earliest evidence of urban management in India can be traced to Indus valley civilization which was essentially an urban civilization, the modern civil administration in urban India owes its existence to the British rule.

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**A STUDY OF MUNICIPAL CORPORATION IN INDIA WITH SPECIAL  
REFERENCE TO DISTRICT LUDHIANA, PUNJAB**

Dr. Malvinder Kaur\*\*

**ABSTRACT**

74<sup>th</sup> amendment to the constitution of India, 1992 has identified enormous responsibilities of the urban local governments. Decentralization increases efficiency of the government at grass root level with the provision of various services due to their limited and better matching of services. An increase in decentralization is expected to delegate more powers to local government authorities and augment their capacity to mobilize resources. The government should reorient its attitude in regard to municipal corporations, providing constructive guidance and adequate assistance to them, as an active partner to the common cause of city administration. The Central Finance Commission (CFC) to suggest measures needed to augment the consolidated fund of the states to supplement the resources of municipalities devolved on the basis of the respective SFC recommendations. However, the progress in the implementation of SFC recommendations in several states has not been very encouraging. The CFC has also grappled in making recommendations of resource transfer to local governments in states.

Key words : Urban Local Bodies, Municipal Corporation, Decentralization, Revenue, Financial Sources.

Municipal governance in India has existed since the year 1687, with the formation of Madras Municipal Corporation and then Kolkata and Bombay Municipal Corporation in 1726. In the early part of the nineteenth century almost all towns in India had experienced some form of municipal governance. In 1882, the then Viceroy of India, Lord Ripon who is known as the father of local self government passed a resolution of local self governance which laid the democratic forms of Municipal governance in India.

In 1919, a Government of India Act incorporated the need of the resolution and the powers of democratically elected government of India Act brought local government under the preview of the state or provincial government and specific powers are given.

According to the 1991 Census of India, there were 3255 Urban Local Bodies (ULBs) in the country; classified into four major categories:

1. Municipal Corporation (Nagar Nigam)
2. Municipality (Municipal Corporation, Municipal Board, Municipal Committee) (Nagar Parishad)
3. Town Area Committee
4. Notified area Committee.

The municipal corporations and municipalities are fully representative bodies, while the notified area and town area committee are either fully or partially nominated bodies.

**Impact of 74<sup>th</sup> Constitutional Amendment Act 1992**

As per the constitution of India, 74<sup>th</sup> amendment Act of 1992, the later two categories of towns are to be designed as municipalities or nagar panchayat with elected bodies. Until the amendments in state municipal legislature, which were mostly made in 1994, municipal authorities were organized on an ultra vires (beyond the authority) basis and the state governments were free to extend or control the functional sphere through executive

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## PROGRESSIVE PUNJAB (INDIA) – ADOPTING E – GOVERNANCE IN VILLAGES, MUNICIPAL CORPORATIONS AND VARIOUS DEPARTMENTS

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### ABSTRACT

With presumptions that e-governance theories prevail in various formats and concepts around the globe, nations and institutions, not many examples are there to emulate in terms of developing a framework of e-governance system at the outer periphery of the government tiers. 73<sup>th</sup> panchayat raj act came into existence in 1993 and it paved a way for a strong and effective decentralized administrative system in India. The Indian constitution added 11<sup>th</sup> schedule to it dealing 29 subjects which are devolved to the local self government institutions. It is nearly 2 decades passed and still LSGs are hesitant to adapt with their roles to develop them as self sufficient administering regions. The devolved function is not fully exercised by the LSGs. The transferred departments connected with 29 subjects are still working in bureaucratic manner. The study reveals the real reasons behind the poor performance of LSGs and coming up with a technological solution to overcome the problem through an interactive e-governance system. Even though 29 subjects are given to the LSGs, 4 departments are considered in this research due to time constraints.

**KEYWORDS:-** Decentralize, governance, LSGI, bureaucratic, constitution, e-governance

### INTRODUCTION

The term e-Governance, implies the use of Information and Communication Technologies (ICTs) at various levels of the government and the public sector for the purpose of improving governance. e-Governance can bring forth new concepts of citizenship, both in terms of citizen needs and responsibilities. Its objective is to engage, enable and empower the citizen. Marche & Mc Niven (2003) defines e-Governance as, "a technology-mediated relationship between citizens and their governments from the perspective of potential electronic deliberation over civic communication, over policy evolution, and in democratic expressions of citizen will". In the course of time it became an inevitable future of modern governance (Gasco, 2003). It is argued that the internet and new technologies possess a vulnerable potential to revitalize the political communications in democracy (Coleman & Blumer, 2009:9). The importance of internet and new social media is well acknowledged by major state actors all over the world. With over Two Billion internet connections and an amazing growth rate of 480% (During 2000-2010) the internet is becoming a popular tool in developing social contacts and in organizing social actions.

According to International Telecommunication Union (ITU) estimates, 45% of the world's Internet users are below the age of 25. This provides further rationality for the acceleration of e-Governance initiatives. The introduction of E-Governance in local governance brings in better governance (Odendaal, 2003; Garretta & Jensen, 2011). One of the way to e-government understanding describes the evolution of e-government initiatives in terms of their degree of technological and organizational sophistication.

### DEFINATION OF E-GOVERNANCE

Different governments and organizations are defining 'E-Governance' as per their aims and objectives. E-Governance is define by Word Bank as "E-Government refers to the use by government agencies of information technologies (such as Wide Area Networks, the Internet, and mobile computing) that have the ability to transform relations with citizens, businesses, and other arms of government.

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## MULTIMEDIA A NEW DIMENSION IN MUSIC RESEARCH

✉ Anita Sharma\*

### ABSTRACT

21<sup>st</sup> century is considered to be age of science and technology. This revolutionary change has influenced all professional and industrial sectors. The impact of technology can be seen in every sphere of life. The fast growing technology has also affected the traditional methods of teaching learning in Indian Music. In the field of research the technology has taken lead that has proved to be best help aid for the researcher. It has also broadened the area of research. In addition to the two popular methodology of research (Qualitative and Quantitative research) technology has encouraged inter-disciplinary research commonly known as Pragmatic Research method. Technology has brought the world together and given common platform to the scholars. The main contribution of technology is its access. Features like: fast speed, consistent, cheap (available at low price), safe etc. has helped the most to the researcher in data collection and documentation of any subject. Change is the natural phenomena and new inventions have ever attracted the mankind. Use of technology can do wonders if a team of expertise members is set to restrict the irrelevant data to be posted on Internet. The same way plagiarism can be restricted. To improve the standard of original and quality research, technology can prove to be a useful Tool.

**Keywords :** Traditional methods of teaching in Music, Institutional Music, Pragmatic Research method, Multimedia Technology, Advantages of Technology in Research.

#### Introduction

Today we are living in the age of science and technology and rapid use of high-tech equipment has lead the world towards the new teaching-learning techniques. A revolutionary change has occurred in many professional areas. This tremendous technology advancement all around us has greatly influenced the process of teaching-learning in music. Music Education is one such area which is growing at rapid speed by adapting new technology. This change can be noticed in the field of Research in Indian music.

#### Music Education

India has a wonderful history of teaching music. Guru-shishya parampara was in practice for education in music. The shishya used to stay with their Guru till the completion of their education. The Guru was considered as the highest of all which has been well described in the

following couplet:

“ gurur brahma, gurur Vishnu, gurur devo maheshvera.....” (Vedas)

The relation between the Guru and Shishya is one of all pervading learning and complete trust, born out of Shishyas through total surrender to the universal glory of the art. To the Shishya the Guru symbolizes the art itself while for the Guru, Shishya signifies the continuity of the art. The Guru shares the sacred and secret knowledge of art with kindred souls, sincere in their quest. “ Shrutu (committed to ear) and Smriti (committed to memory) were the ancient modes on transmitting any learning. In other words Indian music witnesses the oral teachings as a potential mode of transmission of education.

During medieval period the Persian influence brought Gharanas in the history of Indian music. There

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## Agrarian Distress and Sustainable Development Goals: An Overview

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### ABSTRACT

The number of undernourished people dropped by almost half in the past two decades because of rapid economic growth and increased agricultural productivity. Unfortunately, extreme hunger and malnutrition remain a huge barrier to development in many countries as there are still 821 million people estimated to be chronically undernourished as of 2017 because of environmental degradation. The second sustainable development goal to attain zero hunger by achieving food security can only be achieved by improving agricultural productivity and providing suitable opportunities to the farmers and producers to enhance production in this sector. But in India after liberalization and globalization, Indian agricultural profitability starts declining and the Indian farmers because of mounting agrarian distress comes under severe debt trap. Several paradigm shifts in governmental policies although helped them in improving their economic position but still the farming community was not able to help the global world to attain second Sustainable Development Goals.

