

SSGP

***DIMENSIONAL
PERSPECTIVES IN
RESEARCH***

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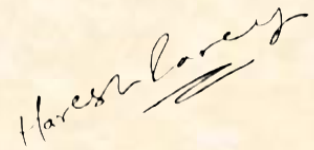
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EDITOR'S DESK

It is dream come true and exciting to finally be publishing the Dimensional Perspectives in Research The book has been goal of team dynamic ideas. This issue contains contented from various disciplines and covers innovative and dynamic research work of doctors, professors, professionals, teachers, research scholars and students.

*The Book Dimensional Perspectives in Research is possible only due to hard work of team dynamic ideas. We are very thankful to Editors who constantly guided us to achieve this goal. Also, the review team of **Amol Chitare & Pradeep Prasad** and expertise service from Software & Technical Sir **Khushraj Singh Sandhu** made endless efforts to make this huge success. The editorial and review team constantly made efforts which resulted in works of excellent quality. The Book is Peer reviewed*

Lastly, thanks to each and every member who connected with us in this virtual world and has contributed to "Dimensional Perspectives in Research" making it huge success. This book is dedicated to and belongs to each and every member who has contributed to its success.



Dr. Haresh Mukesh Raney

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A CRITICAL ANALYSIS OF FOREIGN DIRECT INVESTMENT (FDI) AND ITS IMPACT ON INDIAN ECONOMY

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Abstract

Foreign Direct Investment has become the battle-field for emerging market, in the present scenario of the world. FDI is a part of the global economy that has grown quickly from the recent past. It has grown so fast, in fact, that the academic and policy making world have struggled to keep up with the expanding phenomenon. Much debate has ensued and India has been one of the many countries caught up in it. India is a country of massive population with a much less massive GDP, and is accordingly looking for the best ways to grow. International capital flows have a significant role for growth and development of recipient countries by providing necessary capital, resources and technology. One aspect of such international investment is Foreign Direct Investment (FDI) which has become an important source of external Finance since they are considered as more stable and prominent source of capital inflows. The present study has been conducted to evaluate the impact of Foreign Direct Investment on Indian Economy. Gross Domestic Product has been considered as an indicator economic growth for this study.

Key Words: Economy, FDI, GDP

Introduction

A Foreign Direct Investment often abbreviated on as FDI, is simply an investment made by a company or an individual in one country into a business or company located in a foreign land. FDI typically occur when either international business operations or established in another country or when an international company acquires a business in an offshore company. FDI is an important monetary source of India's economic development. Economic liberalization started in India in the wake of the 1991 crises and since then, FDI has steadily increased in the country. India, today is a part of top 100 club ease of doing business (EoDb) and globally ranks no. 1 in the green field FDI ranking. The Literature review of various renowned publications is emphasising that the GDP of a nation is determined by several factors such as growth in agriculture and manufacturing sector, export, inflation, exchange rate and international investment. In spite of different factors effecting the growth, the incremental growth of Foreign Direct Investment in various sectors is considered to be a vital factor which controls all other factors. The 1991 New Economic Policy has unfolded red carpet to the international investors and reduced the uncertainty on the legal and regulatory frame work boosted the investor's confidence in the economy. The Indian Economy has witnessed a vigorous growth since the implementation

of liberalization, privatization and globalization. Foreign Direct Investment (FDI) leads to the long-term growth of the economy. MNC's bring about technology transfer to the domestic companies. Organic growth or expansion takes place in the companies and employment too rises. FDI strengthens the balance sheet as it raises the assets of the companies. Profit of the business and labour productivity also increases. Due to increase in per capita income level of consumption improves. Tax revenues increase and government spending raises. GDP increases and there is also a lagged effect due to which GDP too increases in subsequent years.

Total FDI inflows in the country in the last 20 years (April 2000-Sep 2020) are \$729.8 bn While the total FDI inflows received in the last 5 years (April 2014-Sep 2019) was \$319 bn which amounts nearly 50% of total FDI inflow in last 20 years.

Research Objectives

1. To assess the impact of FDI on Economic development of India.
2. To examine the relationship between FDI and Economic Growth.

Research Methodology

The Present study is exclusively based on secondary data which is collected from different published journals on Indian Economy, handbook of statistics on Indian Economy, published annually by Reserve Bank of India, Economic survey reports, NSE and BSE websites and also from various publications of ministry of commerce. This study considers last 10 years data from 2010-2019 and FDI inflows to India country wise from 2016-17 to 2020-21.

Literature Review

the different research studies on the aspect of Foreign Direct Investment (FDI) have been directed to and formulated in different manners. The contribution of FDI to economic growth have always attracted the interest of policy makers, Economists and Researchers all over the world. There is abundant literature available on the relationship of FDI and economic growth. In the initial stage, few studies [9]:[10]:[11] had shown that FDI has a negative effect on the growth of developing countries of the world.

But in the early 1960's researchers like Rodan (12), Chenery and Straut (13) agreed that as for as developing countries of the world are concerned , Foreign Capital inflows had a favourable impact on the economy efficiency and growth. In contrary, Kasibhatla and Sowhney

(14) in the US supported a uni-directional casualty from GDP to FDI and not the reverse causation. However parallel to the present purpose here the literature concerning the impact of FDI to economic growth is reviewed and presented.

For emerging economies like India FDI is often referred `to as the most effective way to transfer capital and technology from other economies especially the developed countries.

These economies in return look at india as an Economy with immense growth potential. Lenoid Melnyk, Oleksandar Kubatko and Serphiy Pysarenko 2014 in their study on analysing the impact of FDI on the economic growth of post communism transition economies concluded that FDI significantly and positively influence the economic growth of host countries. The study found that FDI is positively correlated with an increase in a specific regions growth rate. As per the results a well-developed financial and institutional sectors are the important sources of FDI inflows and GDP growth.

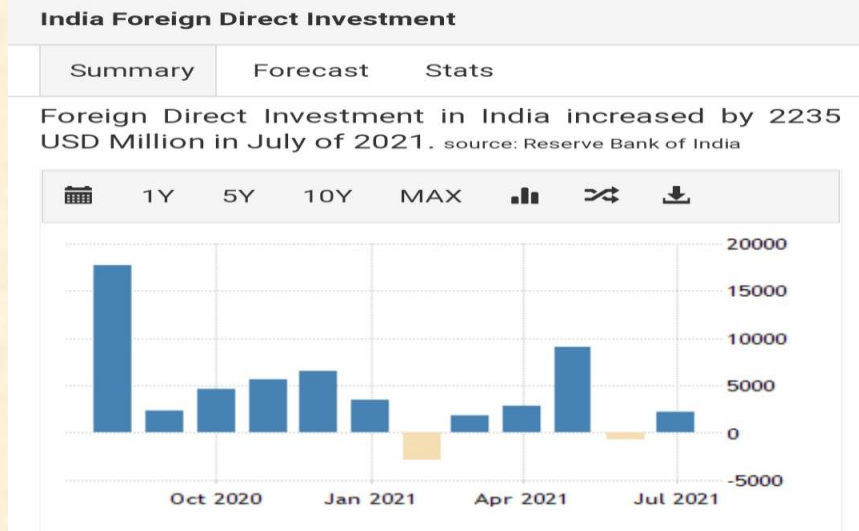
Syed Tabasum Sultana and Pardhasaradhi S. had made an analysis on the impact of FDI and FII on Indian stock market during the period of 2001-11 and concluded that there is strong positive correlation between FDI and BSE Sensex and also with the FDI and NSE Nifty. As per the study there was moderate correlation between FII and BSE Sensex and correlation was not significant at 1% level between FII and NSE nifty during the study period.

To ensure immense and huge number of employment opportunities, domestic capital and production level FDI is an important factor that should always be in check, most importantly for developing economies it can be said that FDI is an important phase towards economic growth and development of the country.

Analysis and Interpretation

The analysis of this study reached to the conclusion that foreign direct investment help in boosting the growth of Indian economy. India witnessed a growth in the flow of foreign direct investment since the introduction of liberalization policy 1991 and other policy reforms in India.

Foreign Direct Investment in India increased by 2235 USD Million in July of 2021.



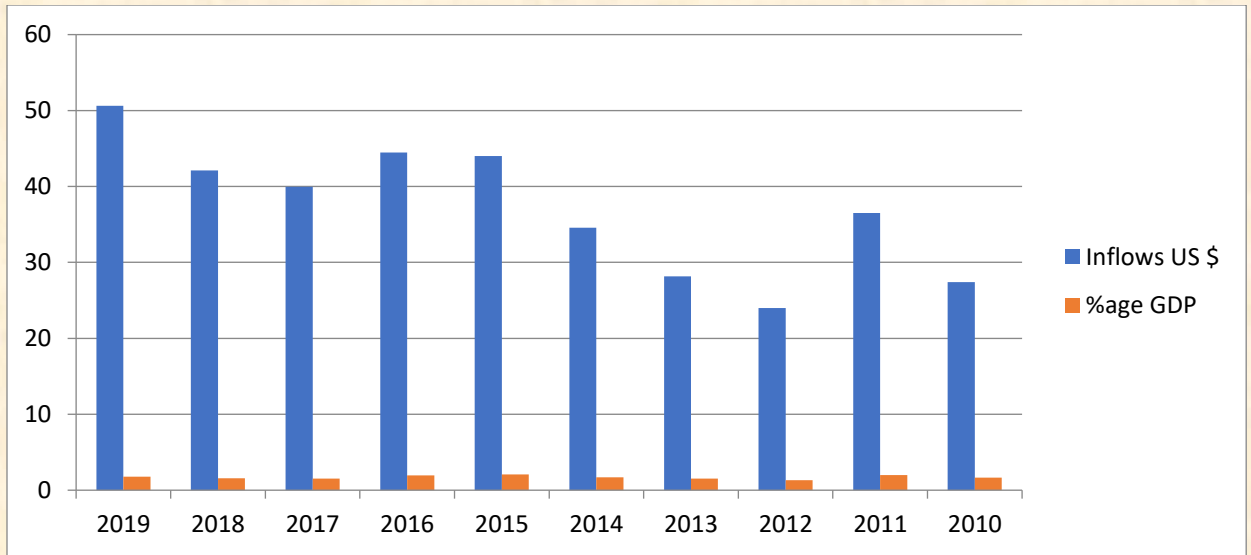
Foreign Direct Investment flows to India: country-wise (USD million)

Country	2016-17	2017-18	2018-19	2019-20	2020-21
Singapore	6529	9273	14632	12612	15908
U.S	2138	1973	2823	3401	14204
Mauritius	1383	1415	6570	7498	4491
UAE	645	408	853	323	4071
Saudia Arabia	12	125	27	89	2815
Cayman Islands	49	1140	863	3496	2558
Netherlands	3234	2677	2519	5295	2138
Japan	4237	1313	2745	2308	1744
France	487	403	375	1167	810
U.K	1301	716	1211	1125	779
Germany	845	1095	817	443	626
Spain	213	243	109	83	425
South Korea	466	293	982	777	400
Luxembourg	99	243	251	252	267
Belgium	172	213	56	388	246
Taiwan	12	112	24	44	219
Switzerland	502	506	280	140	188
Others	1993	3218	3607	3188	1604
Total	36317	37366	38744	42629	525

Source: Reserve Bank of India

Foreign Direct Investment and Percentage of GDP (from 2010 to 2019)

Year	Inflows (US Dollar)	%age GDP
2019	50.61 B	1.76%
2018	42.12 B	1.56%
2017	39.97 B	1.51%
2016	44.46 B	1.94%
2015	44.01 B	2.09%
2014	34.58 B	1.70%
2013	28.15 B	1.52%
2012	24.00 B	1.31%
2011	36.50 B	2.00%
2010	27.40 B	1.64%



Conclusion

This paper tries to evaluate empirically, the relationship between foreign direct investment and economic growth in India by using yearly data for a period of 10 years (A decade) from 2010 to 2019 and FDI inflows country wise from 2016-17 to 2020-21. The study identified that the major factor influencing the inflow of FDI to India, which is poised of various variables collected under Foreign Direct Investment (FDI) and Indian economy. A planned feature of investment is required for India's sustainable economic growth and development, which can be brought on board by Foreign Direct Investment (FDI) through increased employment opportunities and enhancement of skilful labour. The analysis of this paper shows that FDI in India has contributed effectively to the overall growth of the economy in recent times.

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CONSUMMATION OF GOOGLE PAY DURING THE PANDEMIC FOR SUSTAINMENT

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Abstract

The bizarre incident , Covid- 19 Pandemic catapulted the globe into topsy-turvy especially India ,the largess mass with the sudden outbreak of lockdown, hues and cries of hunger, no withdrawals from boxes, empty wallets, sobbing for feed, wailing for medicine, no wages to quench the thirst, non availability of travel to move, cessation of wireless talk, mute mobiles, starvation of daily labourers, no mall portals open, stampede to fly, stoppage of daily chores, tot’s mundane tin milk disappears, deserted streets, caged houses, masked faces, curtained banks, offices, sustenance for survival, reconnaissance for assistance, etc. Heaving a sigh of relief, the innovative digital device, the Google Pay emerges with umpteen cozy measures for payments, receipts, service, etc., shouldering the onus of people’s predicaments and constituted aid to them. It nourished the immense share in serving the mass. It launched myriad multiple additions observing the social distancing. The tech giant said “ Google pay app contributes much country’s endeavour to combat Covid-19 launching Corona virus Spots disseminating information with official safety guidelines from the Ministry of Health and Family Welfare including the monetary assistance garnering through charities and donations through app. “

Keywords: *Pandemic, yeoman service, restitution, correlation with Government, intercede.*

Introduction

Covid, the Pandemic Corona labeled as a Black Swan Event mars the minds of the mass gazing for succor that had a detrimental effect on the mass where Cash is the only potential carrier of the Virus. The mass strives for procuring the essentialities using cash when all egress was locked which fuels the people delve for alternate mode of garnering the products, transacting the business deals, etc., their emerges the proliferation of digital payments reached to the peak with multiple service providers. Google Pay focus its light for social- distancing providing financial services applying NFC (Near Field Communication). Efforts are also ramped up the use of digital financial services eschewing all the hurdles with Sim based security through OTPs. When all the portals of physical monetary actions were shut with the stay afloat, the digital payments emerged as the

panacea for all financial tasks. Google Pay succors consumers in augmenting their transactions besides educating the Covid measures during pandemic. It performed as a beacon light for focusing the needs in grocery, medicine, food, fuel supply, information of covid measures, 24 x7 business hours with artificial intelligence, etc. It ventures new stores in every accessible vicinity across India administering services and Covid guidelines on the app. The bigwigs were connected and contribute much to combat during pandemic providing information to all the users. Google pay was the first ever- virtual when bunch of executives conglomerate together transpire online with hefty announcements for the Indian masses.

Portrayal of Yeoman Service that Augmented for the Indian Community During Pandemic.

Albeit the pecuniary is the essence of buying miniature products at slim vendors, the pandemic situation made every house to eschewing the usage of ‘paper money notes’ where the redeeming of products is mandatory with the money notes. Umpteen financial services like payments, remittances, etc., are delivered through digital channels through devices like mobile, laptop, etc. Google pay encompasses the established instruments (Debit and Credit Cards) and executed its work on cloud computing, peer to peer applications in providing the conduciveness of areas like payments, transfers, credits, etc. by household men, businesses and governments. The adverse effect of fiscal transactions percolates in obtaining medicine, hospital disbursement, etc. Google Pay executes the outshine work in handling the pandemic situation. The paced growth of accepting digital payments even to the street hawker. It is said that “over 3 million merchants exerted Google Pay during Pandemic accepting contactless payments in the country.

CEO Sundar Pichai commented that “along with Minister for Communications Electronics and IT Ravi Shankar Prasad and other executives shared Google’s Plan for India with its Google Pay App experienced a momentous role to adapt the normal life across India with its services. “During the Pandemic, with the extensive call of Google Pay, millions of users visited “Nearby Stores Spot “through App to buy the essentialities. The remote shops too venture the business safely taking all the transactions from Google Pay easily.

Render Serviceability Towards Enhancing Education During Pandemic.

The days were frightened with no penetrating accessibility to educational edifices and make curtail to studies truncated to immuring at houses with mere flipping pages monotonously sans pedagogical assistance with the teachers during the ongoing pandemic. Google Pay App gratified initiative with “Team for Home” which created access information to bring the normalcy towards education. Kaivalyas Education Foundation trained over 7 lakhs pedagogues to provide virtual class room teaching for all the community.

Sapna , the executive of Google Pay App commented that “ They have partnered with CBSE to deliver blended learning approached with online learning tools with the aegis of Google Pay App and et al.

Confederate With Financial System During Pandemic.

The grueling episode of Pandemic that incorporated every human being paralyzed in their financial capability owing to the plethora of reasons like “money circulation logged, nix transactions at shops, etc. The existence of Google Pay brought unique offerings unveiling the hurdles out adopting the digital transactions across the country.

Sajith Sivanandan, Business Head of Google Pay said “In every topography, where Google Pay is present, our stance is consistently partnered with banking and financial services enabling frictionless delivery of financial products and services. Certainly, it is genuine to claim that Google Pay subsidized the fiscal quagmires during the pandemic where thousands of pale faces await relief for monetary measures. Furthermore, deposit offerings and petty loans during Pandemic are also kept feasible with the aegis of the Small Finance Banks.

Spree E- Commerce at Indoors During the Infectious Threat of Covid By The Auspices Of Google Pay.