### Keywords

Debt trap, globalization, sustainable development goals.

### JEL Codes

Q01, Q14.

### INTRODUCTION

It is in the agricultural sector that the battle for long term economic development of India will be won or lost, Gunnar Myrdal said. As the whole global community wants to achieve 17 SDGs and 169 targets by 2030, but even after four years of its implementation, progress is not on the right track. To eradicating hunger and food insecurity sustainable agriculture is an important theme of Sustainable Development Goals. No Doubt, Improvement in agricultural productivity was recorded over recent decades to satisfy the food demand of the masses, but its progress comes with severe social and environmental costs such as soil degradation, water scarcity, biodiversity loss and high level of greenhouse emissions. Our natural resource base was damaged by compromising the future fertility of the planet. Currently, 821 million people are hungry and every third person is malnourished and people in the world are facing food insecurity. According to UNDP by 2030, end hunger and ensure access to all people, in particular the poor people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round.

The second sustainable development goal to attain

zero hunger by achieving food security and improved nutrition and promote sustainable development agriculture can only be achieved by increasing agricultural productivity and improving the condition of rural masses, but the current situation of rural distress in India is making it difficult for the Government and administration to fulfill this goal.

Agriculture is the main and important occupation for the population living in South Asia especially in India. With a nearly six-fold increase in food grain production from 50 million tonnes in 1950-51 to more than 283.37 million tonnes in 2018-19, India's performance to expand food production and build up stocks of food grain has done well. The granaries are overflowing in the country when agrarian distress is quite pronounced, and India ranks dismal 102 among 117 countries in the Global Hunger Index, 2019. The implementation of the revamped public distribution system (PDS) under the National Food Security Act (NFSA), 2013 is an important change in the approach towards the issue of food security at the household level. The schemes like Antyodaya Anna Yojana and Mid-Day Meal are providing food security to downtrodden. In India, approximately every rural Indian

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## पंजाबी लोक गायकी के बदलते आयाम



डॉ. शरनजीत कौर परमार

एसोसिएट प्रोफेसर, गवर्नमेंट कॉलेज फॉर गर्ल्स, लुधियाना (पंजाब)

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### संक्षेप

पंजाबी लोक गायकी का क्षेत्र बहुत विशाल है जिसमें पंजाब के सामाजिक, आर्थिक और सांस्कृतिक जीवन का विस्तृत वर्णन मिलता है। समय-समय पर लसती परिस्थितियों ने हमारी लोक-कलाओं को भी प्रभावित किया है। जो पंजाबी कल्चर और रीति-रिवाजों से ओत-प्रोत पारम्परिक संगीत गायकी को प्रचलित था। आज के दौर में इसकी संजीवनी लगभग समाप्त हो रही है। हमारी जीवन शैली में विकासशीलता के चलते सांस्कृतिक परिवर्तन का प्रभाव भी है। वैश्वीकरण के प्रभाव हेतु भिन्न-भिन्न संचार साधनों और इन्टरनेट की आमद ने आज पंजाबी लोक गायकी को पूर्ण रूप से व्यस्त कर दिया है। पंजाबी गीतों में दूसरी अन्य भाषाओं का प्रयोग और रैप के अतिरिक्त पश्चिमी बीट्स पर आधारित गीतों का प्रचलन आज बढ़ रहा है। लुधियाना के युग में जी रहे हैं जिसके फलस्वरूप आज के पंजाबी गायक केवल पंजाब में ही नहीं बल्कि विश्व के कोने-कोने में अपनी गायकी प्रस्तुत कर रहे हैं। अन्तर्राष्ट्रीय स्तर पर केवल प्रसिद्धि ही नहीं बल्कि मान-सम्मान भी हासिल कर रहे हैं। आजकी गायकी केवल जन-साधारण के मनोरंजन का साधन रहकर व्यापारिक क्षेत्र में पैसा कमाने का एक उत्तम साधन सिद्ध हुई है। नए दौर की लोक-गायकी के बदलते स्वरूप को ध्यान में रखते हुए इस क्षेत्र में वर्ष 1947 से लेकर वर्तमान तक की गायकी में आए बदलाव और इसके प्रस्तुतीकरण के प्रत्येक पक्ष पर विशेष रूप से चर्चा की गई है।

मुख्य शब्द : पंजाब, लोक गायकी, उपयोगी कला, ललितकला, परम्परा

### प्रस्तावना

गायकी हमेशा से ही भारतीय सभ्यता का अटूट अंग रही है, जिसकी अपनी एक अलग पहचान है। स्वर, ताल और काव्य का मिश्रण इसे की कलाओं से श्रेष्ठ बनाता है। गायकी जो किसी समूह या जाती विशेष के संस्कृति के मूल सरोकारों और मानव हृदय के भावों को प्रकट करती है। वास्तव में मानव मन के सूक्ष्म भावों का लयात्मक प्रदर्शन ही गायकी का आधार है। लोक गायकी का मुख्य उद्देश्य मनोरंजन रहा है। विश्व के अन्य देशों से सांस्कृतिक आदान-प्रदान को बढ़ावा देने में पंजाबी लोक गायकी ने अहम भूमिका निभाई है। आज पंजाबी संगीत विदेशी श्रोताओं की संख्या कहीं अधिक है जिससे विदेशी धरती पर पंजाबी गायकों के प्रति उनके आकर्षण व लगाव की पुष्टि होती है। गीत जगत में पंजाबी लोक गायकी की एक विलक्षण और प्रभावशाली परम्परा रही है। जिसमें समय-समय पर कई बदलाव आते रहे हैं, कि मनुष्य का स्वभाव परिवर्तनशील है इसलिए हर एक कला में समय और विकास के साथ-साथ परिवर्तन आना स्वभाविक है। परिवर्तन का नियम है और शाश्वत है। समय के साथ किसी भी वस्तु, विचार और विचार में भिन्नता आती है। मौसम बदलते हैं, मनुष्य की प्रवृत्तियाँ बदलती हैं। वास्तव में समय के साथ उत्तरोत्तर बदलने को ही विकास कहा जाता है।

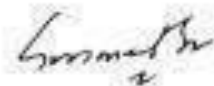
विश्व के हर एक संस्कृति ने समय-समय पर दूसरी संस्कृतियों को प्रभाव ग्रहण ही नहीं किया बल्कि उनमें निहित कुछ खास विशेषताओं को अपने संस्कृति का हिस्सा भी बनाया है। संस्कृति शोक संपन्नता निर्मित विशेष जीवन शैली का नाम है। यह मानव द्वारा निर्मित सामूहिक प्रबन्ध है जिसमें जरूरत के मुताबिक घर परिवार, रिश्ते-व्यवहार, रीति-रिवाज, विश्वास, पहनावे, हारभूषण आदि की सुझाव होती आई है। यह एक गतिशील प्रवाह है जिसमें पदार्थिक, तकनीकी और भिन्न-भिन्न बदलाव परिवर्तन लाते रहते हैं। हर नई पीढ़ी अपनी विशेषता पीढ़ी से कुछ भिन्न होती है और परिवर्तित होती रहती है। पंजाबी गायकी अनेक सभ्याचार सदन में एक कथन है—“पंजाबी संस्कृति ने भी दूसरी संस्कृतियों से अच्छा और बुरा प्रभाव ग्रहण किया और अपना संस्कृति विश्व की दूसरी संस्कृतियों को प्रदान की है। यह परिवर्तन सामाजिक, विद्यक, आर्थिक, योजनाबद्ध, वैज्ञानिक, औद्योगिकरण व दूरसंचार विद्यक आदि अनेक पक्षों के रूप में हमारे सामने दृष्टिगोचर होता है।” [1]

इसी संदर्भ में जार्ज बर्नार्ड शा कहते हैं—“बिना किसी बदलाव के प्रगति असंभव नहीं और जो लोग अपना दिमाग नहीं बदल सकते हैं, वे कुछ भी बदल नहीं सकते हैं।” [2]

## Problem of Rural Indebtedness and Agrarian Distress in India

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### Abstract

Agriculture is the backbone of Indian Economy and every economic activity is related with this occupation. India has been an agrarian economy and due to several types of social and economic reforms it got importance. But after 1990s Indian agriculture starts declining and due to increasing cost of inputs farmers' takes loan from the formal as well as from informal sources. But due to lack of profitability and diminishing productivity farmers are fallen in the debt trap. The impact of rising debt is so severe that it forces them to take the dreaded step of farmer suicide. Debt Relief and loan waivers schemes are therefore used by the Center and State Governments as a quick means to help farmers to restore productivity and improve their credit needs.