It was an abhorrent time where kith and kins maneuver aloof and stay awhile with masked faces. Nervous and fearful times were hovered to sustain for living with unforeseen and unprecedented crisis of procuring the essentialities from outside. Constant use of sanitizer, horrible fear of sensitizing the products at shops, dreadful and scandalous endeavour of breathing, etc., made the community unrest. Google Pay App with its magnanimous deal brought close to innumerable merchant spots on its platform performing various financial services including shopping with massive network. The uncomplicated mobile app provides the functionality of seamless payment experience with humongous merchants and consumers. It drives the adoption of their motley services like food ordering, paying utility bills, shopping at various malls visualizing the products at the app, etc. With the ingenuity of Google Pay administration, the pandemic was brought upended normalcy by functioning of digital payments where it cements the trust and repose confidence among the customers. One of the executives Mr. Sajith Sivanandan said that “a lot of trends have accelerated as a result of this pandemic. People pay bills, buy things, send money, etc., that has accelerated by 10 years growth. He also eulogized that no country today where cards are growing as fast as India. There has been an acceleration of a profound nature. “

Covid Altered the Minds of the Indian Towards Saving Culture.

The pandemic twister modified the mindsets of countless Indians penetrating themselves into investing community through ‘Online “. The precipitous disaster of employment chances, hasty catastrophe of business deals, etc., reformed the intention of ‘saving

culture'. It escalates the habit of saving. It is disclosed through survey that just during the pandemic period, 6 to 16% of the people have direct or indirect access to the capital market and investment. Nearly 10 to 20% people look for reliable, trustworthy and available credible companies to invest. About 12 million merchants have got Google Pay Apps QR and march to 30 million retail hump of linking their bank accounts. The rapid rolls out of Covid 19 have kept investor optimism possibly at their highest levels than at any point in last five years. Corona virus has transformed the people into real investors amidst uncertain times. It is estimated that the intention of the people make prudent to keep aside of some money as emergency funds in the uncertain pandemic times.

Correlated Logistics of Google Pay with The Government In Curbing The Pandemic Issue.

Every minute and day was calculated with startled minds as whose house tolls with the death tidings. It was horrendous time where one is unaware of medicines, wariness of tablets usage, vigilance of every masked face, serpentine queues over the medical centers, scare of beds and ventilators at hospitals, etc. The day causes respite when Government announced the Vaccinations that are put into breathing space of every face. Google pay supported as the Frontline Workers during the outbreak to stem the epidemic out safeguarding the health risks of workers physically, monetarily, morally through messages. The Google Pay App created Boarding Passes for the community who sought for the Covid Test. With the aegis and correlation with the Indian Government Health Officials, Google Pay initiated much endeavour in finding out the Covid Test Centers and inform the people every time. The Digital Token system was also adopted to curb waiting at the Covid Test Centers. The Google Pay users had to apply and grab the digital token system and may avail their time at the Test Centers. Google Pay even equips Vaccine Testing Cards for the community who gets to be vaccinated. Through its app and backup of Google maps, the location of the vaccination centre is also identified and keep apprise to the needy people. It renders as the best warrior in getting vaccinated to the mass.

Simple Click That Served Better By Google Pay During Pandemic.

Google Pay performs innovative rebooting the economy with its digital transactions. RBI showed that during pandemic digital transactions were recorded 96% growth and 104 % increase in the same quarter of Covid. The people who mostly addicted to to cash payments relied on digigital platforms wherein Google Pay assisted payment space through its app and the service volumes rise up to 650%. It occupied 14% of respondents in their exertion. Cashless economy met the pandemic issue following social distance evading proliferation of stretching to every nook and corner of the public. During this pandemic, the alleviation of direct contact, exchange, contagious hurdles, etc., put the curb due to the initiative of Google pay for transacting the fiscal benefits by just clicking on its app. The exertion of the E-payments escalates much owing to the venture of umpteen convenient apps. Google

pay runs as the best wallet for myriad purposes. There was no hectic for touching the portals of e-services for KYC, also and its acts as the Bank at Home to pay bills consuming no time of tip-toeing to office at pandemic peril. The Google Pay App inserted innumerable language facilities as per the customer's own accord. Its easy touch and click facility made the customer visible of all the benefits of apps at one's visibility. Easy payments of EMI to the insurance, home loans, health schemes, personal loans, etc., with simple click or UPI or with QR code with effortless endeavour of clicking on the app. It enhances privacy features with obvious transactional facility of mobile recharge, dish connection, ordering for groceries, food, etc., personalizing features with easy control of the customer and keeping records for perusal. Besides these, the simple click saves much offering rewards for sundry items also.

Bolsters Fiscal Assistance to Charitable Institutions and The Government During Pandemic.

Perceiving the devastated events during pandemic that millions of Indian houses were put into lurch defenseless of their own progeny, off spring, etc., Google pay envisions the imbroglio of plenty houses and offers hefty amount to the needy. Google pay with its vested interests assisted the vaccinated centers of syringes, medicine, food, shelter, etc., and even funded extensive support for the pandemic battle through garnering the donations through its app. The worsening Covid crisis sought the Google Pay extends aid relief of affording oxygen concentrators and other equipments to the glut. One of the techs of Google Pay commented that "I am heartbroken by the current situation in India. Our Google pay continues its voice, resources, and relief efforts. "Google Pay App with its company Google offered 135 crore package includes a 20 crores grant to the Non-Government Organizations in India to provide assistance to the families hit the hardest.

Google Pay for Mustering Money Through Its App.

The buttress for families became jinx during pandemic. Penury with no jobs, income with deadlock etc., put the families into chaos for sustenance for survival. Google Pay instituted the path for gleaning the amount through Online using the new infused app called "Google pay for Business." Google Pay lofted a new app called merchant-focused app especially for business where even Indian women indulge in earning money through on boarding and verification process through video call. The people may also extract the income statements periodically and even earn rewards through their transactions. The platform may be exerted for any store online or retail stores enable digital receipts and payments. Through its Spot Store, one can perform regular e-commerce and garner the profits squandering indoors.

Barricades That Bar the Further Growth of Customers of Google Pay Compared to Other Apps.

It is cognizant that plethora of digital payments app emerge during the pandemic alluring their endearments. The pandemic brought a massive shift of being less personal and more digital. Covid was a big catalyst for the enactment of digital payments. But, Google Pay lags behind in alluring the customers especially the educated male. As per the survey, the female educated have soared the list among the entire male educated and the rural area men. Only 14% have been occupied as the users of Google Pay when compared to the Paytm of 33% where there are bountiful barricades have been encrypted in Google Pay. No wallet facility was provided to en cash the amount from the credit card when compared to other apps which discourages every employee to en cash the amount from the credit card. The conversion of amount from credit card to wallet facility made the Paytm app allured the community. Fund transfer has been kept for minimum one lakh so that the hefty companies drove for other apps for transacting. The CRM has to foster to satiate the discomfort of customers during transactional failures. Financial literacy campaigns are limited in exploring their business to every layman. Google Pay must disseminate its project to the rural educated. Albeit discounts, rewards, etc., are proffered but visible as promotional tools highlighting at app. Majority of users of Google Pay are below 30 to 35 years of age, so, it's high time to extend its promotion to all levels of age. Most of the users of Google Pay exert this app for mobile recharge, so, the app should promulgate for fat amounts to get transferred through glamorous proposals.

Conclusion.

It is *de facto* that Google pay's motto during the pandemic is 'cashless, faceless, and paperless. The accomplishment of this aphorism comes true with its far-flung innovative ideas of Google Pay. Google Pay Spokesperson rightly commented that "We are at ease to receive as we render our service from home. In addition to the government's proposition, Google Pay executed its worth part in fending off the pandemic hardship. The direct associate with the government offices reduces costs that bypass intermediaries so as to eschew the pandemic with no afflicted and tormented chapter. The long-constant- saga of hazardous pandemic experience persists even now with untouched macabre of lives. Certainly, the depiction of Google Pay's role in chasing the aforesaid event of Pandemic would be worthwhile venture.

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EMRS IN MIZORAM: STATUS, FUNCTIONS, IMPACTS AND ITS INCLUSIVITY

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Abstract

Education is one of the most important aspects to promote growth and development of any country; directly or indirectly. It is necessary to promote knowledge, disseminate the true ways of living, improve confidence and has a great role in improving the social and economic status of an individual, as well as the country as a whole. The Government of India has implemented important and successful schemes to promote education within the country. Among the most promising schemes was the Eklavya Model Residential Schools (EMRS). This paper tries to highlight the status of Eklavya Model Residential Schools (EMRS) in Mizoram; highlight its functions; find out the concept of its inclusiveness and the impacts it had to the young students and the society as a whole

Key Words: *Eklavya Model Residential Schools (EMRS), status, functions, impact, inclusivity.*

Introduction

Education is one of the most important aspects to promote growth and development of any country; directly or indirectly. It is necessary to promote knowledge, disseminate the true ways of living, improve confidence and has a great role in improving the social and economic status on an individual, as well as the country as a whole. The Government of India has initiated important and successful schemes to promote education to all within the country. Among the most promising schemes was the Eklavya Model Residential Schools (EMRS).

The concept of *inclusion* has been practiced in the formal educational system for a very long time. We can see the importance of education to bring about a progressive change for mankind. Hence, education is crucial for improving self-esteem, enhancing social status, and gaining confidence for people who are drifted apart from the mainstream society. Inclusion means including all without any one leaving behind regardless of their race, sex, color, disability, class, status, etc. Inclusive education as defined by UNESCO is a process of addressing and responding to the diverse needs of all learners by giving them equal

opportunities to all. This means that all children have right to a quality education that caters to all their individual needs.

Concept of EMRS

EMRS scheme was started in the year 1997-98 to impart free and quality education to Scheduled Tribe (ST) children in remote areas of the country in order to enable them to avail of opportunities in high and professional educational courses and get employment in various fields of life. The schools focus not only on academic education but on the all-round development of the students. Each school was set up to have a capacity of 480 students, catering to students from Class VI to XII. Thus far, grants were given for construction of schools and recurring expenses to the State Governments under Grants under Article 275 (1) of the Indian Constitution.

In order to give further impetus to EMRS, it has been decided that by the year 2022, every block with more than 50% ST population and at least 20,000 tribal persons, will have an EMRS. Eklavya schools will be on par with Navodaya Vidyalaya and will have special facilities for preserving local art and culture besides providing training in sports and skill development. Across the country, as per census 2011 figures, there are 564 such sub-districts out of which there is an EMRS in 102 sub-districts. Thus, 462 new schools have to be opened by the year 2022.

EMRS in Mizoram

EMRS in Mizoram were first set up in Lunglei and Serchhip. It was inaugurated by the then Chief Minister Shri Lalthanhawla at Serchhip in the year 2008. Later in the year 2020, more schools were opened in Lawngtlai, Chawngte, Tuipang and Ngopa. A School that aimed to provide free and quality education to tribal children in remote areas of the country has expanded its service. It has been intended to open more schools in other places within the state as well.

Research Objective

The present study has the following objectives:-

- i. To highlight the status of EMRS in Mizoram
- ii. To highlight the functions of EMRS in Mizoram
- iii. To find out the inclusiveness of EMRS in Mizoram
- iv. To find out the impacts of EMRS in Mizoram

Research Method

This research study is a *qualitative research* using a *secondary analysis*. The findings are also based on the primary data, i.e. interviews of the office staff and the administrative officers; and the secondary data obtained from the offices of the concerned department.

Results and discussions

Status

The number of student's enrolment and number of staffs in each EMRS are presented below.

EMRS Lunglei Eklavya Model Residential School, Lunglei is located at Pukpui, Lunglei: Mizoram, it was set up under Article 271(1) Grant of the constitution of India funded by the Ministry of Tribal Affairs, through Government of Mizoram Social Welfare & Tribal Affairs Department. At the District Level, The District Level Standing Committee under the Chairmanship of DC, Lunglei served as Managing Board and at the state level the Board of Directors under the Chairmanship of Secretary Social Welfare Department was the managing board. The School was formally inaugurated on the 9th May 2008.

Table No.1: Students enrolment details of EMRS Lunglei

Year	No. of Boys	No. of Girls	Total
2016-17	100	100	200
2017-18	100	100	200
2018-19	100	100	200
2020-2021	100	110	210
2021-2022	120	120	240

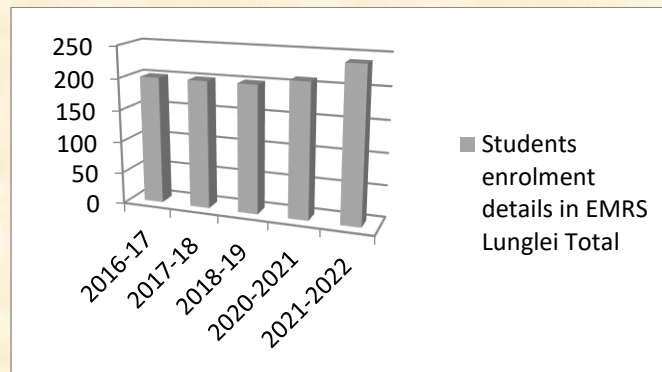


Fig.1: Graphical representation of Students enrolment of EMRS Lunglei

The above Fig.1 clearly shows that there has been an increase in the number of enrolment of students in EMRS Lunglei. There have been benefits and positive impacts towards the parents for sending their children to the EMRS, because of the excellent services and facilities provided by the school.

Staff :

Teaching staff : 20
Non-Teaching staff : 13
Total : 33

EMRS Serchhip

EMRS Serchhip has its complete functioning from the year 2015.

Table No.2: Student's enrolment details of EMRS Serchhip

Year	No. of Boys	No. of Girls	Total
2016-17	43	51	94
2017-18	66	74	140
2018-19	120	80	200
2020-2021	113	87	200
2021-2022	111	110	221

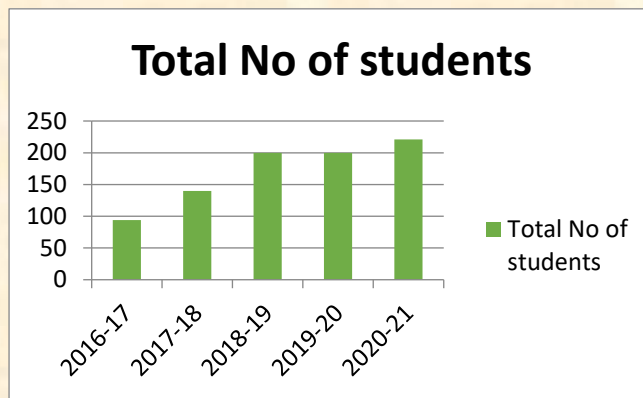


Fig. 2: Graphical representation of students enrolment of EMRS Serchhip

The above Fig.2 clearly shows that there has been markedly increase in the number of enrolment of students in EMRS Usership. There have been benefits and positive impacts towards the parents for sending their children to the EMRS, obviously because of the excellent services and facilities provided by the school.

Staff :

Teaching staff	:	16
Non-Teaching staff	:	10
Total	:	26

EMRS CHAWNGTE:

Chawngte is located in Lawnglai District of Mizoram. Started its function in the year 2020, EMRS Chawngte has put up with the following data.

Table No.3: Student's enrolment details of EMRS Chawngte

Year	Total
2020-2021	90
2021-2022	120

Staff:

Teaching staff	:	6
Non-Teaching staff	:	9
Total	:	15

EMRS LAWNGTLAI:

Lawngtlai itself is the District Capital. Started its function in the year 2020, EMRS Lawngtlai has put up with the following data.

Table No.4: Student's enrolment details of EMRS Lawngtlai

Year	Total
2020-2021	90
2021-2022	120

Staff:

Teaching staff	:	11
Non-Teaching staff	:	18
Total	:	29

EMRS TUIPANG:

Tuipang is located in Siaha District of Mizoram. Started its function in the year 2020, EMRS Tuipang has put up with the following data.

Table No.5: Student's enrolment details of EMRS Tuipang

Year	Total
2020-2021	90
2021-2022	120

Staff:

Teaching staff	:	6
Non-Teaching staff	:	9
Total	:	15

EMRS NGOPA:

Ngopa is located in Champhai district of Mizoram. Started its function in the year 2020, EMRS Ngopa has put up with the following data.

Table No.3: Student's enrolment details of EMRS Ngopa

Year	Total
2020-2021	180
2021-2022	240

Staff:

Teaching staff	:	6
Non-Teaching staff	:	9
Total	:	15

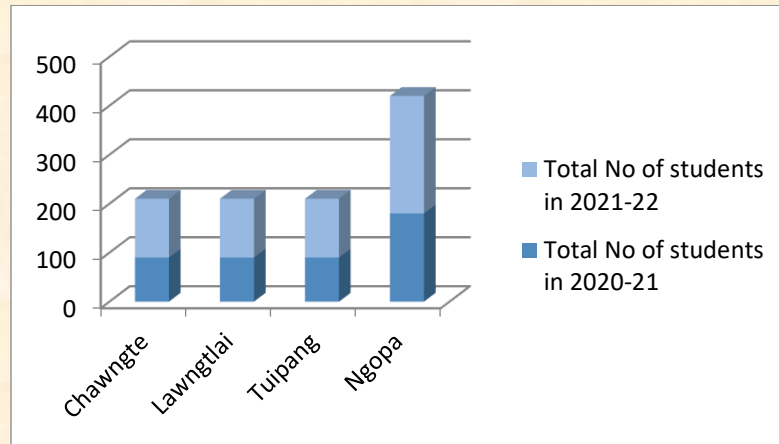


Fig.3: Graphical representation of student's enrolment in Chawngte, Lawngtlai, Tuipang & Ngopa EMRS

The above Fig.3 clearly shows that there has been markedly increase in the number of enrolment of students in EMRS Chawngte, Lawngtlai, Tuipang and Ngopa. Even though the schools were opened very recently, there are evidences of improvements in each of the schools with reference to enrolment of students. There have been benefits and positive impacts towards the parents for sending their children to the EMRS, because of the excellent services and facilities provided by the school.

The EMRS in Mizoram provide the following facilities to the students: -

- i. School building, auditorium, library, dormitory, laboratory, staff quarters, medical centre, kitchen and dining hall, football ground, volleyball ground, basketball court and table tennis are all available within the school compound under proper maintenance.
- ii. Eklavya Model Residential School provides separate dormitory for both female and male students in which every single student is given their own bed.
- iii. Proper mess is served routinely.
- iv. Library facilities with 2000 books and magazines with daily newspaper are available and can be accessed with proper timing and routine.
- v. Sports enthusiastic students are given the opportunity to compete at the State Level and National Level competition.
- vi. The school has provided auditorium where students practiced cultural activities, music competition, festival and drama show.
- vii. Medical centre is available during any hour which is monitored by trained nurses under the supervision of doctors.

- viii. All the EMRS in Mizoram follow CBSE syllabus, free textbooks and other study materials along with school uniform and daily needs are given to the students.
- ix. Trained teachers teach the students during school hours and wardens guide them on the other hours with proper routine.
- x. Students often participate in cultural activities and sports competition at the National Level organized by The Ministry of Tribal Affairs, Government of India.

A. Functions:

EMRS are residential school especially set up for the tribal children for giving free education. It starts from class VI till class XII. Each student of EMRS in different parts of the state received uniforms, books, school bag, pens, pencils and other study materials and essentials for learning free of cost. There are no discrimination in terms of economic condition of the students, any children settling in Mizoram can get admission in any of the schools. Since there are limited seats, students have to go through an Entrance test and Medical Examination in order to get admission.

The schools were affiliated under Central Board of School Education (CBSE) and they follow their syllabus as well. Only Trained Graduate Teacher (TGT) teaches at the EMRS schools, providing quality education to the students. The students are taught with love and care, and to maintain health of the students, each school were equipped with a school nurse or a medical practitioner.

Funding under this scheme is 100% grant-in-aid by the Ministry of Tribal Affairs to National Education Society for Tribal Students (NESTS) to further funds to State Societies/State governments subject to submission of required documents. Construction of school building is undertaken by NESTS through Engineering, Procurement and Construction (EPC) based turnkey method as per the provision of General Financial Rules (GFR) through Central and State Public Sector Undertakings (PSUs) only (except for cases where the state govt. is allowed to construct the School) or through Department of Central Government engaged in the work of construction of various types of buildings. In the budget 2021, the Government of India proposed to build more 750 such schools in tribal areas all across India. It also increased the unit cost of each school to 38 crores, for hilly areas like Mizoram, the unit cost is increased to 48 crores. The recurring cost of Rs. 1,09,000 per student per year is admissible from 1.4.2019. For procurement of non-recurring items like equipment, kitchen furniture, dining hall, hostel, playground, etc. up to Rs.20 lakhs per school may be allowed once in every 5 years.

B. Inclusiveness of EMRS Mizoram:

With a scheme to provide quality educational platform for the tribal people, EMRS in Mizoram are found to be a school with inclusivity. As inclusiveness calls for non-discrimination in all grounds, EMRS in Mizoram follows the concept of inclusiveness;

giving equal opportunity to all students. There are no sorts of discrimination in any grounds and the students are given equal educational opportunities as the scheme has promised. Not only on the academic grounds, students are exposed to various sports and other activities as per their talents; and are given the opportunity to compete at the State Level and National Level competitions. The schools also has provided auditorium where students practiced cultural activities, music competition, festival and drama show. This shows that each of the student's talents, abilities and capabilities are noticed and are accepted; and they are given opportunities to enhance their own talents. Each and every student is included in the sphere of the educational system which they offered.

C. Impacts of EMRS Schools in Mizoram:

- i. About 95% of Mizoram's population is of tribal origin. Schools set up purely for tribal people like EMRS is great beneficial for the state. The EMRS set up in Mizoram have got admission applications which are beyond their seating capacity which showed the tremendous and positive impact of the schools.
- ii. From the graphical representations on the number of student's enrolment, we have seen a lot of improvement in each of the schools. This clearly showed that it has a positive impact towards the parents as they send their child to these schools after observing and understanding the facilities and services they have given to their students.
- iii. Many students come from village areas with low income family. Due to EMRS administration and management, Below Poverty Line (BPL) and Above Poverty Line (APL) families can have access to not only quality education without any cost, but all the basic necessities of children from hostel accommodation to social, cultural and sports activities as well.
- iv. Qualified trained graduate teachers with Central Teacher Eligibility Test (CTET) or State Teacher Eligibility Test (STET) certificate holders and trained Nurses guide and monitor the academics and physical health of the students respectively to complement their mental and physical health incorporated with their academic lessons.
- v. The aim of education is to attain the all-round development of the child. Giving priority of this aim, the Ministry of Tribal Affairs organized All India Level Festival of EMRS for almost every year where students can display or expand their talents in sports, music, entertainment, social cultural activities and other skills like painting, acting, etc. This type of festival and competition give the tribal students exposure and understanding of other rich tribes and traditions.

Conclusion

To conclude, EMRS in Mizoram are proved to have a positive impact to the students, parents and to the community or society to which the schools have been established. More

schools are intended to be opened as it catered the needs of the people, especially the low-income groups to experience the quality education and the facilities these schools have offered. Providing education free of cost, EMRS has greater prospects to all the people of all sectors to receive quality education for the people of Mizoram. However, the schools can be made more inclusive to consolidate the Children with Special Needs (CWSNs), by arranging the infrastructures, methods of teaching and provision of their needs as they require special facilities. Moreover, awareness must be given to the people of Mizoram about the excellent services these schools have offered, so that it can be benefitted by all people who need free of cost, quality education.

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EFFICACY OF AUTO CLUSTURE IN JHARKHAND- A CASE STUDY OF ADITYAPUR AUTO CLUSTURE, (AAC)

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Abstract

The industrial sector, these days, suffers from lack of sophistication in technology. Clusters“ are being implemented to increase productivity, upgrade technical skills, competitiveness and capacity building of enterprises. The state of Jharkhand promotes cluster development of industries under existing schemes of Government of India. The State Government extend all necessary support for cluster development of industries under the relevant schemes of Government of India viz Small Industry Cluster Development Programme of Ministry of MSME. Jharkhand Industrial Area Development Authority (JIADA) aims to develop symbiotic relationship between the MSME and the technical institutions by linking each cluster with a technical institution to solve the technical and design related problem of the MSMEs. In this context the Government of Jharkhand has identified 17 clusters in the state. Out of these clutures, Adityapur Auto Cluster (AAC) is the 1st largest auto cluster in Eastern India located in Adityapur Industrial Area of Jharkhand. Purpose of AAC is to develop the Industrial Infrastructure facilities in Adityapur IndustrialArea with the help of financial assistance as non-refundable grant from Government of India and Government of Jharkhand with nominal investments by the local industrial units.

Keywords: *Industrial development, Jharkhand, Cluster, Industries*

Introduction

The industrial sector, these days, suffers from lack of sophistication in technology. Up-gradation of the existing technology is a requirement of modern industrialization process to ensure supreme quality. Clusters“ are being implemented to increase productivity, upgrade technical skills, competitiveness and capacity building of enterprises. The state of Jharkhand promotes cluster development of industries under existing schemes of Government of India. The State Government extend all necessary support for cluster development of industries under the relevant schemes of Government of India viz Small Industry Cluster Development Programme of Ministry of MSME. Quality of infrastructure in industrial clusters of the State is upgraded through a cluster development action plan. The stategovernment supplement the cluster plans depending upon the nature of cluster. Minimum grantof 10% of total approved project cost by the Government or SPVs own contribution, whichever is less, will be offered by the State Government to cluster schemes approved by Govt. of India for the State.

Jharkhand Industrial Area Development Authority (JIADA) aims to develop symbiotic relationship between the MSME and the technical institutions by linking each cluster with

a technical institution to solve the technical and design related problem of the MSMEs. In this context the Government of Jharkhand has identified 17 cluster in the state. Out of these cluster, Adityapur Auto Cluster is the 1st largest auto cluster in Eastern India located in Adityapur Industrial Area of Jharkhand. Adityapur Auto Cluster (AAC): a movement by the Adityapur Small Industries Association (ASIA) & Industrial Infrastructure Upgradation Scheme (IIUS). SPV i.e. Special purpose Vehicle also called as AAC, is registered under the Companies Act 1956 under section 25 as a non-profit organization, with a financial grant from the Government of India and Government of Jharkhand. It is the 1st largest auto cluster in Eastern India located in Adityapur Industrial Area. Government of India has provided a grant of 75% of Total Project Cost .AAC spreads over 42 acres of land which is provided by AIADA free of cost. Adityapur Auto Cluster Development has state-of-art testing facilities and CETP, and Hazardous Waste Management facility is under construction.

Mission Statement of Adityapur Auto Cluster

Purpose of AAC is to develop the Industrial Infrastructure facilities in Adityapur Industrial Area with the help of financial assistance as non-refundable grant from Government of India and Government of Jharkhand with nominal investments by the local industrial units.

- ❖ Common place for business conference, marketing centre and facility centre.
- ❖ Provide affordable and adequate level of mechanization and computerization for industries.
- ❖ World class Hi Tech lab for engineering services, training and research centre under one roof.
- ❖ Prepare local industries to face global market by achieving global quality assurance standards.
- ❖ Common effluent treatment plant and hazardous waste treatment and disposal facility for pollution free environment.

Infrastructure Developed

AAC has developed the following infrastructural facilities for the purpose of improving the competitiveness of the auto ancillary industry in the AIADA region:

Common effluent treatment plant (CETP)

CETP has been developed in large sector on plot no: M -8, M 13 Adityapur Industrial Area.

Hazardous Waste Management Facility

Hazardous Waste Management Facility is functional. Industrial units send their plant effluent to the project.

Hi- Tech lab and Centre for Business Excellence:

Hi- Tech lab and Centre for Business Excellence is located at Tata Kandra Main Road, Near Toll Bridge Junction.

Important Feature of AAC

- Hi-Tech Lab & World Class Infrastructure for Training.
- Latest equipments for Testing, Calibration, Tool Room and Research&Development
- Live Testing & Project as per Industry Requirement
- Special/ Crash Course batches for the industry professional, as per their convenient time
- Placement Assistance through Dedicated Placement cell.

Research Objective:

The objective of the study is to analyse the efficacy and efficiency of the cluster and study what institutional support is being provided by Adityapur Auto Cluster in its area of operation:

- To strengthen the sector by making it more technology-driven.
- To support the sustainability and growth of MSMEs by addressing common issues such as improvement of technology, skills and quality, market access, access to capital etc.
- To build capacity of MSMEs for common supportive action through formation of self-help groups, consortia, upgradation of association etc.
- To create / upgrade infrastructural facilities in the new / existing industrial areas / clusters for MSMEs.
- To secure and achieve improvement in performance of all industries engaged in the auto ancillary and develop competitiveness indicators to serve as a measure of the improvement in performance.

Literature Review

There are considerable literatures on auto cluster.

Meti (1989) investigated that the actual development of a country is depending on its industrial development and underdeveloped countries real progress can be achieved through industrial development because the use of existing natural means and the raw material formed by industrialization. The developed countries of the world e.g. America, Japan china and EU, the foremost influence to their development has been done by their industries development.

Planning commission (2012) In India, a Cluster is defined as a geographically proximate group of interconnected firms and associated institutions that shares technologies and common markets in a particular field and which are also often linked by buyer-seller

relationship Industry clusters are geographic agglomerations of enterprises that are specialized in one or more related.

Giuliani (2013) Industry clusters are geographic agglomerations of enterprises that are specialized in one or more related industries.

Fundeanu and Badele (2014), a cluster can be defined as a form of partnerships between businesses, research institutions, universities and states that favors the emergence of new form of competitive advantages

The above literature explains the different types of business networks formed by firms with cluster participants. However these studies do not explain the benefit reaped and how successful auto cluster has been to achieve improvement in performance of all industries engaged in the auto ancillary and develop competitiveness indicators to serve as a measure of the improvement in performance. Thus this study is an attempt to answer these research gaps.

Scope of the study

For the study Adityapur Auto Cluster (AAC) is selected. AAC IS a movement by the Adityapur Small Industries Association (ASIA) & Industrial Infrastructure Upgradation Scheme (IIUS). SPV i.e., Special purpose Vehicle also called as AAC, is registered under the Companies Act 1956 under section 25 as a non-profit organization, with a financial grant from the Government of India and Government of Jharkhand. It is the 1st largest auto cluster in Eastern India located in Adityaur Industrial Area.

Research Methodology

This study uses an exploratory research design where primary data was collected through a structured questionnaire distributed among micro, small and medium entrepreneurs as well as general public in the geographical area of my research which is East Singhbhum, West Singhbhum and Saraikela Kharsawan.

Hypothesis – Adityapur Auto Cluture (AAC) :has played a vital role in implementation of MSME’s initiatives.

Table 1. – Respondents view on overall impact of Adityapur Auto Clusture

Respondent’s View on following parameters	Strongly Agree	Agree	Can’t Say	Total
Skill development (Training) facilities by AAC is beneficial for your organization.	52	30	4	86
Technological support by AAC has enhanced the quality of work of your organization	22	61	3	86

Common effluent treatment plant and hazardous waste treatment AAC is contributing to pollution free environment.	21	64	1	86
Establishment of Adityapur Auto Clusture has contributed to all round development and profitability of your organization.	25	53	8	86
	120	208	16	344
MEAN	30	52	4	

For calculations for testing of hypothesis tool used is ANOVA

$$X_1 = (52 + 22 + 22 + 26) / 4 = 30$$

$$X_2 = (30 + 61 + 64 + 53) / 4 = 52$$

$$X_3 = (04 + 03 + 01 + 08) / 4 = 04$$

$$\text{Mean of sample mean} = \frac{X_1 + X_2 + X_3}{k} = \frac{30 + 52 + 4}{3} = 28.66 \text{ (Approx 29)}$$

Calculation of SS between sample

Total sum of Square 6010

Sum of square within 1390

Sum of square between 4620

Now we set the ANOVA table as below:

Table : Testing through One way ANOVA

Source of variation	SS	d.f.	MS	F Ratio	5% F limit (from the F-table)
Between Sample	4620	03-1 = 2	2310	2310/ 154.55 = 14.957	F (2,9) = 4.26
Within Sample	1390	12-3 = 9	154.44		
Total	6010	12-1 = 11			

Source: Primary information.

The above table shows that the calculated value of F is 14.957 which is more than the table value of 4.26 at 5% level with d.f. being $v_1 = 2$ and $v_2 = 9$. This analysis does support the statement that skill development (Training) facilities by Adityapur Auto Clusture AAC is beneficial for units in AIADA region, technological support by AAC has enhanced the quality of work, common effluent treatment plant of AAC is contributing to pollution free environment and establishment of Adityapur Auto Clusture has contributed to all round development and profitability of units in AIADA region.

Finding of the study

Adityapur Auto Clusture being one of the ~~parts~~ ^{pillars} of industries in Jharkhand is playing a positive role for MSMEs in the East Singhbhum, West Singhbhum and Saraikela District of Jharkhand. The above testing through ANOVA supports the hypothesis in affirmation. AAC plays a vital role in generate g employemeyt and uplifting the livelihood of the people around its area of operation.

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Daily reading of Economic times

REVISITING CAPITAL ADEQUACY OF JHARKHAND GRAMIN BANK THROUGH CAMEL MODEL

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Abstract

Camel is basically ratio-based model for evaluating the performance of banks. It is a management tool that measures capital adequacy, assets quality, efficiency of management, quality of earnings and liquidity of financial institutions.

Capital adequacy ratio is the ratio of a bank's capital in relation to its risk weighted assets and current liabilities. It is decided by central bank and bank regulators to prevent commercial banks from taking excess leverage and becoming insolvent in the process.

Key Words: CAMEL, JGB, Capital adequacy ratio,

Introduction

The growth and financial stability of the country depends on the financial soundness of its banking sector. For a decade and half, since liberalization the Indian banking sector has been working in a more open and globalize environment. The liberalization process of Indian Economy has made the entry of new private sector banks possible and allowed the foreign sector banks to increase their branches in the banking sector. Besides, its India's commitment to the WTO, foreign banks have been permitted to open more branches with effect from 1998-99. With the increased competition and the emphatic on profitability, the public sector banks are now moving towards on economic-oriented model departing from the social approach followed for decades.

Thus, the restructuring of public sector banks and the emergence of new banks in the private sector as well as the increased competition from foreign banks, have improved the professionalism in the banking sector. The increased presence of the private and foreign banks during the past decade has made the market structure of the banking sector in terms of competitive pricing of services, narrow spreads, and improving the quality of the services. The regional rural banks or even the ultimate Gramin Banks are now feeling the heat of the competition from private and foreign sector banks. In the above back drop in the present chapter, researcher studies about the performances of Jharkhand Gramin Bank

(JGB) which necessitated to examine the performance of Jharkhand Gramin Bank during the period 2009-10 to 2014-15. All information collected by researcher from annual reports of JGB.

4.2 Overview of CAMEL model

Banking supervision has been increasingly concerned due to significant loan losses and bank failures from the 1980s till now. In the light of the banking crisis in recent years worldwide, CAMEL is a useful tool to examine the safety and soundness of banks, and help mitigate the potential risks which may lead to bank failures. In order to cope with the complexity and a mix of risk exposure to banking system properly, responsibly, beneficially and sustainably, it is of great importance to evaluate the overall performance of banks by implementing a regulatory banking supervision framework. One of such measures of supervisory information is the CAMEL model which was put into effect firstly in US. **Camel's rating** is a supervisory rating system originally developed in the U.S. to classify a bank 's overall condition.