**Key Words:** Indebtedness, productivity, farmer suicide, loan waivers

### INTRODUCTION

Agriculture always plays an important role in the overall economic and social well being of our country. India has been an agrarian economy and due to various social and economic reforms. It got importance because of green revolution in the early 1960's due to High Yield Variety of Seeds. Agriculture have been the strong pillar of the Indian economy, not only it is providing employment directly or indirectly to almost half of its population but also contributes nearly 17% in the national Gross Domestic Product. It is because of increasing profitability in agriculture and finding it lucrative farmers started to invest more in scientific techniques to fetch more profits out of it. They started to produce those crops which are commercially viable. Till the early 1990's, farming appear to be very profitable so buoyed by the profits farmers started pumping in more capital by procuring loan from non institutional sources, such as commission agents, local money lenders, big landlords etc., at higher rate of interest as the institutional loan is difficult to avail. Not only rate of interest is high, their terms and conditions are also so tricky that once the farmers take loans from these informal sources, they are trapped under vicious circle of debt trap. (NABARD 2017 and NSSO 2013) The agrarian crisis in India has been spatial and institutional. The long term spatial features show that there is a declining trend in the agricultural productivity.

A study by NSSO 59<sup>th</sup> and 70<sup>th</sup> round shows that out of total number of cultivators only 56% received credit from formal sources and rest 44% of farmers have no access to formal credit in India. Money lenders were the only source of credit to agriculture till 1935 and they used to charge higher rate of interest resulting in burdening the farmers with debt. (Mishra et al, 2017). Thus somehow rural credit plays pivotal role in agriculture which acts as an enabler in purchasing different types of techniques (Pandey et al, 2018).



## IMPORTANCE OF RURAL CREDIT

Indian farmer is mostly poor and lives in misery conditions, they are having lack of credit and most of the time they feel like handicap to purchase inputs like good variety seeds and modern equipments. While discussing the importance of agriculture and its development, the role of agricultural credit plays an important role. Indian agriculture has always been in need for credit and farmers got credit at high rate of interest. Various studies like (Mohan 2006) and (Goliath 2007) analyses the issues in agricultural credit in India. The studies revealed that overall supply pattern of agricultural credit continuous to be inadequate. The studies show that banking sector is still hesitant to supply credit to small farmers as they lack the ability to provide collaterals for their loans. As a result of this it has been observed that though, both, institutional and non-institutional credit facilities are available to small farmers, they tend to prefer the money lenders as they are known to them and do not require much paper work.

Historical analysis of credit in India shows that the cooperatives were entrusted with providing credit to the rural areas and the commercial banks were concentrated in the urban areas. Banking was always considered to be a service for the elites and they were the ones who used this service. The cooperatives are not a new phenomenon to India as they started providing cheap and institutional credit to the people, though this system was further strengthened in 1930 when the three tier system was introduced on the basis of the recommendations of the Maclagen committee. The next step in giving more power to the cooperatives was the setting of The Reserve Bank of India in 1935 through the statute of 1934. Section 17 of the Reserve Bank of India Act, 1934 empowered the cooperative banks to allocate and disburse credit to agricultural sector. The All India Rural Credit Survey (1954) concluded in their study that agricultural credit was inadequate and not able to cover the right people at right time. The cooperative movement was further strengthened after independence as the then Prime Minister of the country was impressed by the cooperative system of USSR and its achievements in the field of credit provision.

The sixties and the seventies have been an interesting phase in the Indian economy and especially in Indian agricultural sector. Green Revolution was brought about in the sixties, first as a pilot project in 1964 and then by 1966 it was launched pan India. In the banking sector too, the need was felt to bring in changes so as to facilitate the diffusion of the benefits of Green Revolution at the ground level. The idea of priority sector was introduced in 1969, which included agriculture credit through Lead Bank Scheme in which it was mandated that 40 percent should be allocated to the Priority Sector and out of it 18 percent had to be earmarked for agriculture. The commercial banking system was encouraged to extend rural credit to the farmers after their nationalization by Government in 1969 and in 1980. However, in spite of the efforts of the state, the agriculture credit remained a problem as there was a constant tussle between the policy makers and the implementers. The Narsimham Working Group (1975), recommended that an agrarian economy like India required a specialized, dedicated institution for rural credit and hence the Regional Rural Banks were set up in 1976. The committee



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**Dietary Habits of Punjabi Immigrants and Health Implications**

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**Abstract:** India has the largest number of persons born in the country who are now living outside its borders. Migration involves interaction of different cultures, the culture that themigrants bring from their home country, and the culture they encounter in thehost country. Settling in a new region poses many challenges, irrespective of immigrants' backgrounds. With regard to food habits, immigrants are influenced by the food culture of the majority and hence change their dietary habits. Food plays an integral role in Punjabi culture and Sikh religious practice,asa celebratory symbol serves as a means of preserving culture and as an offering to God. The influence of the host countries has affected different generations of Punjabi Indiansdifferently. First generation Punjabi Indians tend to hold on to traditional Punjabidietary pattern, whereasproceeding generations are more likely to adopt a more Western stylediet or a combination of Indian and American foods. The cumulative effect of numerous lifestyle changes upon acculturation to the foreign land has resulted in a number of health disparities negatively affecting Punjabi immigrants. The changing dietary pattern of Punjabi Diaspora towards unhealthier pattern has exposed them higher risk of obesity, diabetes, and cardiovascular disease. There is a need to determine the degree to which dietary counselling should be focused on maintaining traditional eating habits and adopting the smart food choices while living in foreignland.

**Introduction:**

Migration is a global phenomenon. Migration is the result of many factors vis. economic, social, political or environmental cause. To find work or follow a particular career path and realize one's dreams or moving somewhere for a better quality of life or to be closer to family or friends are some strong reasons causing migration.

Migration causes interaction of at least two cultures, the culture that themigrants bring from their home country, and the culture they encounter in thehost country. The Punjabi Diasporais one of the largest ethnic groups.

Settling in a new region poses many challenges irrespective of background. Language barrier, suitable employment ,housing, access to various services, transportation, culture differences, isolation, prejudice and racism, different weather conditions, eating pattern etc to name a few.

Dietary habits are established early in life and may be difficult to change. Traditional foodof a community strengthens the feelings of belonging, identity and heritage, which help persons to retain and reinforce their cultural identity and quality of life. Therefore it is important to understand the relationships between dietary acculturation and health transitions in order to developappropriate intervention strategies for a multicultural population that requires more and more cultural competencies.

#### **Dietary Acculturation:**

With regard to food habits, immigrants are influenced by the food culture of the majority, leading to changes in their dietary habits. Studies conducted on immigrants indicate that socioeconomic and demographic factors together with the cultural factors that immigrants bring along influence the degree of exposure to the host culture, which, in turn, leads to changes in psychological factors, taste preferences, and changes in food procurement and preparation, and thus dietary changes. The process by which immigrants adopt the dietary practices of the host country is called "dietary acculturation". Dietary acculturation is a multidimensional and complex phenomenon and is dependent on a variety of personal, cultural and environmental factors.

#### **Dietary habits of Punjabi people:**

Food plays an integral role in Punjabi culture where it plays many important functions. Food is a celebratory symbol inthis culture. It is meant to be enjoyed and plays a large role in celebrations, such asweddings whererich traditional items are served. These events also tend to be communal in nature, revealing the function that food serves in bringing the Punjabi community together.






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
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## GERIATRIC NUTRITION – CRUCIAL FOR HEALTHY AGING

*Jaspreet Kaur\**, *Sonika Sharma\*\** and *Manpreet Kaur\*\*\**

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*\*\*\*Research Scholar, Department of Food and Nutrition, PAU, Ludhiana (Punjab)*

**Background and Objective:** Among all the age groups, older adults (> 60 years age) are one of the vulnerable groups in terms of health issues. They are prone to non-communicable diseases and malnutrition. Old age group is at high risk of developing macro as well as micronutrient deficiencies. So, the objective of the current review is to highlight the importance of geriatric nutrition for supporting healthy ageing.

**Methods:** Various research papers were assessed and reviewed regarding health problems in older adults and role of geriatric nutrition to overcome diverse health issues.

**Results:** Old age is one of the vulnerable and prone stages in terms of health status. Nutrition is an essential determining factor of elderly mass specifically over the age of 60 years. Concerns regarding geriatric nutrition have been underreported. Adequate nutrition is vital for better ageing. After reviewing the relevant studies, it was found that elderly age group usually suffers from sarcopenia, hypertension, renal failure, cardiac problems and joint problems. Malnutrition is also one of the major issues to deal with. Nutritional deficiencies such as protein and micronutrient deficiencies are more prevalent. Emphasis should be given on intake of all food groups like whole grains, pulses, milk and milk products to fulfill protein requirements whereas fruits and vegetable intake should be encouraged to fulfill micronutrient requirements such as vitamins and minerals.