CAMEL model of rating was first developed in the year 1970s by the three federal banking supervisors of the U.S (the Federal Reserve, the FDIC and the OCC) as part of the regulators '—Uniform Financial Institutions Rating System^{ll}, to provide a convenient summary of bank condition at the time of its on-site examination. In 1979, the Uniform Financial Institutions Rating System (UFIRS) was implemented in U.S. banking institutions, and later globally, following a recommendation by the U.S. Federal Reserve. The system became internationally known with the abbreviation CAMEL, reflecting five assessment areas: capital, asset quality, management, earnings and liquidity. In 1995 the Federal Reserve and the OCC replaced CAMEL with CAMELS, adding the "S" which stands for financial (S)ystem. This covers an assessment of exposure to *market risk* and adds the 1 to 5 rating for market risk management.

CAMEL is basically ratio based model for evaluating the performance of banks. It is a management tool that measures capital adequacy, assets quality, efficiency of management, quality of earnings and liquidity of financial institutions.

The banks were judged on five different components under the acronym C-A-M-E-L:

C –Capital Adequacy

A –Asset Quality

M –Management Soundness

E –Earnings Capacity and

L –Liquidity

The banks received a score of _1' through _5' for each component of CAMEL and a final CAMEL rating representing the composite total of the component CAMEL scores as a measure of the bank's overall condition. The system of CAMEL was revised in 1996, when

agencies added an additional parameter 'S' for assessing —sensitivity to market risk, thus making it 'CAMELS' that is in vogue today.

Based on the recommendations of the Padmanbhan Committee, the commercial banks incorporated in India are presently rated on the 'CAMELS' model (Capital adequacy, Asset quality, Management, Earnings, Liquidity, and Systems & control), while foreign banks' branches operating in India are rated under the 'CALCS' model (Capital adequacy, Asset quality, Liquidity, Compliance, and Systems & control). As mentioned above, the Committee had originally recommended a CACS model, which was subsequently modified to also include Liquidity (L) as an additional parameter. Further modifications, in the form comprising additional granularities in the rating scale of parameters under CAMELS have since been introduced by RBI. Presently, each of the components of CAMELS is rated on a scale of 1-100 in ascending order of performance. The score of each CAMELS element is arrived by aggregating (by assigning proportionate weights) the scores of various sub-parameters that constitute the individual CAMELS parameter. Each parameter is awarded a rating A-D (A-Good, B – Satisfactory, C -unsatisfactory, and D-poor). Further, to bring granularity in rating, there are modifiers by way of (+) and (-) under each of A, B and C making a total of ten scales A+ through to D. The composite —CAMELS rating is arrived by aggregating each of the component weights as indicated in the table 4 (1) below. Further the overall composite score is adjusted downwards for poor performance in one or more components.

Ratings are not released to the public but only to the top management to prevent a possible bank run on an institution which receives a CAMELS rating downgrade. Institutions with deteriorating situations and declining CAMELS ratings are subject to ever increasing supervisory scrutiny. Failed institutions are eventually resolved via a formal resolution process designed to protect retail depositors.

Camel Framework and Major Ratios

During an on-site bank exam, supervisors gather private information, such as details on problem loans, with which to evaluate a bank's financial condition and to monitor its compliance with laws and regulatory policies. A key product of such an exam is a supervisory rating of the bank's overall condition, commonly referred to as a CAMELS rating. The acronym "CAMEL" refers to the five components of a bank's condition that are assessed: Capital adequacy, Asset quality, Management, Earnings, and Liquidity. A sixth component, a bank's Sensitivity to market risk was added in 1997; hence the acronym was changed to CAMELS.

CAMELS is basically a ratio-based model for evaluating the performance of banks. Various ratios forming this model are explained below:

To look at the financial soundness of the Jharkhand Gramin Bank, researcher use a verysimplified approach using internationally accepted CAMEL rating parameters. CAMELrating is a subjective model which indicates financial strength of a bank, whereas

CAMELranking indicates the banks relative position with reference to other banks. The brief explanation of major parameters and its sub-parameters of the CAMEL model are depicted in the following table:

Table -Parameters for CAMEL model

Category	Ratios	Formula	Significance	Evaluation Criteria
Capital Adequacy	CRAR	Tier – I and Tier – II Capital/ aggregate of risk weighted assets (RWA)	It measures the ability of a bank in absorbing losses arising from risk assets. The higher the ratio value of this, the better the financial health of a bank.	Higher the Better
	Debt/Equity Ratio	(Capital + Reserves)/ (Deposits + Borrowings + Other Liabilities).	This ratio thus indicates the bank's financial leverage. In the case of manufacturing sector the ideal ratio is 2:1. However, in the case of commercial banks, there is no standard norm for debt – equity ratio	Lower the Better
	Net advances to total asset	Net advance / Total Assets	This ratio indicates banks aggressiveness in lending which ultimately results in better profitability.	Higher ratio is preferred
	Govt. Sec to Investment Ratio	Government Securities / Total Investments	This ratio indicates a bank's Strategy as being high-profits high risk or low profits – low risk.	Higher the Safer.

Asset Quality	Gross NPA Ratio	Std advances (net of total advances and gross NPAs) / total Advances	This ratio means that if the bank has high performing Assets it may result in higher earnings.	Higher the Better
	Net NPA/Net Advance Ratio	Non Performing Assets/Net advances	It indicates the level of nonperforming assets in net advances.	Lower the Better
	return on investment	Total Investment / Total Assets	It is a <u>profitability ratio</u> that s a department's profits with the total assets required to generate those profits.	Higher the Better
	Coverage Ratio	(Net worth-net NPAs)/ total assets	This ratio indicates availability of capital to meet any Incidence of loss assets in NPAs	Higher the Better
Management Quality	Total advances/total deposit Ratio	Total advances/total Deposit	This ratio indicates the ability of a bank to convert its deposits into higher earning advances.	Higher the Better
	Business per Employee	Total advances and Total Deposits / No of Employees	This ratio is used to find out whether a bank is relatively Over or under staffed.	Higher the Better
	Profit per Employee	Profit / No of Employee	This is also a ratio to check efficiency of bank in maximizing profits per employee.	Higher the Better
	Business per Branch	Business / Branch	This ratio is taken into consideration for evaluation and comparison of the efficiency of a bank at its branch level.	Higher the Better

	Profit per Branch	Profit after tax / Branch	It indicates profitability at each branch level and the same time indicates its efficiency.	Higher the Better
	RONW	Income / Net Worth	the ratio is developed from the perspective of the shareholder, not the company, and is used to analyze investor returns.	Higher the Better
Earning Ability	Dividend pay-out ratio	Dividend / Net Profit	It shows the percentage of profit shared with the shareholders.	Higher the Better
	Return on Asset	Net profit after tax / Total assets	This ratio indicates the returns earned on assets deployed by the bank.	Higher the Better
	Operating Profit to average working fund	Operating Profit / average working Fund	This ratio indicates how much a bank can earn from its operations net of the operating expenses for every rupee spent on working funds.	Higher the Better
	Net profit to average asset	Net Profit / Average Assets	It indicates the efficiency of the banks in utilizing their assets in generating profits.	Higher the Better
	Income Spread/Total Income Ratio	(Interest Income earned – Interest Expended) / Total Income	The interest income to total income indicates the ability of the bank in generating income from its lending.	Higher the Better

	Other Income to Total Income	Other Income / Total Income	Fee based income account for a major portion of the bank's other income. The bank generates higher fee income through innovative products and adapting the technology for sustained service levels.	Higher the Better
Liquidity	Liquid assets to total assets	Liquid assets / total Assets	Liquidity for a bank means the Ability to meet its financial obligations as they come due.	Indicates the overall liquidity position of the bank.
	Gov Sec/Total Asset Ratio	Gov Sec/Total Asset	This ratio measures Government securities (most liquid and safe investments) as a proportion of total asset.	Higher the Better
	Approved securities to total assets	Approved securities / total assets	Approved securities include securities other than government securities. This ratio measures the Approved Securities as a proportion of Total Assets.	This ratio measures the risk involved in the assets held by a bank.

	Liquid Asset/ Total deposit Ratio	Liquid Asset/Total Deposit	This ratio indicates ability of the bank to meet its deposit obligations with available liquid funds	Higher the Better
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CAPITAL ADEQUACY

Capital adequacy ratio is the ratio of a bank's capital in relation to its risk weighted assets and current liabilities. It is decided by central bank and bank regulators to prevent commercial banks from taking excess leverage and becoming insolvent in the process.

Capital base of financial institutions facilitates depositors in forming their risk perception about the institutions. Also, it is the key parameter for financial managers to maintain adequate levels of capitalization. Moreover, besides absorbing unanticipated shocks, it signals that the institution will continue to honor its obligations. The most widely used indicator of capital adequacy is capital to risk-weighted assets ratio (CRWA). According to Bank Supervision Regulation Committee (The Basle Committee) of Bank for International Settlements, a minimum 9 per cent CRWA is required.

Capital adequacy ultimately determines how well financial institutions can cope with shocks to their balance sheets. Thus, it is useful to track capital-adequacy ratios that take into account the most important financial risks foreign exchange, credit, and interest rate risks by assigning risk weightings to the institution's assets. A sound capital base strengthens confidence of depositors. This ratio is used to protect depositors and promote the stability and efficiency of financial systems around the world.

Literature review

L.S. Gupta (1969) – That the use of funds from banks by the private corporate sector had exceeded its inventory formation. Gupta has argued that a small portion of such finance should have gone to meet fixed investment. Further, he found the growth rate of physical assets to be more directly and closely related to security issues than bank credit. Hence, he argued that the fast growing firms relied heavily on security issues than the use of bank credit.

Ambegaokar (1969) – Found that the rate of rise in bank credit exceeded that of inventory, sales and output. Further he observed that its dependence on banks for working capital had increased, accompanied by a decline in reliance on other financial institutions.

S.L. Shetty (1976) - Shetty assessed the dimensional changes in credit deployment during the first five years of nationalisation in relation to changes in output and prices. The

rationale for his analysis was the fact that, in any accepted model of demand for money, one common variable is the gross national product or some other variant of it in real terms. Consequently, he hypothesized that credit for any sector or industry over a period has to have some relationship with its performance in real terms, particularly output. He observed a declining trend in the credit extended by banks to industries since nationalization, though it was higher than other sectors. On finding that the share of manufacturing sector in bank credit is higher than its share in Net Domestic Product (NDP) he concludes that increase in bank credit has occurred far in excess of increase in output during the years 1968-69 to 1973-74.

K S R Rao (1988) - Carried out an econometric exercise on the determinants of demand for bank credit of some selected industries for the period between 1970-71 and 1984-85. He observed that output of these industries was the most important factor in determining its demand for bank credit whereas, interest rate of banks and relative rate of interest of other sources of borrowing played only a secondary role. Price of output was also found to have affected the demand for credit significantly. The relative interest rate variable was significant with respect to industries like textiles, engineering and total manufacturing, while it was not significant for industries like sugar and other food products and chemicals.

V.V. Devata. (1979) - Discussed the role of internal and external sources of funds and their components in financing capital formation of the private corporate sector. The study was based on the RBI company finance studies relating to medium and large public and private limited companies and covered the period 1961-76. They also discussed the trends and patterns of financing for four individual industries, viz, cotton textiles, jute, sugar and cement.

Research Objective

The basic objective of the study is to highlight the capital adequacy ratio of Jharkhand Gramin Bank for the years 2009 to 2015 to judge the solvency position of the bank.

Period of study

The study comprises the period from 2009 to 2015. in this period capital adequacy ratio are analyzed and compared in the Basel II and Basel III norms.

Data collection

This study is basically secondary in nature. Data are collected for the year 2009-2015 from RBI website and annual report of Jharkhand Gramin Bank. Various parametric and nonparametric statistical tools are used to analyze the significance of JGB's performance.

Various components of Capital Adequacy Ratios

Capital Risk Adequacy Ratio:

CRAR is a ratio of Capital Fund to Risk Weighted Assets. Reserve Bank of India prescribes banks to maintain a minimum Capital to risk-weighted Assets Ratio (CRAR) of 9 % with regard to credit risk, market risk and operational risk on an on-going basis, as against 8 % prescribed in Basel documents.

Total capital includes Tier-I capital and Tier-II capital. Tier-I capital includes paid up equity capital, free reserves, intangible assets etc. Tier-II capital includes long term unsecured loans, loss reserves, hybrid debt capital instruments etc. The higher the CRAR, the stronger is considered a bank, as it ensures high safety against bankruptcy.

Debt equity ratio

This ratio indicates the degree of leverage of a bank. It indicates how much of the bank business is financed through debt and how much through equity. This is calculated as the proportion of total asset liability to net worth. ‘Outside liability’ includes total borrowing, deposits and other liabilities. ‘Net worth’ includes equity capital and reserve and surplus. Higher the ratio indicates less protection for the creditors and depositors in the banking system.

Net Advance to Total Asset Ratio

This is the ratio of the Net advances to total asset. This ratio indicates banks aggressiveness in lending which ultimately results in better profitability. Higher ratio of advances of bank deposits (assets) is preferred to a lower one. Net advances also include receivables. The value of total assets is excluding the revolution of all the assets.

Government Securities to Total Investments

The percentage of investment in government securities to total investment is a very important indicator, which shows the risk-taking ability of the bank. It indicates a bank ‘s strategy as being high profit high risk or low profit low risk. It also gives a view as to the availability of alternative investment opportunities. Government securities are generally considered as the safest debt instrument, which, as a result, carries the lowest return. Since government securities are risk free, the higher the government security to investment ratio, the lower the risk involved in a bank ‘s investments.

Table -1- Analysis of data

Capital Risk adequacy ratio					
	2009-10	2011-12	2012-13	2013-14	2014-15
Net Capital Fund	706717	1224365	1407960	1505290	1606476
Risk weighted assets	18843615	23377433	24782738	26222393	28482095
Capital to RiskWeightedAssets %	3.750	5.237	5.681	5.740	5.640

Capital toRiskWeightedAssetsRatio	0.038 : 1	0.052 : 1	0.057 : 1	0.057 : 1	0.056 : 1
Debt. Equity Ratio					
Total Borrowings	178657	842073	900549	1039903	1161003
Net worth	706717	1224365	1407960	1505290	1606476
Debt equity %	25.280	68.776	63.961	69.083	72.270
Debt equity ratio	0.253 : 1	0.688 : 1	0.640 : 1	0.691 : 1	0.723 : 1
Net Advances to Total Assets Ratio					
Net advances	4519928	6117134	5986402	6687926	7487558
Total assets	18861117	23414074	24816961	26253084	28527325
Net advances to total assets %	23.964	26.126	24.122	25.475	26.247
Net advances to total assets ratio	0.240 : 1	0.261 : 1	0.241 : 1	0.255 : 1	0.262 : 1
Government Security to Total Investment					
Government Securities	3577730	4535718	4828373	5292566	5618312
Total Investments	11167145	8440688	9987267	10597162	10719616
Govt. securities to total investment %	32.038	53.736	48.345	49.943	52.412
Govt. securities to total investment ratio	0.320 : 1	0.537 : 1	0.483 : 1	0.499 : 1	0.524 : 1

Findings of study

In the present research study, purpose of CAMEL ratios is to determine a bank's overall condition and to identify its strengths and weaknesses mainly financial, operational and managerial. It is necessary to find here composite ratio to come to a conclusion, which is presented in all cases and since information is not available for the year 2010-11 so it has been skipped in findings section and all other ratios are presented in percentage. The analysis is based on the CAMEL Model and this study has brought many interesting results, some of which are mentioned as below:

Ratios	2009-10	2011-12	2012-13	2013-14	2014-15	Composite Ratio
Capital Risk Adequacy	3.75	5.24	5.68	5.74	5.64	5.21
Debt Equity	25.28	68.78	63.96	69.08	72.27	59.87
Net Advances to Total Assets	23.96	26.13	24.12	25.48	26.25	25.87
Government Securities to Total Investment	32.04	53.74	48.35	49.94	52.41	47.30

Source: Primary information.

As per RBI advice the capital adequacy ratio should be maintained at 9 percent. The table shows it is much lower. Debt equity ratio is also high. The only reason being, that high NATA indicates that the bank is engaged highly in lending, and this may have adverse effects as the bank might face the huge risk of defaulters.

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SOLAR ENERGY AND SOLAR PV CELLS

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Abstract

Solar energy is defined as the sun's radiation that reaches the earth. It is the most readily available source of energy. The sun is the earth's power station and the source of all energy on our planet. Solar energy is the energy force that sustains life on Earth for all plants, animals and people. It provides a compelling solution for all societies to meet their needs for clean, abundant sources of energy in the future. India is densely populated and has high solar insolation, an ideal combination for using solar power in India. Solar energy is widely used in India. This paper presents the solar energy current production in India from different states and needs of solar energy for rural area development in India. The solar energy could supply all the present and future energy needs of the world. The most explored renewable energy technologies for power generation in India, namely, Solar Energy and Solar PV Cells.

Keywords: *Solar Energy, Renewable energy, Solar PV Cell*

Introduction

Energy plays a very important role in our lives, providing comfort, increasing productivity and allowing us to live the way we want to. Since the beginning of mankind, we have made use of wood, water, and fossil fuels as a means of heating and making machines work. Almost for

all types of activities, we rely on one or another form of energy

Renewable energy sources derive their energy from existing flows of energy from ongoing natural processes, such as sunshine, wind, flowing water, biological processes, and geothermal heat flows. A general definition of renewable energy sources is that renewable energy is captured from an energy resource that is replaced rapidly by a natural process such as power generated from the sun or from the wind. Currently, the most promising (aka economically most feasible) alternative energy sources include wind power, solar power, and hydroelectric power. Other renewable sources include geothermal and ocean energies, as well as biomass and ethanol as renewable fuels.