**Conclusion:** Lack of awareness and attention, intolerance, loneliness are some of the main causes behind the increased vulnerability of nutritional deficiencies. Focus on geriatric nutrition is very imperative to tackle such health problems. Nutritional interventions can aid in healthy ageing.

### **Introduction:**

Among all the age groups, older adults (> 60 years age) are one of the vulnerable groups in terms of health issues. Older people are particularly susceptible to malnutrition since both lean body mass and basal metabolic rate decline with age and an older person's energy requirement per kilogram of body weight is also reduced. Dietary changes seem to affect risk-factor levels throughout life and may have an even greater impact in older people. As they are more likely to suffer from malnutrition, which may result in higher dependency in activities of daily living. They are also prone to non-communicable diseases and malnutrition. Old age group is at high risk of developing macro as well as micronutrient deficiencies. In India 50% of the elderly population is malnourished.

Balance of nutrients is very important for overall wellbeing. Many of the diseases suffered by older people are the result of dietary factors, some of which have been operating since infancy. These factors are then compounded by changes that naturally occur with the ageing process. It becomes still important in perspective of elderly masses due to physiological changes in the body. Immunity weakens with proceeding age which is influenced by lack of nutrients and change in dietary habits (Grubeck-Loebenstien *et al*, 2002). Once the body reaches physiological maturity, the rate of degenerative change exceeds the rate of cell regeneration. Body composition changes as fat replaces muscle, in a process called sarcopenia. It is also seen that basal metabolic rate declines about 5% per decade during adulthood. Osteoporosis and associated fractures are major cause of illness, disability and death in older people.

Calorie requirement decreases with age, although individuals vary, greatly depending on their activity level and nutritional status. Degenerative diseases such as cardiovascular and cerebro-vascular diseases, diabetes, osteoporosis and cancer which among the most common diseases affecting older person, are all diet-affected. Dentition, taste, smell, loss of memory and Parkinson disorders also influence food intake. Increasingly in the diet/debate, the role that micro-nutrients play promoting health and preventing on communicable disease is receiving considerable attention. Considering the high prevalence of poor nutritional status among elderly, more focus on diet and possible nutritional interventions are required. Micronutrient deficiencies are often common in elderly people due to number and a lack of variety in the foods they eat. The older people often suffer from decreased immune function, which contributes to this group's increased morbidity and mortality.



## **GERIATRIC NUTRITION – CRUCIAL FOR HEALTHY AGING**

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Among all the age groups, older adults (> 60 years age) are one of the vulnerable groups in terms of health issues. Older people are particularly susceptible to malnutrition since both lean body mass and basal metabolic rate decline with age and an older person's energy requirement per kilogram of body weight is also reduced. Dietary changes seem to affect risk-factor levels throughout life and may have an even greater impact in older people. As they are more likely to suffer from malnutrition, which may result in higher dependency in activities of daily living. They are also prone to non-communicable diseases and malnutrition. Old age group is at high risk of developing macro as well as micronutrient deficiencies. In India 50% of the elderly population is malnourished.

Balance of nutrients is very important for overall wellbeing. Many of the diseases suffered by older people are the result of dietary factors, some of which have been operating since infancy. These factors are then compounded by changes that naturally occur with the ageing process. It becomes still important in perspective of elderly masses due to physiological changes in the body. Immunity weakens with proceeding age which is influenced by lack of nutrients and change in dietary habits (Grubeck-Loebenstien *et al*, 2002). Once the body reaches physiological maturity, the rate of degenerative change exceeds the rate of cell regeneration. Body composition changes as fat replaces muscle, in a process called sarcopenia. It is also seen that basal metabolic rate declines about 5% per decade during adulthood. Osteoporosis and associated fractures are major cause of illness, disability and death in older people.



Calorie requirement decreases with age, although individuals vary, greatly depending on their activity level and nutritional status. Degenerative diseases such as cardiovascular and cerebro-vascular diseases, diabetes, osteoporosis and cancer which among the most common diseases affecting older person, are all diet-affected. Dentition, taste, smell, loss of memory and Parkinson disorders also influence food intake. Increasingly in the diet/debate, the role that micro-nutrients play promoting health and preventing on communicable disease is receiving considerable attention. Considering the high prevalence of poor nutritional status among elderly, more focus on diet and possible nutritional interventions are required. Micronutrient deficiencies are often common in elderly people due to number and a lack of variety in the foods they eat. The older people often suffer from decreased immune function, which contributes to this group's increased morbidity and mortality.



# Effect of asymmetrical peripheral substitution of sulfonic acid group on the geometric and electronic structures and vibrations of copper phthalocyanine studied by computational and experimental techniques

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## Abstract

The optimized geometry and vibrational frequencies of an organic compound copper phthalocyanine tetrasulfonic acid tetra sodium salt (CuPcTS) have been investigated using density functional theory. We have also optimized the structures of copper phthalocyanine (CuPc) and its substituted complex and simulated their vibrational spectra to study the substitution effects of sulfonic acid group at the peripheral sites of copper phthalocyanine. Experimentally, vibrational frequencies of these molecules have been studied using infrared absorption, Raman spectroscopic techniques. It has been

## **FINANCIAL DECISION MAKING: DOES GENDER REALLY MATTER?**

**Ravneet Kaur**

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### **ABSTRACT**

*Numerous studies conducted on the association between gender and financial decision making have largely suggested that females are more risk averse than their male counterparts, thus explaining the reason for their choice for conservative investments. This paper examines whether or not gender differences have any influence on the financial decision making strategies of an individual. The study used a sample of individuals of Ludhiana city and concluded that females are more risk averse while males generally are risk taker; they also prefer to invest in more than one avenue for the purpose of earning higher returns even if that involves higher risk.*

**Keywords:** Gender, Financial Behaviour, Financial Decision Making, Investment, Risk

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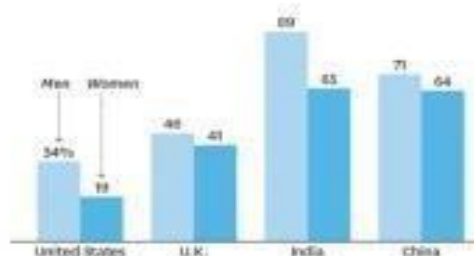
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### **1. INTRODUCTION**

The general process of decision making is quite a complex mechanism involving human thinking, as well as various factors and courses of action intervening it. Specifically where financial decision making is involved the complexity increases manifold times. Today Woman has started playing active role in every field whether be it economics or finance or science or engineering. They have captured every aspect for their growth. Psychological research on financial decision making said that women have different outlook and preferences than men. The increased participation of women in the work force market and rising net worth makes women investors a force that cannot be ignored. This very paradigm shift has increased the interest into studying the difference in financial decision making strategies from gender view point. This study examines this very fact that do gender really matter in financial decision making.

Koenen, Lusardi and Rooij (2016) pointed out that in comparison to past studies the woman are now gaining more knowledge in finance and dependence on man is decreasing in taking financial and investment decisions apart from recognising their lack of knowledge in finance and working on it. Recognising the importance of confidence Hussain et al (2015) in their research on the impact of woman behaviour on financial decision making and found that decision making is based upon the two factors i.e. risk one can take and confidence one has. But according to a survey the financial confidence is found to be lower in females in major countries globally.





**Figure 1** Financial Confidence levels as per year 2013.

In studying the relationship between awareness, confidence and satisfaction differences in the Investment Decision Making (IDM) process Gaur, Julee & Sukijha (2011) found that due to higher awareness level male investors display higher confidence level thereby investing in risky investments while their female counterparts have lower confidence & satisfaction levels and are more cautious in making investment. Adding to this Graham et al (2002) focussed on the reasons why woman are more risk averse and have less confidence in their decisions as compared to man and proposes that it is mostly due to the gender difference in the information processing styles which make woman to take lower risk and lower confidence. However they also pointed the tendency toward lower overconfidence can lead women to be more thoughtful and informed investors as they are more likely to ask more questions than men do and to consider all relevant investment factors.

### 1.1. Literature Review

Jawaheer & Vikneswaran (2016) in their study on gender difference in financial decision making among working class individuals found significant relation between gender and risk tolerance with females being more risk averse, however no significant relation was found between gender and financial literacy and type of investment.

Mittal & Vyas (2011) in their study from psychological view point about gender differences in investment making decisions found that according to psychologists women are more methodical in information processing and accumulation style due to which there is an increased perception of risk in them as compared to man. The study indicates that men engage in more risk taking and are more overconfident than women. Women tend to put in a major portion of their funds in low risk – low return investments. However, the study suggests that men and women do not differ in their information processing and accumulation styles.

Berggren & Gonzalez (2010) conducted a quantitative study to investigate differences in risk aversion and overconfidence between genders when it comes to financial decisions in Sweden and found that there is a tendency among women to have a higher degree of risk aversion than men which implies that women would take a lower risk when managing an investment portfolio. They also concluded that men and women are similar in their level of confidence when it comes to financial decisions.

Beckmann & Menkhoff (2008) analyzed responses gathered from survey 649 fund managers in the U.S., Germany, Italy and Thailand, and concluded that female fund managers behaved as showed by various gender studies i.e. they are more risk averse and shy away from competition. The expected lower degree of overconfidence by women is also too small to have significant role in fund management.

Barber & Odean (2001) tested the prediction of theoretical models that states that overconfident investor's trade excessively by diving the investors on gender basis. Using account data for over 35,000 households from a large discount brokerage, they analysed the common stock investments of men and women from February 1991 through January 1997 and





## **UNDERSTANDING WOMEN HEALTH ISSUES: A STEP TOWARDS NATIONAL DEVELOPMENT**

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### **ABSTRACT**

*The fairer sex of our nation is struggling with numerous physical, economic, social and psychological issues affecting its pace of development. Women in our country are influenced by a number of factors which have a negative influence on their overall health and hinder the growth and prosperity of their family, community and the nation. Developing countries like India are facing a dual burden of malnutrition affecting its economy. Due to many biological factors, women are more prone to a number of diseases. The poorer section of society is suffering from under nutrition and consequences on one hand and over nutrition leading to many life style diseases on the other hand. Women often deal with work pressure, high-performance job profiles and maintaining a social life. The burden and stress of handling this together can lead to mental disorders in women. Poor uneducated women of our society succumb to early marriages, poor nutrition, repeated pregnancies and higher mortality levels. Therefore there is a need to adopt a holistic approach in understanding various health issues and addressing the constraints to help women in achieving and maintaining optimum health. This will surely enable them to contribute towards a healthy society and nation and achieving our millennium developmental goals.*

### **INTRODUCTION**

India ranks a lowly 131 in the Human Development Index of 2017 (UNDP, 2017). Our country has made considerable progress since independence; economic reforms and liberalization leading to strong economic growth, increased exports and reduced inflation; growing and transforming at a very fast pace. When we talk of inclusive growth of a nation, we consider the contributions of all the citizens of that nation towards development; the contribution of nearly half of our population, women, cannot be overlooked. The country needs to empower its citizens to ensure sustainable growth and development. The fairer sex of our nation is struggling with numerous physical, economic, social and psychological issues affecting its pace of development. A report commissioned by the United Nations Resident coordinator in India titled 'Women in India: How Free? How Equal?' had raised several thought provoking facts concerning the status of women in India. The social and economic status of women directly affects their real freedom and expected contribution towards nation building and developmental goals. Their health, socioeconomic status and contribution towards society is therefore of great relevance especially in the light of the fact where the women are at the receiving end of a number of health, economic and social problems.

### **Health and Nutritional Status of Indian Women**

Currently, women in India are facing numerous health issues, burdening the domestic and national economy. Women's health concern is influenced by a matrix of interrelated biological, social and cultural factors. It is generally expected that women can live longer than men. However, this fact does not ensure a better quality of life. Many research studies have reported that as compared to men, more number of women are physically unwell and compromised throughout the life cycle. It has been suggested that the health and nutritional status of Indian women is becoming worse due to the prevailing culture and traditional practices in India. The health issues magnify in women thriving in

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areas where basic maternity care is lacking or not sufficient. Though there has been tremendous improvement in many health indicators in our country impacting overall wellbeing of women and their family, still there is a lot of scope for improvement in various health issues affecting the health of women. The World Health Organization (WHO) defined **health** in its broader sense in its 1948 constitution as "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity." Women in our country are influenced by a number of factors which have a negative influence on their overall health and hinder the growth and prosperity of their family, community and the nation. Some important health issues are:

### **Physical Health**

Nutrition plays a major role in an individual's overall health. Psychological and physical health status is often dramatically impacted by the presence of malnutrition. Declining Child Sex Ratio reflects the imbalance between the number of girls and boys and points towards both, pre-birth discrimination manifested through gender biased sex selection, and post birth discrimination against girls. Several reasons are attributed to the decline in the number of girls – neglect of the girl child, high maternal mortality, female infanticide and female foeticide, Sex-selective abortions have been greatly facilitated by the misuse of diagnostic procedures. Illiteracy, low socio-economic status, early age of marriage, poor sanitation, hygiene and nutrition, poor access to health facilities are also contributing factors of child and maternal mortality. Due to the involvement of biological factors, women are more prone to a number of diseases resulting from sexual exposure of contracting sexually transmitted diseases where early marriage and burden of childbirth compounds their physiological problems. NFHS 4 data shows that 22.9% of women less than 25 years are having lower BMI (less than 18.5). Pregnant adolescents, especially underweight, are at greater risk of various complications such as obstructed labour and other complications. Maternal malnutrition has been associated with an increased risk of maternal mortality and also child birth defects. Indian women are usually vulnerable to poor nutrition, especially during pregnancy and lactation owing to increased needs during this state. Understanding and addressing the issues of malnutrition would have beneficial outcomes for women and children. NFHS4 data indicates that 20.7% of females above 25 years are having critically lower BMI and only 21% of females have access to full antenatal care. Many Epidemiological studies suggests that that worldwide 50 percent of all pregnant women are anaemic and same is trend shown in our female population. Lack of awareness regarding health care during pregnancy has a strong impact on health and birth outcomes for both the mother and the infant.

Widespread nutrition deprivation among women perpetuates an inter-generational cycle of nutrition deprivation in children. This results in a vicious circle where malnourished girls grow up to become malnourished women and thereby giving birth to malnourished new generation. Maternal malnutrition has been associated with an increased risk of maternal mortality and also child birth defects too. Maternal Mortality Rate (MMR), the number of women who die from pregnancy-related causes per 100,000 live births, stands at 167 in our country. The important causes of maternal mortality are sepsis, abortion, hypertensive disorders, haemorrhage, obstructed labour and other causes and anemia. The lack of maternal health contributes to the economic disparities of mothers and their children. The primary reasons for the high levels of maternal mortality are directly related to disparities of economic conditions and cultural constraints limiting access to care. The maternal mortality is not identical across country, urban areas often have lower overall maternal mortality due to the availability and access to medical resources. Poor maternal health not only adversely affects a child's health but also decreases a woman's ability to participate in economic activities. The states with higher literacy and growth rates tend to have better maternal health and lower infant mortality. Developing countries like India are facing a dual burden of malnutrition affecting its economy. The poorer section of society is suffering from under nutrition and resulting consequences on one hand and over nutrition leading to many life style diseases on the other hand. Epidemiological studies indicate that women of all age groups are suffering from many non- communicable diseases creating additional burdens on the resources of developing countries. Changing lifestyles, including diet, physical activity and cultural factors that favour larger body size in women, are contributing to an increasing problem with obesity and diabetes amongst women in these countries and increasing the risks of cardiovascular disease and other NCDs.