Solar Energy

The Earth receives around 170,000 terawatts of solar energy continuously, which is roughly 10,000 times what is needed to power the world. Every day, the sun radiates an enormous amount of energy. This energy comes from within the sun itself. Like most stars, the sun is a big gas ball made mostly of hydrogen and helium. The sun produces energy in a process called nuclear fusion. The high pressure and temperature in the sun's core cause hydrogen atoms to split apart. Four hydrogen nuclei combine or fuse, to form one helium atom, producing radiant energy in the process.

The sun radiates more energy in one second than the world has used since time began. Only a small portion of this energy strikes the earth, one part in two billion. Yet this amount of energy is enough to meet the world's needs, if it could be harnessed. About 15 percent of the radiant energy that reaches the earth is reflected back into space. Another 30 percent is used to evaporate water, which is lifted into the atmosphere and produces rainfall. The radiant energy is also absorbed by plants, landmasses and the oceans. Solar energy is a very large, inexhaustible source of energy. The power from the sun intercepted by the earth is approximately 1.8×10^{11} MW which is many thousand times larger than the present consumption rate on the earth of all commercial energy sources. Thus, in principle, solar energy could supply all the present and future energy needs of the world on a continuing basis. This makes it one of the most promising of the unconventional energy sources. The advantages of solar energy are (i) environmentally clean source of energy and (ii) freely available in adequate quantities in almost all parts of the world where people live. The main problems associated with solar energy are: (i) dilute source of energy and (ii) availability varies 40 Renewable Energy widely with time. India, being tropical country receives solar insolation in the order of 1650- 2100 kwh/m² /year for nearly 250-300 days. Solar energy can be used directly or indirectly.



Applications of solar energy

- Heating and Cooling of buildings

- Solar water and air heating
- Salt production by evaporation of seawater
- Solar distillation
- Solar drying of agricultural products
- Solar cookers
- Solar water pumping
- Solar refrigeration
- Electricity generation through Photo voltaic cells
- Solar furnaces
- Industrial process heat
- Solar thermal power generation

Solar Cells

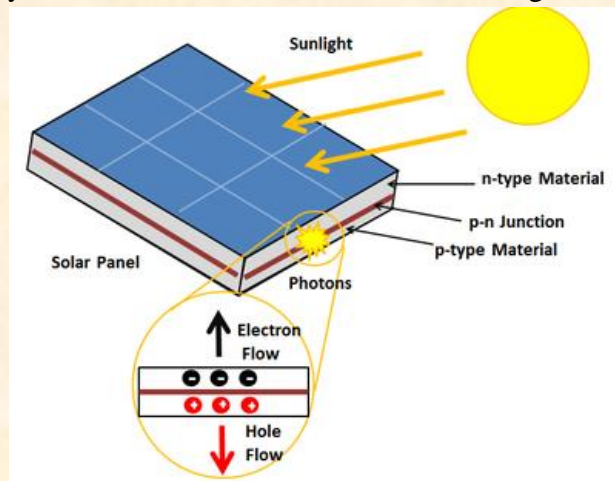
The recent disasters in the southeastern United States highlighted the decline in the world's oil supply, forcing us to begin considering other energy options. One promising technology, solar power is worth considering for its sustainable, renewable and emissions reducing qualities. Modern residential solar power systems use photovoltaic (PV) to collect the sun's energy. "Photo" means "produced by light," and "voltaic" is "electricity produced by a chemical reaction." PV cells use solar energy to generate a chemical reaction that produces electricity. Each cell contains a semiconductor; most commonly silicon in one of several forms (single-crystalline, multi-crystalline, or thin-layer), with impurities (either boron or phosphorus) diffused throughout, and is covered with a silk screen. Cells are joined together by a circuit and frame into a module. Semiconductors allow the electrons freed from impurities by the sun's rays to move rapidly and into the circuit, generating electricity. Commercial residential PV modules range in power output from 10 watts to 300 watts, in a direct current. A PV module must have an inverter to change the DC electricity into alternating current energy in order to be usable by electrical devices and compatible with the electric grid. PV modules can also be used en masse to create large-scale power plants.

Using PV modules to generate electricity can significantly reduce pollution. The most energy used in creating solar panels is used to purify and crystallize the semiconductor material. No official numbers are available on the exact amount of energy used to create solar panels because there is no industry standard for making the crystals. A number of researchers have done work in attempt to address concerns about energy payback for PV systems. Assuming 12% conversion efficiency and 1,700 kWh/m² of sunlight per year, the estimates range between 2 and 4 years for rooftop PV systems to generate the energy it took to make them.⁴⁴ The average United States household uses 830 kWh of electricity per month. Over twenty years, a 100-megawatt solar thermal electric power plant can avoid producing over three million tons of carbon dioxide. Estimates regarding pollution

prevention suggest that producing 1,000 kWh of electricity through solar power can reduce emissions by 8 pounds of sulfur dioxide, 5 pounds of nitrogen oxide, and 1,400 pounds of carbon dioxide. Lifetime estimates (over a projected 28 years) average in the thousands of pounds of prevented emissions. Installing a PV system is a hefty investment for homeowners. 5-kW systems can cost up to \$40,000. PV system power can cost as much as \$9 per watt, and small systems will not produce enough power to offset electricity costs and save the homeowner any substantial money. As a result, over 30 states offer incentives (mostly in the form of tax rebates) to help encourage homeowners to purchase and install PV systems. California is one of the key states, receiving a huge amount of radiation, with the better part of the industry located there, and high-energy costs. The state of California offers a number of incentives under the Emerging Renewables Program passed by the state legislature. The California Energy Commission offers a rebate of \$4 per watt to help homeowners affordably install PV systems. However, the mortgage financing required to purchase a realistic PV system is still quite substantial. As PV technology advances, more efficient, easily affordable, standardized, reliable and longer-lasting modules will become available. PV systems' value to the energy sector especially in residential capacities, is increasingly apparent. However, the continued high cost means that many homeowners will be deterred from purchasing and installing PV systems. The only way to encourage further growth in this sector is for consumers to purchase such systems. The energy emissions reductions are substantial enough to be worth the consideration of the federal government. In order to encourage consumers' interest in PV systems and growth in the renewable energy sector at a faster rate, the federal government should create an incentive program to help homeowners and businesses purchase and install PV systems, especially on new constructions.

In simple terms solar cells are devices that convert light energy into electricity, they do so by following the principles of photoelectric effect. The photoelectric effect is the phenomenon of emission of electrons from metal under the effect of light. The phenomena were first showed by French physicist Alexandre Edmond Becquerel in 1839. According to Albert Einstein who explained photoelectric effect based on Planck's quantum theory (light is transmitted in form of photons). According to him light is transmitted in form of small bundles or packets of energy called photons these photons have their energy equal to $h \cdot \nu$ where h is the Planck's constant and ν is the frequency of light when the photons strike a metal, they transfer their energy to any electron present in or on the metal the transfer energy is used by electron in two ways one injecting from the metal a second using the remaining energy as kinetic energy and moving forward. Due to these electrons and other charge carriers in and on the metal a potential difference is created across the metal. A simple solar cell made using two different types of semiconductors, usually there are two layers of doped semiconductors one being which has a greater number of positive charge carrier which is also called p-type semiconductor

and another layer of semiconductor which has more negative charge carrier which is



called n-type.

Challenges faced in generation of electricity from solar energy in present times

We can clearly see that solar energy is capable of fulfill our energy demand without any other supply of energy from other resource. If we want to set up a power plant to fulfill our energy supply an area cover with solar cell comparable to the country France is required to produce such kind of electricity. 26,000TW is fairly a substantial number but however energy production, from direct radiation is criticized for being variable and intermitted, as it is affected by day and night cycle, weather, and location of the solar plant. Another problem in the solar industry is that photovoltaic devices are expensive but it expected that with increasingly revolutionary technologies the prices will decrease in the future. The prices of Photovoltaic device have dropped due to development in solar infrastructure and the reduction of hardware costs over time. The cost has decreased from 106.05\$/W in 1976 to 0.38\$/W in 2019. In the same duration the efficiency has rapidly increased from 14% achieved by Hoffman electric in 1960 to 44.5% achieved by a prototype developed by U.S. scientists. The problem that is most concerning is that photovoltaic devices are only capable to produce electricity during day time so electricity shortages would also have to build alongside solar power plants to deliver electricity during the night time. If we want to switch to solar energy for our overall usage of electricity then to supply electricity at night storage houses can be built along with the solar plants which would store the energy that is produced in the daytime and could supply the same at night. These problems can be eliminated by technological advancements and with more development's solar energy will overcome these challenges in the future.

Conclusion

There is no doubt that solar energy is going to take over the electricity sector in the future. It overpowers its competitor in terms of availability and being a renewable source of electricity and it has truly little or no carbon footprint compare to other sources of

renewable power sources. On the other hand, the drawback of solar energy can be resolved with development and innovations. So, I hope that your takeaway point from this text is that direct radiation is fully capable of delivering all the energy we can ever need. We need to deploy and develop renewable technology to optimally use the resources available to us and at the same time evolve our electrical grid and energy storage options.

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A SHORT ACADEMIC TOUR OF MATHEMATICAL MODELS

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Abstract

The treasure of mathematical knowledge has been used by the generations. Some gems in terms of mathematical models have been taken from this treasure to solve beautifully a plenty of real world problems. To use mathematical model as a problem-solving approach, the prime question that comes in mind – which mathematical models are available and how to select an appropriate model for a specific problem? The present chapter provides a brief answer of this question. Seven categories of mathematical models have been presented. Each category has two extreme aspects just like two sides of a coin. The broad categories with both aspects discussed here are enlisted as: strategic and non-strategic, inductive and deductive, implicit and explicit, linear and non-linear, discrete and continuous, probabilistic and deterministic, static and dynamic. The comparison of opposite aspects of each category has also been presented. The chapter work will definitely enable the researchers to pave their way towards all possible directions reaching mathematical model suitable for their research problem.

Keywords: *Strategic Model Vs. Non-strategic Models, Inductive Vs. Deductive Models, Implicit Vs. Explicit Models, Linear Vs. Non-linear Models, Discrete Vs. Continuous Models, Probabilistic Vs. Deterministic Models, Static Vs. Dynamic Models*

Introduction

Think about a situation where a factory is producing the products and keeping in its warehouse without any usage of these items. Obviously, this is a useless practice. This situation is applicable on the two prime areas of the subject mathematics. Pure mathematics produces and stores a wide range of functions, lemmas, theorems, operators and spaces. On the contrary, applied mathematics focuses on generating various analytical, numerical and probabilistic techniques using various results produced by pure mathematics. These techniques emerge in terms of mathematical models. These models are used for decision-making in variety of real world situations. The footprints of these models have been witnessed in all areas of sciences, biosciences, social sciences, physical sciences, economics, commerce and business. The authors contributed a chapter devoted to exposing the footprints of mathematical modeling in few prominent research areas [1]. Undoubtedly, various research fields have their own subject specific techniques of solutions. But, they

find mathematical modeling as a fascinating junction directing to the simplest logical path going towards solution destination. One obvious question arisen at this junction is to choose the best model path suitable for various conditions associated with the problem. The answer to this question demands a journey of all the available mathematical models describing their basic features and required conditions for their applicability. The present chapter is an add-on fulfilling this need of tour through all mathematical models. One section has been devoted to the platform of defining mathematical modeling and enlisting all the established models. Each category of models has been assigned one complete section incorporating both extreme aspects of the model. Point wise and conditions based comparison has been made between the opposite approaches in all categories.

Mathematical Modeling

As the name suggests, mathematical sculpture designed by carving ones thoughts is kept in the space for mathematical modeling. The thoughts can be arisen in different dimensions of human mind. Various dimensions are evolved in one’s mind based on its functioning in specific fields of sciences, engineering, medical sciences, social sciences and commerce. The thoughts in these dimensions are framed into mathematical designs keeping in mind the raw materials available in the form of initial and boundary constraints. Here comes a query in mind that how to pre-decide the possible mathematical design which can be sculptured with the available raw material. The process requires a platform of good knowledge about various models developed using different mathematical techniques and the required framework for their applicability. The resulting design is solved for all possible mathematical solutions. The obtained solutions are inspected to select the solution most feasible to untie the knots of ideas emerged at ground level. Coming to the point of knowledge about available models, literature has in its possession many mathematical models [2-5]. All these models can be categorized in seven classes based upon their characteristics and framing constraints. Two models having totally opposite nature are kept in each class. The nomenclature of these seven classes is shown in figure 1. The models in seven classes have been gone through in the subsequent sections one by one.

Strategic	Non-strategic
Inductive	Deductive
Implicit	Explicit
Linear	Non-linear
Discrete	Continuous
Probabilistic	Deterministic
Static	Dynamic

Figure 1.: Classification of Mathematical Models

Strategic Vs. Non-strategic Models

This category is based on degree of problem to be tackled at global or local level. A course of action plan for an industry, company, firm, project and gambling designed in advance keeping in mind the expected output level after execution is termed as strategic model. Here, objectives of goals are set primarily, strategies of action plan are formulated secondarily, initiatives are taken to implement the action plan thirdly and finally the strategies are evaluated. On the flip, a project, assignment and gambling executed due to some urgent need or without any picture of output in mind, specifically to tackle an issue of a small section of the unit go on the side of non-strategic models. Cohen in 2001 [6] and Lorains et al. in 2014 [7] worked in this direction.

Inductive Vs. Deductive Models

This category of models or methods is defined based on working approach for a real situation. In the inductive model, a theory is developed based on observations or available data. Whereas in deductive models, experiment is done or specific data is collected to test an established theory. Thus innovation is reflected in inductive process and dependence on others is observed in deductive process. Thus inductive models train the human mind slowly, make it active, develop thought process and lead towards craving to discover new theories and take initiative for further research. On the other side, deductive models give fast and immediate results that tune the mind looking for already existed results and make use of these results for their research work that play the role of blockage element in development of thought process. Although deductive models are considered as passive but they are more sound and use the theories that are universally accepted. Movement from specific to general results is inductive whereas deduction from general to specific is deductive. For example, reaching to an identity based on some number calculations is an inductive modeling but verifying a given identity by substituting specific values in it will be deductive modeling. Calhoun in 1999 [8], Regner in 2003 [9], Renninger in 2009 [10] and Soiferman in 2010 [11] worked on these modeling approaches.

Implicit Vs. Explicit Models

This classification is adopted from the explicit or implicit computation of the dependent variables describing the system. Models giving direct computation of decision variables from the independent variables are termed as explicit. States at times other than the present are found by explicit models. Due the explicit representation, solution is obtained readily which makes the process cost effective. This results in time and monetary consumption significantly low for better accuracy. On the reverse side, occurrence of dependent variables in coupled nonlinear equations presents a different challenge to face with, known as implicit models. Iterative methods like NR-method or matrix methods are needed to apply in such cases for the solution finding. This makes the process very costly but gives high accuracy as compared to explicit models. Geologists prefer to develop implicit models due to its flexibility and computer algorithms used for its development unlike explicit models which are developed manually. Britt et al. in 1973 [12], Leibe et al. in 2004 [13], Morgado et al. in 2005 [14] and Pelanek in 2007 [15] presented their work on these models.

Linear Vs. Non-linear Models

Merely collecting data either primarily or secondarily does not solve the problem associated with the data. To find the relation between the defining variables involved, the

basic need that arises is the knowledge of model to be used for the purpose. The models available to deal with such problem are linear and non-linear models. Linear model justifies the linear association of defining variables in terms of parameters involved. To be clearer, linearity in parameters and independent variables in algebraic degree greater than one, also come under the category of linear models. On the contrary, nonlinearity in parameters is modeled with non-linear models using transcendental functions. The general form of these models is given as,

Linear Model: $= \sum_j p_j f(x_j)$, where the index j can take values from 0 to number of independent variables, p_j denotes the parameters involved and $f(x_j)$ is an algebraic polynomial.

Non-linear Model: $= g(x_j, p_j)$, where g is an arbitrary function of independent variables x_j and parameters p_j .

Easier interpretation and usage, simpler mathematical techniques prove the linear model as much simpler than the non-linear model. Selection of a model for a data set depends upon the nature of data. Designing a linear model for a data set at the first hand is a good idea to check the applicability of linear model. In case, the linear model not giving the desired and valid results, one is advised to move for non-linear model. Vonesh et al. in 1996 [16], Searle et al. in 2016 [17], Chambers in 2017 [18] and Bates et al. in 2017 [19] presented detailed work on these models.

Discrete Vs. Continuous Models

Discrete models are used to model a situation where the system transforms its state at discrete points of time. Here, the set of transformations of the states of system should be a countable set. In other words, if state variables are defined for describing the states of a system and these variables assume countable number of values, then discrete model should be used for modeling this system. Since the system stays in a state for some finite time interval and then transforms into the other state, so it results into sudden transformation of system into other state. Hence, at the discrete points of transformation, the present state will be abruptly disappeared and the new state will come into existence where the system will stay again for some finite time interval. Thus, in case of countable number of sudden changes in the states of a situation, the preferable model will be discrete model. For illustration, number of customers entering a bank, number of vehicles crossing a traffic light, number of students admitted in an institute every year and state of current flowing in an electrical circuit on flipping the input switch should be modeled using discrete modeling. On the contrary, situations may arise when the state of system changes in a continuous manner. There is uncountable number of transformations in the state of system. System does not stay in a particular state at any point of time but gradually goes on transforming its states at every instant of time. No sudden transformation of state is observed and the system results into infinitely many states in its course of time. Such systems should be modeled by continuous modeling. Continuous models use differential equations to describe the situation which are further solved either analytically or numerically. Illustrations for these situations are radioactivity phenomena, flow problems (traffic flow, fluid flow and current flow), influenza problems and life of an entity. Detailed explanations of these approaches are available in the works of Greenspan (1973), Hall (1986) and Chang (2016) [20-22].