### **Mental Health**

According to a report by Indian Journal of Psychiatry, a mental disorder or mental illness is an involuntary psychological or behavioural pattern that occurs in an individual and causes distress and disability, which is not a normal development or culture. According to World Health Organisation

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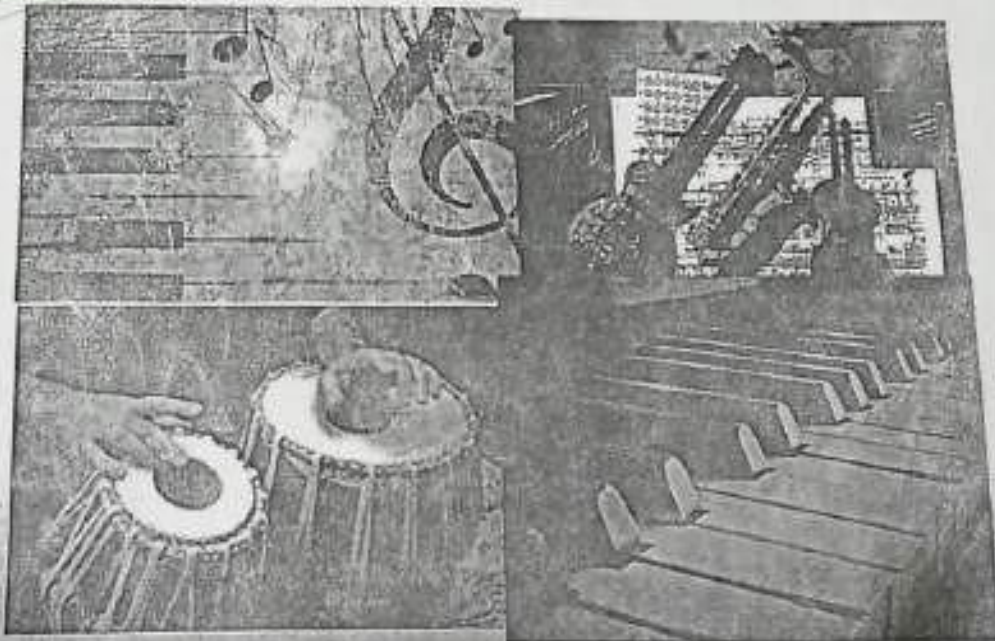
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**ONE DAY STATE LEVEL SEMINAR**

**REVIEWING CONTEMPORARY TRENDS IN RESEARCH IN MUSIC**

*Nirmita Sharma*



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## खयाल गायन शैली में उत्तम आलाप के सिद्धांत (शोध पत्र का सारांश)

Dr. Nirmala Sharma

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विद्वत्संगीत शास्त्रीय संगीत के अन्तर्गत खयाल गायकी में उत्तम का यथायोग्य एवं उत्तम रूप में विस्तार करने के लिए कुछ स्थूल किन्तु विशिष्ट सिद्धान्तों अथवा नियमों का प्रतिपादन किया जाता रहा है। ताकि उनके द्वारा सुनिश्चित रूप में विस्तार करते हुए इस कला के वास्तविक और शुद्ध रूप को सुरक्षित रखा जा सके। स्पष्ट है कि यह सिद्धान्त अथवा नियम कलाकारों को अनिवार्य रूप से इतने के लिए नहीं बल्कि पितृकार्षिक और जनरलक सांगीतिक विस्तार में उनकी सहायता करने के लिए निश्चित किए गए हैं।

उत्तर भारतीय खयाल गायन शैली के अन्तर्गत भिन्न-भिन्न धरानों की परम्परा अनुसार सांगीतिक विस्तार की थोड़े-थोड़े अन्तर से अनेक शैलियाँ प्रचलित हैं। किन्तु यहाँ जिन सिद्धान्तों का उल्लेख प्रस्तुत किया जा रहा है वे प्रत्यक्ष अथवा अप्रत्यक्ष रूप में सभी धरानों द्वारा मान्य हैं।

विद्वत्संगीत संगीत में प्रचलित प्रमुख विस्तार-अंगों सम्बन्धी कुछ सामान्य सिद्धान्तों का संक्षिप्त विवरण इस प्रकार है: -  
1. उत्तर भारतीय शास्त्रीय संगीत की खयाल गायन विधा में विस्तार का सर्वप्रथम और अत्यन्त महत्वपूर्ण अंग आलाप है। आलाप की अधिकाधिक जनरलक और भावपूर्ण बनाने के लिए निश्चित सिद्धान्तों का पालन वांछनीय है।

खयाल गायन के प्रारम्भिक आलाप के अन्तर्गत सर्वप्रथम अती आन्तिक स्वर में मिले हुए तानपुरा आदि सहायक वाद्यों के साथ मधुर, भरवटार और कपन रहित आवाज़ में मध्य सप्तक का सा लगाना चाहिए।

मध्य षड्ज को स्थिर करने के उपरान्त यदि राग-धनन के आरंभ के लिए कोई विशिष्ट स्वर निश्चित हो (यथा भोजपत्तासी, जांग आदि रागों के लिए मन्द्र सप्तक का कामल नि तथा वागेश्वरी आदि के लिए मन्द्र शुद्ध घ) तो वहाँ से, अन्यथा गाए जा रहे राग में षड्ज के निकटवर्ती किसी अन्य महत्वपूर्ण स्वर से राग का आलाप आरंभ करना चाहिए।

आधुनिक ढंग के अनुसार खयाल गायन के प्रारम्भिक आलाप के रूप में राग के कुछ प्रमुख व प्रभावशाली स्वर-समूहों पर आधारित संक्षिप्त आलाप तब हुए राग का स्वरूप स्थापित किया जाता है और उसके तुरन्त बाद शेषक की बंदिश प्रारम्भ कर दी जाती है।

4. आलाप के प्रारम्भ में अधिक लम्बे और कनिष्ठ स्वर समूहों का प्रयोग न करके छोटे और सरल समूहों द्वारा बदन आरंभ करनी चाहिए, किन्तु बाद में छोटे-बड़े सरल और कनिष्ठ सब प्रकार के स्वर समूहों को सम्मिलित और सम्मिश्रित रूप में प्रयुक्त किया जा सकता है।
5. आलाप में स्वरी की बदन करते समय राग के काटी-संवादी, वार्जित, वक्र, अल्पस्व, बहुतल आदि स्वरी तथा राग के धनन की ओर कलाकर का ध्यान निरंतर बना रहना चाहिए।
6. आलाप में स्वरी की बदन करते समय राग के काटी-संवादी, वार्जित, वक्र, अल्पस्व, बहुतल आदि स्वरी तथा राग के धनन की ओर कलाकर का ध्यान निरंतर बना रहना चाहिए।
7. गाया जा रहा राग यदि पूर्वसंवादी हो तो आलाप के स्वरी भाग में सर्वप्रथम मध्य षड्ज को भावी मान्ति दर्शाने के बाद मन्द्र सप्तक में स्वरी की बदन की जाती है।
8. इसी प्रकार मध्य सप्तक की बदन में भी प्रत्येक आलाप को मध्य षड्ज या उसके किसी निकट के स्वर से प्रारम्भ करते हैं किन्तु विस्तार का प्रवाह मध्य सप्तक के ऊपर के स्वरी की ओर होता है।
9. पीक अथवा निषाद तक बढ़ाने अथवा तार षड्ज को भी हलका सा स्पर्श करने के पश्चात् खुले आलाप में मध्यसा पर और तलबद आलाप में तार षड्ज पर आलाप के स्थायी भाग की समाप्ति करके अन्तरे का आलाप आरंभ करना चाहिए।
10. अन्तरे के पहले आलाप में तार षड्ज का क्लम (बदन) दिखाना चाहिए।
11. यदि आलाप तालबद रूप में अर्थात् बंदिश के बीच में किया जा रहा हो, तो अन्तरे के प्रत्येक आलाप की समाप्ति तार षड्ज पर करके पुनः बंदिश का मुखड़ा पकड़ना चाहिए। अन्यथा खुले आलाप में तो अधिकतर अतरे का सारा क्लम एक ही आलाप द्वारा दिखाना कर मध्य षड्ज पर उसे समाप्त कर दिया जाता है।
12. गायन में अन्तरे के आलाप में एक अन्य नमरणीय नियम यह है कि तार षड्ज के पश्चात् अगले आलाप में तार



संगीत एवं संगीत शिक्षण  
में रूपांतरण: बहुमुखी विश्लेषण



संपादक  
डॉ. विश्वाजीत सिंह

सह-संपादक  
मनजीत सिंह

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संगीत एवं संगीत शिक्षण  
में रूपांतरण : बहुमुखी विश्लेषण



संपादक  
डॉ. शिवाजी सिंह

सह-संपादक  
मनप्रीत सिंह



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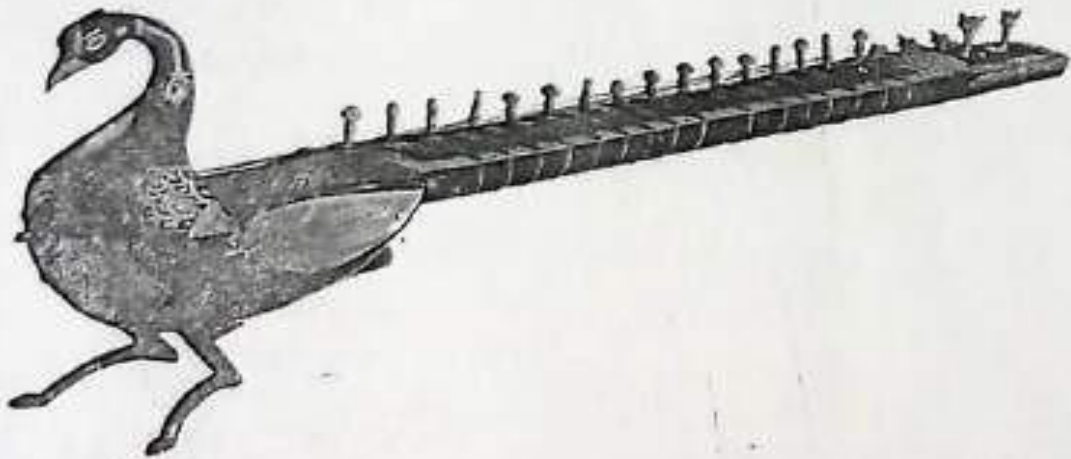
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MUSICAL INSTRUMENTS OF INDIA:  
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II National Seminar, November 10-11, 2017  
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In collaboration with  
Department of Culture  
Ministry of Human Resource and Development  
Govt. Of India, India