Probabilistic Vs. Deterministic Models

To model the futuristic state of a real system where the exact relation between the arguments and function is known, the deterministic models are used. On the other hand, the events involving relations having some degree of randomness are dealt with probabilistic models, also known as stochastic models. The randomness is incorporated in the model in terms of an error term or residual term. In this scenario when deterministic model gives a unique solution for same initial state of the system, no matter how many times it has been executed, the probabilistic model felicitates every time different solutions for a future state of system under same inputs on its execution due to presence of randomness term in the model. Probability theory and the probability rules of addition and product are used to develop the probabilistic models. These models are used in many research areas like reliability related problems, financial calculations, business problems and agriculture related predictions etc. The basic reason behind this usage is the randomness involved in all these field problems. On the contrary, theory of linear algebra and its concepts are used to develop deterministic model. This model ignores the possible variability in data and makes use of only the exact known relations between the variables. Model to project the future financial like pension, various types of maps, linear programming problem formulation, pricing and accounting structure, timetable model etc come under the category of deterministic models. To conclude, certainty is associated with deterministic models whereas uncertainty is linked with probabilistic models. For deeper insight of these models, one can refer the works of Pawlak et al. (1988), Bock (1996), Buneman et al. (1999) and Klinger et al. (2007) [23-26].

Static Vs. Dynamic Models

Time plays the lead role in defining this class of models. Description of a system at a particular instant of time is dealt with static model. Time has no role to play in this situation. The time-independent states of system like equilibrium, steady state should be modeled by static models. Thus, these models describe those components of a system which are not functions of time. The system in rest state even under the influence of constant external forces is also modeled by static model. In other words, when no past input or output is required to describe a real situation but only the present input is good enough to describe the event, then there comes the role of static model. Since these models remain unchanged in time frame, so these are considered to be rigid by nature. Examples for this category are number of employees in a firm, number of students appearing in examination in a particular year and stress in any structure. On the other extreme point, if a system behaves as a function of time and depends on the past input or output information along with the present input values are held with dynamic models. Hence, either a system functions with time or external forces influencing the system vary with time or both exhibit time dependent behavior, each situation is designed by dynamic model. Since flexibility with time is observed in these models, so they are not rigid by nature unlike static models. Differential equations have their dominance in such type of system modeling. Examples falling under this category are population dynamic flow, harmonic movements (waves or pendulum), planets motion and initial stress in materials. Detailed studies on these models are given by Anderson et al. (1981), Gourieroux et al. (1997), Phalp et al. (2000) and Li et al. (2014) [27-30].

Conclusion

Any real world system can be fitted in at least one class of models presented in the chapter. Problems with extreme opposite aspects can be modeled by two models described in each class. More than one model may be used for modeling a system, but practice over the basic and inherent features of models enable researchers to select most suitable and simple model for describing their respective research problem in an efficient and effective way. The academic tour of all the models in one instance provides a fascinating opportunity to get an overview of models and basic differences between these models for better grip on mathematical modeling.

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IMPACT OF ADVERTISEMENT ON CONSUMER BUYING BEHAVIOR

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Abstract

Promotion assumes a significant job in present day time as it shapes the dispositions and impression of people furthermore, society which strikingly impacts the client purchasing conduct. Any business can jump out and about of achievement when it pulls in and holds the shoppers with benefit and this objective is accomplished when organization manufactures a solid shopper discernment for its item or administration. All the serious weapons have made critical endeavors to guarantee quality notice and manufacture of solid purchaser discernment through reasonable ways that emphatically influences the buyer purchasing conduct since individuals get information about item through commercial and other limited time instruments and create observation through organization's exercises and his past involvement in that organization and past buy in like manner.

Keywords: - *Advertisement, consumer buying behaviour, perception*

Introduction

Publicizing is a type of promoting correspondence used to advance or sell something, normally a business' item or administration. Publicizing is considered as a significant and significant component for the monetary development of the advertisers and various organizations in rivalry. Publicizing is typically a paid type of attention by some support and came to through different conventional media, for example, TV, plug radio notice, outside promoting, paper, magazine mail or present day media such as online journals, sites and instant messages. Besides the improvements and mechanical headways have gone publicizing to a progressively unavoidable and amazing in its effect and influence.

Buyer purchasing conduct is the aggregate of a buyer's frames of mind, inclinations, goals, and choices with respect to the purchaser's conduct in the commercial center when buying an item or administration. The investigation of buyer conduct draws upon sociology orders of human studies, brain research, human science, and financial matters. Advertisers expect that by understanding what causes the buyers to purchase specific merchandise and enterprises, they will have the option to decide—which items are required in the commercial center, which are old, what's more, how best to show the merchandise to the customers.

The investigation of shopper conduct expect that the shoppers are entertainers in the commercial center. The per-spective of job hypothesis expect that shoppers assume

different jobs in the commercial center. Beginning from the data supplier, from the client to the payer and to the disposer, shoppers assume these jobs in the choice process. According to Engel, Blackwell, and Mansard, 'consumer conduct is the activities and choice procedures of individuals who buy products and enterprises for individual consumption'. According to Louden and Bitta, 'consumer conduct is the choice procedure furthermore, physical movement, which people participate in while assessing, obtaining, utilizing or discarding products and enterprises'.

Literature Review

Numerous studies have examined the effectiveness of advertising in the past decade. The common measures of advertising effectiveness include ad recall, ad recognition, brand awareness, clicks or click through rate, attitude towards the ad and the brand, and purchase consideration. Of these common measures, attitudes toward the ad, clicks on ad, and ability to recall ad are the focus of the present study. The effectiveness of these three measures was assessed by their ability to predict purchase decision. Advertising, sales promotion and public relations are mass communication tools available to marketers. As its name suggests, mass communication uses the same message for everyone in an audience

Today, definitions of advertising abound. We might define it as communication process, a marketing process, an economic and social process, a public relations process or information and persuasion process viewed advertising from its functional perspectives, hence they define it as a paid, non personal communication through various media by business firms, non profit organization, and individuals who are in some way identified in the advertising message and who hope to inform or persuade members of a particular audience is of the opinion that advertising is used to establish a basic awareness of the product or service in the mind of the potential customer and to build up knowledge about it.

Technology advancement had not given us new products and services, but they had changed the meaning of many words. With increase in mass media, advertising effectiveness, as more traditional mass media, had reduced. Now advertiser is looking for new and presumably less cluttered media. The current age of digital media had given consumer choices to opt in and opt out of marketing messages and advertising. Consumers are getting more control of what they want and when they want. All these things are moving toward the interactive marketing. As a promotional strategy, advertising provides a major tool in creating product awareness and condition the mind of a potential consumer to take final purchase decision. As advertiser's primary mission is to reach potential customers and influence their awareness, attitudes and buying behavior.

Research Methodology

Secondary sources of data has been used

Nature of Consumer Behaviour:

1. Affected by different elements:

The different variables that impact the shopper conduct are as per the following:

- a. Promoting elements, for example, item configuration, cost, advancement, bundling, situating and dissemination.
- b. Individual factors, for example, age, sexual orientation, training also, pay level.
- c. Mental factors, for example, purchasing intentions, impression of the item and demeanors towards the item.
- d. Situational factors, for example, physical surroundings at the hour of procurement, social environment and time factor.
- e. Social factors, for example, societal position, reference gatherings and family.
- f. Social components, for example, religion, social class— station and sub-standings

2. Experiences a consistent change:

Purchaser conduct isn't static. It experiences a change over some undefined time frame contingent upon the nature of items. For instance, kids like brilliant and extravagant footwear, however as they grow up as youngsters and youthful grown-ups, they incline toward popular footwear, and as moderately aged and senior residents they incline toward increasingly calm footwear. The change in purchasing conduct may happen because of a few different considers, for example, increment pay level, instruction level and advertising factors.

3. Fluctuates from shopper to buyer:

All customers don't carry on in a similar way. Various shoppers carry on in an unexpected way. The contrasts in purchaser conduct are expected to singular factors, for example, the nature of the purchasers, way of life and culture. For instance, a few purchasers are technoholics. They go on a shopping and spend too far in the red.

They acquire cash from companions, family members, banks, and now and again even embrace deceptive intends to spend on shopping of advance innovations. However there are different purchasers who, in spite of having surplus cash, don't go in any event, for the normal buys and keep away from use and acquisition of advance advances.

4. Fluctuates from district to area and nation to district:

The shopper conduct shifts crosswise over states, areas and nations. For instance, the onduct of the urban buyers is not the same as that of the country purchasers. A decent number of rustic buyers are preservationist in their purchasing practices.

The rich rustic buyers may reconsider to spend on extravagances in spite of having adequate assets, though the urban buyers may even take bank advances to purchase extravagance things, for example, vehicles and family unit apparatuses. The buyer conduct may likewise fluctuates over the states, areas and nations. It might vary contingent upon the childhood, ways of life and level of advancement.

5. Data on shopper conduct is imperative to the advertisers:

Advertisers need to have a decent information on the customer conduct. They have to hink about the different components that impact the shopper conduct of their objective clients. The information on purchaser conduct empowers them to take suitable advertising choices in regard of the accompanying components:

- a. Item configuration/model
- b. Evaluating of the item
- c. Advancement of the item
- d. Bundling
- e. Situating
- f. Spot of dissemination

6. Prompts buy choice:

A positive purchaser conduct prompts a buy choice. A customer may take the choice of purchasing an item based on distinctive purchasing thought processes. The buy choice prompts more appeal, and the offers of the advertisers increment. Accordingly, advertisers need to impact customer conduct to expand their buys.

7. Fluctuates from item to item:

Customer conduct is distinctive for various items. There are a few shoppers who may purchase greater amount of specific things and extremely low or no amount of different things. For instance, adolescents may spend intensely on items, for example, cell telephones and marked wears for highbrow snot advance, yet may not spend on general and scholastic perusing. A moderately aged individual may spend less on apparel, yet may put cash in investment funds, protection plans, annuity plans, etc.

8. Improves way of life:

The purchasing conduct of the buyers may lead to better quality of living. The more an individual purchases the products and ventures, the higher is the way of life. Be that as it may, if an individual spends less on products and ventures, regardless of having a decent pay, they denies themselves of better quality of living.

9. Reflects status:

The customer conduct isn't just affected by the status of a customer, however it additionally reflects it. The customers who claim extravagance autos, watches and different things are viewed as having a place with a higher status. The extravagance things additionally give a feeling of pride to the proprietors.

Impact Of Advertisement on Buyer Buying Behavior

- **Increased Awareness:-** Advertising and advancement offer a news capacity to shoppers. Watchers of promotions find out about new items and administrations accessible to them, much like they find out about occasions in the news. This data work has a impartial job. It gives actualities without endorsement or dissatisfaction from buyers. Client conduct at this stage incorporates articulations of interest.
- **Analysis of Features:-** Consumers have a sane reaction to promoting when they take a gander at the highlights of an item or administration. This reaction centers around a consistent posting of all the utilitarian parts of the contribution. This is a scholarly reaction, as opposed to an enthusiastic one.

- Evaluation of Benefits:- When clients gauge benefits, they become genuinely associated with publicizing and advancement. Shoppers recognize ways the item or administration can make them more joyful, improve their lives or give them delight. This part of the customer reaction is nonsensical and can prompt motivation purchasing and rivalry to get the item.
- Reminders:- Repeated publicizing messages influence customer conduct. This reiteration fills in as a suggestion to the customer. Conduct that stems from updates incorporates all of a sudden thinking about a item while shopping and making a choice to get it, as though it had been on the shopper's schedule.
- Promotion of Loyalty or Alienation:- Shopper conduct parts between faithfulness furthermore, estrangement relying upon how well the item satisfies its publicized advantages. Corporate conduct –, for example, embarrassments or philanthropy work – can likewise influence estrangement also, dependability reactions. When the purchaser settles on this decision, publicizing and advancement are not prone to fix that choice.
- Advertising makes request.
- Promotes showcasing framework.
- Makes client mindful of the cost and properties of the item prompting more noteworthy deals.
- Brings mindfulness in the majority.
- Consumer request can be evaluated by promoting analysts and publicizing look into.
- Social component of promoting: It educates the general public regarding different items accessible, their innovation, uses and how the general public can profit by new developments, similar to Visas, platinum cards, brilliant cards, worldwide cards, cell phones, travel offers and so on. Publicizing likewise instructs the individuals and the general public against perils of life. Malignant growth, —Smoking is harmful to health, risky driving, —Better late than never. Additionally, we have drive against contamination, against populace blast and so forth. Publicizing ought not beguile the general public. It ought not control the buyers against their will. They can get abused by sex claim
- Psychological perspectives: One part of mental promoting is that drinking of Alcohol, Beer, Wine ought not be directed on the youngsters or those beneath the age of 21. Ladies in the public eye are moreover basic about disgusting advertisements and advancing sexual tolerance in the commercial for example Calvin Klein. There is a great deal of analysis on promoting against sexual interests and bareness. They belittle ladies as being sex objects. Such promotions can be for beautifiers Unmentionables and different items utilized by ladies. At the point when a shopper attempts to purchase a item. He has a ton of decisions previously him. He gets guided by the family, by companions, by ads, by salesman also, the customer gets confounded and frequently feels that he has settled on an off-base decision. He experiences both pre and post buy cacophony and the advertiser attempts to evacuate his nervousness by strengthening his decision.

- Communication task:- Advertising imparts and catches the consideration of the purchaser. It imparts through stories, through scenes, through tables furthermore, diagrams. The correspondence must be translated in a similar way that it is proposed. It additionally brings attitudinal changes what's more, changes the religions and convictions of the customer.

CONCLUSION

The investigation show that promoting on the conduct of shopper assumes a significant job in selling items. Shopper conduct and publicizing are dynamic fields, as far as training and logical preparing. For instance, the TV plugs that show up in the year 2019 share little for all intents and purpose with those from the 1970s. Promotions from this prior period utilized current procedures and were essentially enlightening. Publicizing research styles have included and progressed, mostly through the impact of improved innovation and access to cutting edge speculations and techniques.

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उत्तर भारतीय संगीत के घराने एवं उनकी गायन शैलियों का स्वरूप

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सार— भारतीय संगीत की परंपरा अत्यंत प्राचीन संस्कृति है जो युगो-युगो से क्षण-प्रतिक्षण परिवर्तनशील रही है कुछ शताब्दी पूर्व इन परम्पराओं का स्वरूप विभिन्न मत एवं वाणियों के रूप में यह परम्पराये जानी जाती रही है किन्तु भारतीय संगीत के हर एक युग में गायन की विशिष्टता के कारण इन परम्पराओं में नित नया स्वरूप भी निर्मित होता आया है इन्हीं परम्पराओं के निर्माताओं ने अपनी प्रतिभा तथा कठिन-साधना से एक विशिष्ट-शैली का निर्माण किया जो बहुत लोक प्रिय हुई तथा उनके शिष्यों द्वारा उसका प्रचार-प्रसार प्रचुर मात्रा में किया गया, इसी शैली या परम्पराओं को घराना कहते हैं, अर्थात् इन्हीं परम्पराओं की गायकी से घराने का निर्माण हुआ घरानों का प्रारंभिक विकसित स्वरूप जैसे-एक गायक ने एक शिष्य तैयार किये उन्होंने कुछ अन्य शिष्य तैयार किये इस प्रकार शिष्यों की पीढ़ी चलती गई जिसे घराना कहा गया। घराना से तात्पर्य कुछ विशेषताओं का पीढ़ी दर पीढ़ी चलते जाना अर्थात् गुरु-शिष्य-परम्परा। घराना शब्द स्वयं में अति गहनता भरा व हिन्दुस्तानी संगीत से गहरा सम्बन्ध रखने वाला एक महत्वपूर्ण शब्द है जो मुख्यतः गायन-वादन-नृत्य इन तीनों ही विधाओं की शैलियों का सूचक है यह शैलियों जिस कलाकार के द्वारा प्रवर्तित होती है वही उसके संस्थापक माने जाते हैं और उन्हीं के नाम से इन घरानों का नामकरण होता है एवं प्रत्येक घराना अपनी गायन की विलक्षणता व विशिष्टता के कारण दूसरे घराने से अपना-अलग अस्तित्व व पहचान रखता है इन्हीं घरानों ने गायन शैलियों व कला के विकास के अतिरिक्त सांगीतिक समृद्धता, विविधता एवं रचनात्मकता के साथ-साथ विविध प्रकार के आयाम देने का महत्वपूर्ण कार्य किया है जो प्रमाणतः आज हमारे नेत्रों के समक्ष है साधारणतः घराना शब्द के अनेक अर्थ माने गए हैं जैसे-घर, कुटुम्ब, परिवार, संप्रदाय, वंश परम्परा आदि प्राचीन भारतीय संगीत के इतिहास में जिस समय ध्रुपद गायन शैली में वाणियों का महत्व रहा है ठीक उसी प्रकार आधुनिक संगीत में ख्याल के घरानों को भी दर्जा दिया गया है वर्तमान उत्तर भारतीय संगीत के खयाल गायन की विशेषताओं एवं विलक्षणता के आधार पर गायकी के मुख्यतः सात घराने सुप्रसिद्ध माने गए हैं जिनका नाम इस प्रकार है 1-गवालियर घराना 2-आगरा घराना 3-दिल्ली घराना 4-जयपुर घराना 5-पटियाला घराना 6-किराना घराना 7-अल्लादिया खॉं घराना इत्यादि। इन सभी घरानों को अपनी गायन की अलग-अलग विशिष्टता व विशेषताओं के आधार पर संगीत जगत में विशेष स्थान प्राप्त है।

प्रस्तावना :-

“घराना”

घराना से आशय— भारतीय संगीत में वर्तमान प्रचलित हिन्दी भाषा का यह शब्द घर से बना है इसका सामान्य अर्थ वंश या परिवार से है जो मूलतः प्राचीन सभ्य परम्परा या गुरु तथा शिष्य के संयोग से बनता है घराने से आशय अर्थात् वह वंश या परिवार जिसके अपने परिवार या संस्थान की सभी विशेषताएँ जैसे-रीति, पद्धति, कायदे, बंधन, नियमावली आनुशासित कार्य शैली या स्टाइल जिसको प्रत्येक इकाई में उसके नियम एवं उसके प्रतिस्थापक की छाप लगी हो घराना कहलाता है दूसरे शब्दों में किसी विशेष शैली का अनुसरण करने वाले संगीतज्ञों का वह समूह है जो किसी विशेष सभ्य या संस्कारित परम्परा या गुरु से शिक्षा प्राप्त करके स्थापित होता है वह घराना कहलाता है।

हमारी संस्कृत भाषा का यह वाक्य सारगर्भित है “वंशो द्विविधा जन्मनाः विधयाचः अर्थात्-वंश या कुल दो प्रकार से चलता है एक जन्म से और दूसरा विधा से। जिस प्रकार एक परिवार में जन्में व्यक्तियों का समूह एक परिवार या घराना होता है उसी प्रकार एक गुरु से विधा प्राप्त करने वाले सभी शिष्यों का समूह एक परिवार या घराना कहलाता है।

“भारतीय संगीत के घरानों की उत्पत्ति के सम्बन्ध में कुछ विद्वानों का मत इस प्रकार है”

1-श्रीकृष्ण राव पंडित जी के अनुसार-वर्तमान प्रचलित विभिन्न शैलियों के निर्माताओं ने अपनी प्रतिभा तथा कठिन साधना से एक विशिष्ट शैली का निर्माण किया तथा उनके गुणी शिष्यों द्वारा उसका प्रचार-प्रसार प्रचुर मात्रा में किया गया इसी शैली को घराना कहते हैं।

2-बी.बी.बैंकर के अनुसार—प्राचीन संगीत की परम्पराओं व उच्चकोटि के गुरु और कई पीढियों की **गुरु-शिष्य** परम्परा का मिश्रित रूप वर्तमान भारतीय संगीत में घराने के नाम से जाना जाता है। भारतीय संगीत में घराना शब्द को परिभाषित किया जाये तो यह शब्द न केवल विशिष्ट वर्ग का परिचायक है वरन एक घर में रहने वाले सदस्यों के **अदृष्ट सम्बंध, समान विचारधारा, समान मर्यादाओ, रीति पद्धति, अनुशासन व संस्कारित कायदो इत्यादि** को भी परिभाषित करता है अतः एक प्रकार से यह शब्दार्थ **गुरु-शिष्य व प्रशिष्यो** के बीच अपनत्व की भावना की ओर संकेत करता है जो कि किसी भी प्रकार की शिक्षा का एक अनिवार्य अंग होता है **पाश्चात्य** में इस शब्द का पर्यायवर्ची **स्कूल** माना जाता है।

घरानो का विकास एवं उसका प्राचीन स्वरूप—

वर्तमान संगीत परम्परा से पूर्व प्राचीन एवं मध्ययुग में भारतीय संगीत के प्रचार स्वरूप **मत और वाणियों** प्रचलित थी अर्थात् **भरतमत, शिवमत, हनुमान व नारदमत** जैसे—मुख्य **चार** मत थे तथा **ध्रुपद-शैली** की **चार** वाणियों में मुख्यतः **गोबरहार वाणी, खंडारवाणी, डागुरवाणी, व नौहारवाणी** प्रचलित थी। अतः ऐसा माना जाता है कि घराने तो पहले भी थे परंतु उनका स्वरूप भिन्न था **वाणी** और **मत** को घराने का ही पर्यायवाची भी माना जा सकता है इसी कालांतर में मुसलमानों के आगमन के कारण दरबारी संगीतज्ञों एवं दरबार से बाहर के संगीतज्ञों का दो वर्ग उभरकर सामने आया **प्रथम-वर्ग संगीतजीवी, तथा द्वितीय-वर्ग संगीतोपासक** बना विभिन्न राज्यों में संगीतजीवी वर्ग द्वारा विकसित संगीत में गान शैलियों की विविधता के कारण विभिन्न घराने बने इन घरानों को विकसित करने में प्राचीन राजदरबारों की संगीत परम्परा का भी विशेष योगदान रहा है जहाँ राजनैतिक परिस्थितियों के कारण संगीतज्ञों में **अशिक्षा, मूर्खता, संकीर्णता**, के फलस्वरूप घरानों का जन्म माना जा सकता है उत्तर मध्यकालीन मुसलमान गायकों का हिन्दूसाहित्य,संस्कृति व भाषा से अनभिज्ञ होने के कारण घरानों की और आरम्भिक उत्पत्ति स्पष्ट होती है इसके अतिरिक्त **गुरु-शिष्य** परम्परा में वैज्ञानिक यंत्रों का अभाव होने के कारण, व सुनने का अल्प अवसर मिलने के कारण, संगीत के विस्तृत क्षेत्र का ज्ञान न होने से व संकुचित घेरे में ही रहने के कारण, एक ही प्रकार की गायकी को मान्यता मिलने के कारण, घरानों का जन्म हुआ तथा साथ ही साथ प्राचीन मध्यकालीन संगीत के राजदरबारों में बादशाहों को प्रसन्न करने हेतु ,दरबारी प्रतियोगिताओं को जीतने हेतु ,विभिन्न प्रकार के नये-नये चमत्कारिक स्वरों का प्रयोग होना इत्यादि के कारण आधुनिक भारतीय संगीत के घरानों की परम्परा विकसित हुई ,इस प्रकार कहा जा सकता है कि पिछले **चार-पाँच** शताब्दी पूर्व से चली आ रही परम्परा उच्चकोटि के गुरु व शिष्य उनके व्यक्तिगत सम्बन्ध ,**स्नेह ,श्रद्धा ,विश्वास** तथा **अपनत्व की भावना शैक्षणिक मर्यादाएँ व सीमाएँ आदि** का सम्मिलित रूप ही घराने को सार्थक करते हैं। यह सर्वविदित है कि **युगो-युगो** से मुख्य शिष्य परम्परा के रूप में संगीत शिक्षण चलता रहा है परंतु घराना शब्द के प्रयोग का प्रारम्भ मध्यकाल में मुस्लिम सभ्यता के प्रभाव के परिणाम कहा जा सकता है ऐसा माना जाता है कि **8वीं से 12वीं शताब्दी** के मध्य राजपूत काल में हिन्दू राजाओं के मध्य पारस्परिक **ईर्ष्या व द्वेष** की भावना के चलते तथा मध्यकाल में मुस्लिम या हिन्दू संस्कृति के टकराव तथा सांस्कृतिक भिन्नता के कारण घराने पुष्पित हुए।

घराना परम्परा वह कहलाती है जिसे **कठिन-साधना व स्व-प्रतिभा व विशिष्ट-गायकी** द्वारा निर्मित शैली को शिष्यों द्वारा व पीढियों द्वारा अग्रसर करके उसको समय-समय तक संरक्षित कर प्रचारित किया जाता है अर्थात् **युगो-युगो** से चली आ रही यही प्रक्रिया वर्तमान संगीत में **घराना** परम्परा कहलाती है घराने की उत्पत्ति का एक मुख्य कारण हिन्दू व मुस्लिम संप्रदायों के मध्य पनपी व उपजी तथा स्वार्थता भी रही। जिसने घरानों को जन्म देने में आपनी अहम भूमिका निभाई इन निर्मित विभिन्न घरानों के द्वारा एक नई सांगीतिक शिक्षा का पहलू सामने आया जिसने शब्दों के प्रामाण्य की अपेक्षा स्वरों के प्रामाण्य पर अधिक बल दिया इस घराना परम्परा ने **गुरु-शिष्य** परम्परा को अधिक सशक्त व सुदृढ़ बनाया जिसके परिणामस्वरूप गुरु-शिष्य परम्परा की यथार्कता का प्रमाण उपलब्ध हुआ। साथ ही घराने की इस परम्पराबद्धता को **कुल** या **वंश** कहा जाने लगा इस परम्परा का सम्बन्ध केवल संगीत से ही नहीं अपितु मनुष्य के दैनिक जीवन से भी सम्बन्ध रखता है यदि इस और दृष्टि डाली जाए तो यह तथ्य सामने आता है कि हमारी **सांस्कृतिक, सामाजिक परम्परा** को दृढ़ रखने व समाज की विकास धारा को आगे बढ़ाने में इस घराना परम्परा ने अपनी महत्वपूर्ण भूमिका का निर्वाह किया है इसके अंतर्गत अग्रसरित होने वाले सांगीतिक ज्ञान का लाभ आज संगीत जगत से जुड़ा प्रत्येक व्यक्ति उठा रहा है यह वह लाभ है जिसके लिए यदि हम घराने परम्परा के द्वारा

विरासत में मिली उपादेयता कहे तो कोई अतिशयोक्ति न होगी यह घराना परम्परा मनुष्य को अनुशासित, संयमी व पूर्वजों के प्रति श्रद्धा रखने की शिक्षा देने में अति महत्वपूर्ण सिद्ध हुई है। जिसका प्रत्यक्ष प्रमाण आज हमारे सम्मुख संगीत जगत का परिवर्तित व उन्नत रूप है, जिसे घराना कहा जाता है।

उत्तर भारतीय गायन के प्रमुख घराने—वर्तमान उत्तर भारतीय संगीत में गायन शैलियों की विशिष्टता व विशेषताओं के आधार पर ख्याल गायकी के लिए मुख्यतः सात घराने सुप्रसिद्ध माने गए हैं जिनका नाम इस प्रकार है।

- 1— ग्वालियर घराना , 2— आगरा घराना , 3— दिल्ली घराना , 4— जयपुर घराना , 5— पटियाला घराना ,
- 6— किराना घराना , 7— अल्लादिया , खों घराना इत्यादि।

“उत्तर भारतीय गायन संगीत के घरानों का सार—संक्षिप्त—परिचय ”
“प्रस्तुत है”

प्रथम—

“ग्वालियर घराना”

उ.भा.सं घराना

“ प्रवर्तक— नत्थन पीरबक्श ”

“गायन—शैली के इस घराने की वंश—परम्परा में प्रमुख नाम अग्रणी है”

जैसे —नत्थन पीरबक्श ,कादिरबक्श ,हददू खों ,हसू खों ,नत्थू खों ,गुले इमाम खों , रहमत खों , मुहम्मद खों , मेंहदी हुसैन खों , मुश्ताक हुसैन , राजाभैया पूछवाले , कृष्णराव पंडित , वासुदेव जोशी , बालकृष्ण बुआ इचलकरंजीकर , पं. ओमकारनाथ ठाकुर , विनायकराव पटवर्धन , नारायण व्यास,रामकृष्ण बड़े , उं.निसार हुसैन खों , पं.विष्णुदिगंबर इत्यादि विशेष रूप से उल्लेखनीय हैं।

“उत्तर भारतीय संगीत में ग्वालियर घराने की संगीत—परम्परा”

उत्तर भारतीय संगीत में ग्वालियर घराने की संगीत परम्परा का प्रारम्भ 18वीं सदी से प्रारम्भ माना जाता है इस घराने के आरम्भिक जन्मदाता के रूप में **नत्थन पीरबक्श** माने जाते हैं इस घराने की संगीत परम्परा जो कि **ख्याल एवं ध्रुपद** गायकी के लिए प्रसिद्ध है यह मुख्य रूप से **लखनऊ** घराने की संगीत परम्परा से व्युत्पन्न घराना है इस घराने के निर्माण से पूर्व लखनऊ की जलवायु में सांगीतिक पोषण न मिलने पर यह ग्वालियर में आकर स्थिर हुआ। ग्वालियर घराने के आरम्भिक काल से पूर्व लखनऊ के गुलाम रसूल इस परम्परा के **मूलपुरुष** माने जाते थे ऐसा माना जाता है कि ग्वालियर घराने की संगीत परम्परा के इतिहास ने नत्थन पीर बक्श के तीन पुत्र हुए जिनका नाम **हददू खों , हसू खों तथा नत्थू खों**, है इन तीनों ने ग्वालियर घराने की संगीत परम्परा के विकास में अत्यंत सराहनीय कार्य किया इन्हीं तीनों में से विशेषकर हददू खों की गायन शैली में दक्षता, विलक्षणता के कारण ग्वालियर नरेश **महाराजा सिंधिया** ने अपना दरबारी गायक नियुक्त किया था किंवदंती यह भी है कि इनके समय में **तानरस खों** और **मुबारक अली** ही उनके मुकाबले के गायक थे इसी घराने में हददू खों के अतिरिक्त गुले इमाम के पुत्र मेंहदी हुसैन को तोड़ी राग गाने में विशेष दक्षता प्राप्त थी ऐसे ही अनेक कलाकारों द्वारा ख्याल व ध्रुपद गायकी में इनका **अद्वितीय** योगदान रहा है यहाँ की **गुरु—शिष्य** परम्परा में हददू खों के पुत्र व इनके शिष्यों में मुहम्मद खों रहमत खों एवं इनके भतीजे निसार हुसैन खों इत्यादि ने संगीत की शिक्षा इन्हीं से प्राप्त कर संगीत जगत में खूब नाम कमाया तथा ग्वालियर घराने की संगीत परम्परा के विकास में **बहुमूल्य** योगदान दिया वर्तमान भारतीय संगीत में ख्याल गायन की **गंगोत्री** के रूप में यह घराना अत्यंत प्रसिद्ध हुआ है।

“गायन शैली का स्वरूप”

प्रमुख विशेषताएँ—उत्तर भारतीय संगीत में ख्याल गायन की **गंगोत्री** के रूप में पहचान प्राप्त इस घराने की गायकी का आरम्भिक **स्वर आकार** में खुला व **जोरदार** एवं **बुलंद आवाज** में लगाया जाता है यह घराना मात्र ख्याल गायन में ही नहीं अपितु **ध्रुपद व धमार** आदि सभी में दक्ष **उच्चकोटि प्रधान** है इस घराने की प्रमुख विशेषताओं की गायकी में मर्दानापन बुलंद आवाज गले का वजन और स्वरो पर अधिकार मुख्य रूप से दिखाई देता है **सम** के बाद **दुसरी मात्रा** से गायकी प्रारम्भ करना ग्वालियर घराने की अपनी एक अलग विशिष्टता है इस घराने की गायकी में **सीधी व सपाट** तानों का प्रयोग, लयकारी व लंडत आदि के सम्मिश्रण की विशेषता स्पष्ट झलकती है इस घराने की गायकी अधिकतर **झूमा, आडाचारताल, तिलवाडा, तीनताल व विलंबित एकताल** में निबद्ध होती है।

द्वितीय –
सं घराना

“आगरा घराना”

उ.भा.

“प्रवर्तक—अलखदास—मलूकदास”

“गायन—शैली के इस घराने की वंश—परम्परा में प्रमुख नाम अगृणी है”

जैसे—अलखदास, मलूकदास, हाजी सुजान खॉं, सरसरंग, श्यामरंग, जग्गू खॉं, सस्सू खॉं, खुदाबक्श, शैरखॉं, नत्थन खॉं, गुलाम अब्बासखॉं, कल्लनखॉं, फैयाज खॉं, मुहम्मद खॉं, बन्नेखॉं, विलायत हुसैन, तसददुक हुसैन इत्यादि विशेष रूप से उल्लेखनीय हैं

“उत्तर भारतीय संगीत में आगरा घराने की संगीत—परम्परा”

उत्तर भारतीय संगीत में यह घराना भारत के प्रसिद्ध और प्रमुख **ख्याल शैली** के घरानों में से एक माना जाता है, यह घराना प्रारम्भ से ही मूलतः **ध्रुपद तथा धमार** गायकों का रहा है इसलिए इसके **ख्याल गायन** पर भी ध्रुपद धमार की तरह **नोमतोम व लयकारी** का प्रभाव स्पष्ट नजर आता है **बहुचर्चित** इस घराने की उत्पत्ति सर्वप्रथम **अलखदास व मलूकदास** द्वारा मानी जाती है इस घराने की गायकी के सम्बन्ध में इसके आरम्भिक **प्रवर्तक हाजी सुजान खॉं** माने गए हैं जो कि अलखदास के पुत्र थे यह एक अच्छे ध्रुपद व धमार गायक थे इसी घराने की संगीत परम्परा में हाजी सुजान खॉं का ध्रुपद धमार शैलियों का विशेषज्ञ भी माना गया है इन्हीं की वंश परम्परा में श्यामरंग व सरसरंग दो भाई हुए जो अत्यंत गुणी संगीतज्ञ थे तथा इन दोनों भाइयों की गायकी **अद्वितीय** होने के कारण काशी के नरेश आगरा निवासी वीर भद्रसिंह के दरबार में नियुक्त थे इस घराने की वंश परम्परा में **श्यामरंग** के छोटे पुत्र का नाम **घग्गे खुदाबक्श** था इन्होंने अपने घराने से संगीत की उत्तम शिक्षा प्राप्त थी प्रारम्भ में इनकी आवाज में दोष था किंतु धीरे-धीरे अभ्यास में लगे रहे जिसके परिणाम स्वरूप इनकी आवाज का दोष जाता रहा तथा कुछ कालान्तर पश्चात् इन्होंने गायकी में एक अच्छी योग्यता प्राप्त हो सकी इस प्रकार इनका संगीत में समर्पण दक्षता के कारण इन्होंने इस घराने का **प्रवर्तक व मार्गदर्शक** माना जाता है इसी घराने की वंश परम्परा में **फैयाज खॉं** का नाम वर्तमान संगीत में बहुत प्रसिद्ध हुआ है ऐसा माना जाता है कि उनकी गायकी में जो खूबियाँ थी वे अनोखी थी जो और गायकों में नहीं पाई जाती। आपका गायन से पूर्व **नोम—तोम** का आलाप श्रोताओं को चकित कर देता था इनकी प्रमुख बंदिशों में **प्रेमपिया** उपनाम से आपने अनेक बंदिशें तैयार की जो बहुत लोकप्रिय हुईं आपके गायन की विश्वसनीयता के कारण रिकार्डिंग कम्पनी ने आपके कई रिकार्ड तैयार किये जिनमें से **काफी, नट, बिहाग, भैरवी, सूहा, सुघरई, पूर्वी, ललित**, अनेक रागों की बंदिशें बहुत प्रसिद्ध हैं वर्तमान भारतीय संगीत में भी यह घराना **ख्याल, ध्रुपद, धमार आदि** गायकी के लिए विशेष प्रसिद्धि प्राप्त की है।