## पारश्चात्य वाद्य वाद्यलिन का शास्त्रीय संगीत के संदर्भ में भारतीयकरण

डॉ. योगेश शर्मा

एसेसिएट प्रोफेसर एवं अध्यक्ष, पी. जी. विद्यापीठ ऑफ इन्वेंटुअल म्यूजिक, गवर्नमेंट मल्टी कॉलेज, सुपियाल

### सार-संक्षेप

भारतीय जनमानस तथा संस्कृति आदिकाल से उदारवादी रही है। हमारी कला और ने जहाँ संपूर्ण विश्व की संस्कृति एवं कला को असंख्य उपहार दिये हैं। वहीं उन देशों की सकारात्मक विचारधारा के साथ-साथ उनकी जीवनशैली, कला और तत्संबंधी नवीन उपकरणों को अपनाने में भी कभी संकोच नहीं किया। संगीत के संदर्भ में भी यदि देखे, तो सभी संगीत इतिहासकार स्वीकार करते हैं कि भले ही संगीत के जन्म की बात हो, अथवा स्वरसंश्लेषण या वाद्यों के विकास की, भारतीय संगीत प्रत्येक दृष्टि से संपूर्ण विश्व में अग्रणीय रहा है। परंतु इतना होते हुए भी कलात्मक आदान-प्रदान के स्वभाविक क्रम में भारतीय संगीतज्ञों को अन्य देशों के संगीत में जब भी कुछ प्रहणाय लगा, तो उन्होंने उसे सदा उन्मुक्त भाव से ग्रहण किया है।

मुख्य शब्द : वाद्यलिन, पारश्चात्य वाद्य, अलाउटरीन श्रृं, गतधारी, गायकी अंग

### शोध-पत्र

#### पारश्चात्य वाद्य वाद्यलिन का शास्त्रीय संगीत के संदर्भ में भारतीयकरण

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संगीत के संदर्भ में भी यदि देखे, तो सभी संगीत इतिहासकार स्वीकार करते हैं कि भले ही संगीत के जन्म की बात हो, अथवा स्वरसंश्लेषण या वाद्यों के विकास की, भारतीय संगीत प्रत्येक दृष्टि से संपूर्ण विश्व में अग्रणीय रहा है। परंतु इतना होते हुए भी कलात्मक आदान-प्रदान के स्वभाविक क्रम में भारतीय संगीतज्ञों को अन्य देशों के संगीत में जब भी कुछ प्रहणाय लगा, तो उन्होंने उसे सदा उन्मुक्त भाव से ग्रहण किया है। [1]

यही कारण है कि मुसलिम काल में जहाँ भारतीय रागों से ईरानी स्वरवाहिनियों के सुमेल से साजागोरी और जिल्फ जैसे राग बने वहीं प्राचीन भारतीय वाद्य त्रितंत्री बांग्ला को सहतार नाम प्राप्त हुआ और इसी प्रकार भारतीय गजवाद्यों से ईरानी वाद्य के स्वरूप को मिलाकर दिलरबा और इसराब जैसे वाद्य बनाए गए। वही नहीं, बल्कि रबाब जैसे विशुद्ध विदेशी वाद्य को भी भारतीय शास्त्रीय संगीत में निस्संकोच रूप से अपना लिया गया। [2]

भारतीय शास्त्रीय संगीत में अपनाए गये पारश्चात्य वाद्य:

वाद्यों की दृष्टि से यही क्रम ब्रिटिश काल में भी जारी रहा। इस समय हारमोनियम, प्यानो, बलैरवट, रेक्सोफोन, बेंजो, मेंडोलिन आदि पारश्चात्य वाद्यों को भारतीय दृष्टिकोण से अनेकों अपूर्णतारों होते हुए भी भारतीय संगीत में अपना लिया गया, और यही नहीं, अनेकों कलाकारों ने अपना साधना के बल पर इन वाद्यों पर भारतीय शास्त्रीय संगीत का प्रभावशाली प्रस्तुतिकरण किया और आज भी कर रहे हैं। [3]

इस दृष्टिकोण से जो पारश्चात्य वाद्य अपनी वादनशैली को दृष्टि-भारतीय शास्त्रीय संगीत के सर्वाधिक समाप सिद्ध हुआ, वह था वाग्लिन यह एक चित्त अर्थात् गज से बजाया जाने वाला वाद्य है, जिसे भारतीय बोलचाल में 'बेला' के नाम से भी जाना जाता है। जहाँ उत्तर भारत में वाद्य उत्तर भारतीय संगीत में आशांतीत ख्याति प्राप्त कर रहा है, वहीं दक्षिण भारतीय संगीत में इसे शास्त्रीय गायन को संगीत का प्रमुख अंग माना जाता है।

#### सामान्य स्वरूप वर्णन:

अपने आकार के पक्ष से यह वाद्य अन्य तंत्री वाद्यों की तुलना में बड़ा छोटा है। लगभग 3 फुट लंबा तथा काफी हल्का होने के कारण यह पकने और साने ले जाने की दृष्टि से अत्यंत सहज प्रतीत होता है, इसे बजाने के लिये कलाकार को गहन स्वर-ज्ञान एवं साधना आवश्यकता होती है।

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## पाश्चात्य वाद्य हारमोनियम का भारतीय संगीत में शास्त्रीयकरण



डॉ. निमिता शर्मा

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### सार-संक्षेप

प्रस्तुत शोध-पत्र हारमोनियम को संगम के साथ बढ़ते लोकप्रियता को है। एक विदेशी वाद्य भारत में लाया जाता है और यह भारतीय शास्त्रीय संगीत के साथ संगम बन जाता है कि पूर्व में प्रचलित संगीत वाद्य सांस्कृतिक का स्थान ले लेता है। मात्र शास्त्रीय संगीत ही नहीं अपितु उपरहास्यीय एवं भारत की अन्य सांस्कृतिक विधाओं के संगम भी अपना अस्तित्व जोड़ लिया। इसकी उपमोहिता के बावजूद इसे रेडियो ने बँध कर दिया। वर्तमान समय में यह अधिक प्रचलित एवं प्रसिद्ध हो चुका है। प्रस्तुत शोध-पत्र में इसके ऐतिहासिक विवरण के साथ इसकी वादन शैली तथा लोकप्रियता की चर्चा की गई है।

मुख्य शब्द : हारमोनियम, पाश्चात्य वाद्य, सुधिर वाद्य, रीड्स, गायको अंग, तंत्रकारी अंग

### शोध-पत्र

**छात्रा** भारतीय संगीत मैलोडी प्रधान है। भाव अभिव्यक्ति के लिए गायक को जहाँ एक ओर स्वरों के साथ-साथ शब्दों का आश्रय मिल जाता है वही दूसरी ओर वादक कलाकार को अपने भावों की अभिव्यक्ति के लिए केवल स्वरों के माध्यम से ही भावों की कल्पना करनी पड़ती है। इन्हीं भावों को अभिव्यक्ति करने के लिए जहाँ एक ओर सितार, सरोद, सारंगी, बाँसुरी और धोणा जैसे वाद्य बहुत अधिक सक्षम हैं। वहीं दूसरी ओर वायलिन, क्लेरेनेट, सैक्सोफोन, बँजो और हारमोनियम इत्यादि पाश्चात्य वाद्यों का भारतीय संगीत में शास्त्रीयकरण हो रहा है।<sup>[1]</sup> जहाँ तक पाश्चात्य वाद्यों का भारतीय संगीत में शास्त्रीयकरण का प्रश्न उठता है इस विषय में आज हम पाश्चात्य वाद्य हारमोनियम के भारतीय संगीत में शास्त्रीयकरण के परिपेक्ष में चर्चा करेंगे।

भारतीय संगीत में हारमोनियम जैसे इस पाश्चात्य सुधिर वाद्य का आगमन ब्रिटिश काल की देन है किन्तु श्री मुकेश गर्ग और डॉक्टर बी चैतन्य देव जैसे विद्वानों का विचार है कि "मुक्तपत्ति (Free Reed) के जिस सिद्धान्त के आधार पर ये वाद्य विकसित हुआ है। वो पूर्णतः भारत की ही देन हैं बचापि भारतीय संगीत की आवश्यकताओं के पूर्ण अनुरूप न होने से यहाँ उसे विशेष महत्त्व प्राप्त नहीं हो सका।"<sup>[2]</sup> डॉ. चैतन्य देव का उल्लेख करते हुए श्री गर्ग ने अपने एक लेख में बताया है कि "मणीपुर का एक मुक्तपत्ती वाला खुंग नामक वाद्य अपने बाँचे और स्वरूप की दृष्टि से पूर्वी एशिया तथा मंगोलिया के कुछ वाद्यों से महत्त्वपूर्ण साम्य रखता है।" इस आधार पर उनका अनुमान है कि "मुक्तिपत्ती वाद्यों का सिद्धान्त वस्तुतः भारत में खुंग के रूप में चीन से होता हुआ माऊथ औरगन के रूप में यूरोप पहुँचा और वहाँ से हारमोनियम

की शकल में परिचयी देशों में से होता हुआ अंग्रेज व्यापारियों, सैनिकों, धर्मोपदेशकों तथा संगीतज्ञों के साथ पुनः भारत लौट आया। इस कारण विदेशी वाद्य होते हुए भी हारमोनियम प्राचीन भारतीय वाद्य की ही आधुनिक संतान है हाँ, इस संतान का जन्म अवश्य विदेश में हुआ है।"<sup>[3]</sup> व्यावहारिक दृष्टि से उक्तमत पर्याप्त अंशों तक तर्क संगत माना जा सकता है तथा साथ ही ये मत ठोस व प्रमाणिक भी है।

वादन विधि की सरलता व ध्वनि की क्लियरता आदि गुणों से युक्त होने के कारण हारमोनियम का उत्तर भारतीय संगीत जगत में व्यापक रूप से स्वागत हुआ तथा कोर्तनकारों, नाटक कम्पनियों व चित्रपट संगीत के निर्देशकों के साथ-साथ सुगम तथा शास्त्रीय संगीत के कलाकारों द्वारा भी गायन की संगति के लिए इसे आत्मसात् किया जाने लगा। चलाकरन भरने की अपनी अद्भुत क्षमता के कारण कलाकारों के साथ-साथ श्रोताओं ने भी इस वाद्य का सहर्ष स्वागत किया। किन्तु हारमोनियम (मूलतः आर्गन) पाश्चात्य देशों के गिरजाघरों में होने वाले मिस्र्यों, पुरुषों तथा बालकों के संवेतगान की संगति के लिए विकसित किया गया था।

हारमोनियम एक पाश्चात्य सुधिर वाद्य है इसका ब्रिटिश काल के अन्तिम दशकों से भारतीय संगीत में भी विपुल प्रचार हो गया था बचापि इसमें स्वर उत्पत्ति वायु के प्रभाव से होती है। परन्तु इसकी विशेषता यह है कि इसमें वायु मुख द्वारा न पहुँच कर धौंकनी की सहायता से पहुँचाई जाती है। जहाँ तक इसके नाम का सम्बन्ध है हारमोनियम शब्द कि व्युत्पत्ति यूनानी भाषा के शब्द हार्मनी से हुई है जो कि आज अंग्रेजी भाषा में भी प्रहण कर लिया गया है। हार्मनी स्वर प्रयोग की एक विशेष पद्धति का





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# Journal of Indian Dietetic Association

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- ★ To facilitate social, scientific and cultural fellowship and cultivation of goodwill among the members.
- ★ To establish close contact amongst persons following different branches of pure and applied sciences and technologies with a view to develop a wider outlook and stimulate an intellectual pursuit towards a possible practical integration of available scientific knowledge in society.
- ★ To safeguard the interest of scientists, particularly those of its members, and work for their general welfare.

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## TEMPORAL CHANGES IN PREVALENCE OF OVERWEIGHT AND UNDERWEIGHT AMONG ADOLESCENT GIRLS HAILING FROM DIFFERENT SOCIOECONOMIC STATUS

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### INTRODUCTION:

Heredity and environment have a combined influence on physical growth. In general, children living under better socio-economic conditions have consistently exceeded in growth and maturation than their counterparts living under worse conditions. The economic transition has changed the lifestyle and resulted in double burden of obesity and under nutrition in developing countries (Bovet et al., 2006). The WHO in 1998 designated obesity as a global epidemic. India is also facing the epidemic of obesity and its associated diseases especially in children and adolescents (Fall and Barker, 1997). NFHS (National Family Health Survey) data reveals that problem of obesity is substantial in the adult population residing in urban areas with high standard of living, where 25% were found to have a BMI > 25 and 6-7% had BMI > 30 (NFHS-2000). Results from the 2003-2004 National Health and Nutrition Examination Survey (NHANES), indicate that an estimated 17 percent of children and adolescents aged 2-19 years are overweight. According to two studies conducted by Ogden et al. (2008), obesity prevalence among children and adolescents

showed no significant changes between 2003-2004 and 2005-2006. Based on the study, in the combined years of 2003-2006, 16.3% of children and adolescents aged 2-19 years were obese, at or above the 95th percentile of the 2000 BMI-for-age growth charts. In most developed countries the prevalence of obesity has increased in children among minorities and low socioeconomic groups. A study by Wang (2001) on prevalence of obesity across nations concluded that relationship between obesity and socioeconomic status varies across countries. Higher socioeconomic status subjects were more likely to be obese in China and Russia, but in the U.S.A, low socioeconomic groups were at higher risk.

Though more studies are needed to understand the precise prevalence of overweight in India, school based data demonstrates an increasing trend of obesity range. According to a large survey on middle to high income school children in Delhi (Kapil et al., 2002) about 30% of adolescents were found to be overweight and in a study conducted on Chennai school children, 26.4% rich students were found



obese (Jagadesan et al., 2014). A study on affluent school children in Amritsar, Punjab concluded that overweight in affluent children was higher or as high as in some developed countries (Sidhu et al., 2006). Another study conducted on affluent adolescent girls of Bengal (9-18 years) found 13.1 % and 4.3% girls overweight and obese respectively (Sood et al., 2007). The nutritional status of the future mothers contributes significantly to the nutritional status of the community.

Two large longitudinal studies from England (Power and Moynihan 1998 & Wang 2001) on childhood obesity predicted the development of obesity in adult life. Moreover, many studies have suggested that overweight children have higher chances of having hypertension in childhood or in adult life (Singh et al., 2007; Sidhu and Prabhjot, 2007; Taksande et al., 2008; Badaruddoza et al., 2009; Costanzi et al. 2009; Jagadesan et al. 2014). There is a limited data from this region of India regarding assessment of temporal changes in nutritional status of children; hence the present study was carried out in the city of Ludhiana in Punjab. Ludhiana is one of the fastest growing cities of north India. Rapid growth of industry and trade has increased the per capita income of the citizens translating into higher levels of disposable income in the hands of high and middle income groups where as the lower income group is still struggling hard for better nutrition. Also known as the 'Manchester of India', this industrial city has seen a paradigm shift in the lifestyle and eating habits of its populace especially children and youth in the last decade or so. This change has unfolded an

era of easy availability and affordability of high calorie junk food and ever decreasing physical activity. Though rich materially, there is a mental block in the minds of people regarding preference of children as evidenced by decreasing ratio of girls as compared to boys in this region. Hence, the present study was designed to study 10-16 year old school going urban girls with following objectives:

1. To compare the prevalence of overweight, obesity and underweight among urban adolescent girls from different socioeconomic backgrounds.
2. To compare data collected in 2007 and in 2014 and to investigate the temporal changes in the prevalence during this period.

#### METHODOLOGY:

The data was collected in the year 2014 from 10-16 year old urban school going girls from Ludhiana, Punjab. For this cross sectional study a random sample of 831 girls was chosen comprising of upper socioeconomic status (USES) girls from schools with higher fee structure (monthly fee more than 1500 Rs.) and low socioeconomic status (LSES) girls from government schools. The height and weight of both the groups were recorded and BMI was calculated. On the basis of BMI, prevalence of overweight, obesity and underweight was assessed with the help of latest IAP (2015) guidelines. Overweight and obesity was assessed from BMI tables where adult equivalent of 23 and 27 cut-off values are provided for ages between 5-18 years. Girls below 5<sup>th</sup> percentile of BMI were considered underweight and below 3<sup>rd</sup> percentile were placed in severely underweight category. This