“गायन शैली का स्वरूप”

प्रमुख विशेषताएँ— उत्तर भारतीय संगीत में आगरा घराने की गायकी में **नोमतोम** का **आलाप**, जबड़े का अधिक प्रयोग, **बंदिश दार चीजे, ख्याल** के अतिरिक्त **ध्रुपद** अंग का प्राबल्य होने के कारण यह **ध्रुपदांग** ख्याल के नाम से भी जाना जाता है यहाँ खुली और बुलंद आवाज की गायकी के अतिरिक्त इस घराने की बोलतान इतनी **आकर्षक व प्रभावशाली** होती है कि दूसरे घराने के गायक शीघ्र ही प्रभावित हो जाते हैं तथा गायकी में सरलता के साथ-साथ समता की भावना का भी भावपूर्ण स्वरूप स्पष्ट झलकता है **लय** एवं **ताल** की प्रधानतः लिए इस घराने की गायकी अधिकतर **तीनताल, रूपक, आडाचारताल, सूलफाक व झूमा इत्यादि** तालों में निबद्ध होती है।

“प्रवर्तक—तानरस खॉ ”

“गायन शैली के इस घराने की वंश—परम्परा मे प्रमुख नाम अगुणी है”

जैसे—तानरसखॉ, अलैया, फत्तू ,पंचमखॉ, मस्तूखॉ, मियों अल्लाबक्श, उमरभाई खॉ, नन्हेखॉ, संगीखॉ, सम्मनखॉ, बुन्दूखॉ, मम्मनखॉ, चॉदखॉ,सरदारखॉ, उमरावखॉ, अचपलमियों, श्रीमती कृष्णबिस्ट भारती,चंकवर्ती इत्यादि विशेष रूप से उल्लेखनीय है।

“उत्तर भारतीय संगीत मे दिल्ली घराने की संगीत—परम्परा”

उत्तर भारतीय संगीत मे **ख्याल गायकी** का दिल्ली घराना एक प्राचीन घराना है प्राचीन **मध्यकालीन** समयानुसार दिल्ली के बादशाह **मोहम्मद शाह रंगीले** का शासन काल सन् 1719—1748 ईसवी तक रहा है ऐसा माना जाता है कि इन्ही के दरबार मे ख्याल गायकी का **प्रचार—प्रसार** हुआ इनके शासनकाल के इतिहास से स्पष्ट होता है कि इनके दरबार मे **अदारंग** तथा **सदारंग** नामक प्रसिद्ध संगीतज्ञ हुए जिन्होंने अनेक ध्रुपदो व प्रसिद्ध ख्यालो की रचना की तथा बादशाह मोहम्मद शाह रंगीले के नाम से जितने भी ख्याल गीत वर्तमान मे गाए जाते है वे इन्ही दोनो गायको की **कृतियों** है दिल्ली घराने की परम्परा मे मियों अचपल के शिष्य **तानरस खॉ** इस घराने के सर्वप्रथम **प्रवर्तक** माने जाते है यह दिल्ली घराने की संगीत परम्परा मे सर्वश्रेष्ठ कलाकार भी रहे है इनके शिष्यो मे **अलैया, फत्तू ,पंचम खॉ, मस्तू खॉ** इत्यादि का नाम आता है इस घराने की संगीत परम्परा के विकास एवं गायकी को श्रेष्ठ गायन शैली बनाने मे अन्य कलाकारो मे मुख्य रूप से मियों अल्लाबक्श तथा उनके भाई उमर खॉ, नन्हे खॉ, संगी खॉ, सम्मन खॉ तथा सांरगी वादक बुन्दू खॉ इत्यादि के नाम प्रमुखता से लिए जाते है इस घराने की संगीत परम्परा व गायकी के विकास मे **स्वर्गीय मम्मन खॉ** के वंशज अपना सक्रिय योगदान देते आ रहे है।

“गायन शैली का स्वरूप”

प्रमुख विशेषताएँ —उत्तर भारतीय संगीत मे दिल्ली घराने की गायकी मे राग की शुद्धता एवं सुंदरता इस घराने की प्रमुख विशेषता रही है इस घराने की गायकी का अपना अलग अंदाज है जिसका सम्बन्ध मुख्यतः **तन्त्रवाध्य सांरगी** से होने के कारण इसकी विलंबित लय की चीजो में **सूत, मीड, गमक और लहक** का काम विशेष रूप से परिलक्षित होता है ख्याल गायकी की लयकारी स्वरों का परम्परानुसार **लड़गुथाव** तथा **जोड—तोड** का काम अपनी विशिष्टता को प्रस्तुत करता है यहाँ पर आगरा व ग्वालियर घरानो के ध्रुपदांग अंग की अपेक्षा ख्याल की कलापूर्ण बंदिशे गायकी मे विशेष रूप से प्रयोग होती है प्रत्येक ख्याल की बंदिशो से सरलतानो व बोलतानो का द्रुत गति मे प्रयोग यहाँ की अपनी विशेषता है। इस घराने की गायकी अधिकतर **तीनताल, तिलवाडा ,झपताल ,एवं एकताल** मे निबद्ध होती है।

“प्रवर्तक—करामत अली, मुबारक अली”

“गायन शैली के इस घराने की वंश—परम्परा मे प्रमुख नाम अगुणी है”

जैसे—करामत अली, मुबारक अली, मनरंग, आशिक अली, जी.एन.गोस्वामी, मुश्ताक अली, अनवरी बेगम, रसूलन बाई, मोहम्मद अली, उश्शाक अली,पं विष्णुनारायण भातखण्डे इत्यादि विशेष रूप से उल्लेखनीय है।

“उत्तर भारतीय संगीत मे जयपूर घराने की संगीत—परम्परा”

उत्तर भारतीय संगीत मे **जयपूर** घराने की **ख्याल शैली** की परम्परा लगभग 150 वर्ष पुरानी मानी जाती है इस घराने की प्रारंभिक उत्पत्ति सर्वप्रथम **करामत अली व मुबारक अली** द्वारा आरम्भ हुई इस घराने की संगीत परम्परा से पूर्व **जयपूर दरबार** मे **भारतवर्ष** के प्रसिद्ध गायक एवं वादक नियुक्त माने जाते थे इस घराने की मान्यता तो यह भी है कि

इसी दरबार में संगीत की गायन एवं वादन दोनों विधाओं को जयपूर घराने से प्रेरणा मिली तथा इसी घराने की संगीत परम्परा में जयपूर नरेश माधोसिंह के दरबार में सावल खॉ नामक प्रसिद्ध बिनकार थे तथा इन्हीं के वंशजों में राजब अली के बाद उनकी शिष्य परम्परा में मुर्शरफ खॉ भी एक अच्छे वीणा वादक थे इनके अतिरिक्त वीणा वादकों की संगीत परम्परा में मुहासिन खॉ अब्दुल अजीज खॉ, मुश्ताक अली इत्यादि कलाकार इस घराने के वीणा वादकों के साथ-साथ गायन परम्परा भी विकसित होती रही तथा इन्हीं तन्त्रकारी शैलियों एवं गायन की शैलियों की प्रसिद्धि के कारण जयपूर घराने के रूप में एक अलग पहचान मिली वर्तमान युग में जयपूर घराना अतरौली या अल्लादिया खॉ का घराना माना जाता है तथा कुछ संगीत के जानकार इसे जयपूर घराने की उपशाखा मानते हैं परंतु अधिकांश विद्वानों का मानना है कि अतरौली जयपूर घराने का ही दुसरा नाम है।

“गायन शैली का स्वरूप”

प्रमुख विशेषताएँ—उत्तर भारतीय संगीत में इस घराने की गायकी मुख्य रूप से ध्रुपद-शैली, कव्वाली-शैली, एवं वीणा-वादन की वाद्य शैलियों एवं सितार वादन की शैली इन सबका मिश्रित रूप जयपूर घराने की गायकी को निखारता है जितनी मधुर यहाँ की वादन शैली है उसका ही सुरीला यहाँ का कंठ संगीत है जयपूर की बंदिशों की रचना के बोल आवाज में सरलता, स्वर की कोमलता व कलात्मकता के लिए पहचानी जाती है जयपूर घराने के रागों में भी वक्र तानों का प्रभाव अधिक दिखाई देता है जो कि इस घराने की गायकी को अत्यधिक आकर्षक व सौन्दर्य बनाती है वर्तमान में किशोरी अमोनकर, पंडित मल्लिकार्जुन मंसूर और मोघू बाई कुर्डीकर इत्यादि इस घराने की संगीत परम्परा को आगे बढ़ा रहे हैं इस घराने की गायकी अधिकतर तीनताल, एकताल, कहरवा एवं दादरा तालों में निबद्ध होती है।

पंचम—
भा.सं घराना

“पटियाला घराना”

उ.

“प्रवर्तक—अलीबक्श और फतह अली”

“गायन शैली के इस घराने की वंश-परम्परा में प्रमुख नाम अगुणी है”

जैसे— अली बक्श, फतह अली, मियाँ कालू खॉ, गुलाम अली खॉ, मनुव्वर अली खॉ, नवीबक्श, प्यारे खॉ, अख्तर हुसैन, अहमद जान, आशिक अली, अमानत अली, नजाकत अली, उमराव, सिंदे खॉ, मियाँ जान इत्यादि विशेष रूप से उल्लेखनीय हैं

“उत्तर भारतीय संगीत में पटियाला घराने की संगीत-परम्परा”

उत्तर भारतीय संगीत में पटियाला घराने की उत्पत्ति सर्वप्रथम अली बक्श एवं फतह अली द्वारा मानी गई है इस घराने की सांरगी वादन की संगीत परम्परा बड़े गुलाम अली खॉ के पूर्वजों से चली आ रही है स्वयं बड़े गुलाम अली खॉ प्रारंभ में सांरगी वादक ही रहे हैं परन्तु बाद में इन्होंने उच्चश्रेणी के ख्याल गायक के रूप में संगीत जगत में ख्याति अर्जित की। जैसे तो पटियाला घराने की गायन शैली का स्वरूप वास्तव में दिल्ली घराने का ही रहा है किंतु पंजाब का घराना पटियाला रियासत में पनपने के कारण ही यह पटियाला का घराना कहलाया। आजकल इस घराने का प्रतिनिधित्व स्व. गुलाम अली के सुपुत्र उस्ताद मनुव्वर अली खॉ कर रहे हैं।

“गायन शैली का स्वरूप”

प्रमुख विशेषताएँ—उत्तर भारतीय संगीत के इस घराने की गायकी में लय तथा स्वर सौन्दर्य का समान महत्व दिया जाता है पटियाला घराने की गायकी मुलायम होते हुए भी गायकी में आवाज खुली एवं वजनदार होती है जैसे कि उत्तर भारतीय संगीत के ग्वालियर तथा आगरा घराने की लयकारी प्रसिद्ध है किन्तु इस घराने की गायकी की सबसे बड़ी खासियत यह है कि यह मानवीय भावों को भावनात्मक रूप से अभिव्यक्त करने में यह सक्षम है यह घराना अपनी तैयारी और विविधतापूर्ण गायकी के लिए प्रसिद्ध है पटियाला घराने की तुमरियाँ अपनी कोमलता, रसीलेपन तथा

टप्पेवाली तानों के कारण श्रोताओं के मन पर एक अनिर्वचनीय प्रभाव डालती है इस घराने की गायकी अधिकतर तीनताल, एकताल, झपताल, तिलवाडा व चारताल में निबद्ध होती हैं।

षष्ठम —
सं घराना

“किराना घराना”

उ.भा.

“प्रवर्तक—बीनकार बन्दे अली खों”

“गायन शैली के इस घराने की वंश—परम्परा में प्रमुख नाम अगुणी हैं”

जैसे— बंदे अली खों, हैदर खों, मुराद खों, नन्हे खों, वहीद खों, रजब अली खों, काले खों, अब्दुल रहमान खों, अब्दुल करीम खों, अमीर खों, मोहम्मद फैज, सुरेश माने, रोशन आरा बेगम, हीराबाई बडोदकर, सवाई गन्धर्व, कपिलेश्वरी, सरस्वती राणे, गंगू बाई हंगल, भीमसेन जोशी, प्रमा आगे, बेहरे बुआ, अब्दुल लतीफ, मेनका शिरोडकर इत्यादि विशेष रूप से उल्लेखनीय हैं।

“उत्तर भारतीय संगीत में किराना घराने की संगीत—परम्परा”

उत्तर भारतीय संगीत में यह घराना अधिक पुराना न होने हुए भी बहुत प्रसिद्ध हुआ है इस घराने के आरम्भिक प्रवर्तक सर्वप्रथम प्रसिद्ध बीनकार बंदे अली खों को माना जाता है जो एक अच्छे ध्रुपद गायक व ग्वालियर के प्रसिद्ध ख्याल गायक उस्ताद हददू खों के दामाद थे इस घराने का विस्तार व उसका प्रचार—प्रसार मुख्य रूप से उ.बेहरे वहीद खों तथा अब्दुल करीम खों ने किया। इस घराने के प्रसिद्ध उस्ताद अब्दुल करीम खों ने अपनी विलक्षण प्रतिभा से स्वतन्त्र गायकी का निर्माण किया इनकी गायकी पर बीन का प्रभाव था इनकी आवाज पतली सुरीली तथा नोकदार थी स्वर सौन्दर्य की दृष्टि से इनकी गायकी स्वर प्रधान थी इसलिए किराना घराने की गायकी में स्वर की सूक्ष्मता व सफाई साफ—साफ दिखाई देती है इस घराने की वास्तविकता यह भी मानी जाती है कि यह घराना सांरगी वादको का था जिसमें पहले सांरगी द्वारा अभ्यास अधिक हुआ तत्पश्चात् गायन अंगीकार किया गया इस प्रकार कहा जा सकता है कि इस घराने की संगीत परम्परा का प्रारम्भ कहीं तंतबीन अंग से तथा दूसरा सांरगी वाध्य से विकसित हुआ किन्तु इस घराने की वंश परम्परा एवं प्रधान गायकी की उत्कृष्टता के लिए उस्ताद अब्दुल करीम खों का विशेष योगदान रहा है इन्हे संगीत की तालीम उस्ताद वालिद काले खों और चाचा अब्दुल खों से प्राप्त हुई इस घराने के प्रतिनिधि गायकों में उ.अब्दुल करीम खों, उ.हैदर खों, पदमश्री हीराबाई बडोदकर, रोशनआरा बेगम, भीमसेन जोशी, सवाई गन्धर्व, गंगूबाई हंगल तथा उ.अमीर खों आदि ने विशेष प्रसिद्धि प्राप्त की है।

“गायन शैली का स्वरूप”

प्रमुख विशेषताएँ—उत्तर भारतीय संगीत के इस घराने की गायकी मुख्यतः आलाप प्रधान गायकी मानी जाती है यह घराना व इसकी गायकी मुख्य रूप से तन्त्रवाद्यों पर आधारित होने के कारण प्रत्येक रागों की बढत वीणा वादन का राग तथा स्वरो की विभिन्न भावपूर्ण गायन रीति से बढत की जाती है मूलतः यह बीनकारों का घराना होने के कारण विलंबित लय, स्वर की दीर्घता, एक स्वर से दूसरे स्वर तक जाते समय स्वर को मीडं की भाँति टुटने न देना, सुरीलेपन तथा भक्तिभाव युक्त आलाप प्रधान गायकी यहाँ की अपनी विशेषताएँ हैं इसके अतिरिक्त सरगमों से ही राग का अत्यधिक विस्तार करना इस घराने की मुख्य पहचान बन गया है इस घराने की गायकी अधिकतर तीनताल, दीपचंदी, एकताल, झूमरा, एवं जत्त इत्यादि तालों में निबद्ध होती हैं।

सप्तम—
भा.सं घराना

“अल्लादिया खों का घराना”

उ.

“प्रवर्तक—स्वयं अल्लादिया—खों”

“गायन शैली के इस घराने की वंश—परम्परा में प्रमुख नाम अगुणी हैं”

जैसे— अल्लादियों खॉं, ख्वाजा अहमद , हैदर खॉं, जहागीर खॉं, मंजी खॉं, मान तोल खॉं, भास्कर बुआ बखले, केसर बाई केरकर , शंकर राव सरनाइक , चिम्मन , कन्या , नत्थू खॉं, कादिर, करीम बक्श इत्यादि विशेष रूप से उल्लेखनीय है ।

“उत्तर भारतीय संगीत में किराना घराने की संगीत—परम्परा”

उत्तर भारतीय संगीत में एक घराना ऐसा भी है जिसका नाम है **अल्लादिया का घराना** इस घराने के सर्वप्रथम **मार्गदर्शक** व प्रथम **अन्वेषक स्वयं अल्लादिया खॉं** थे ऐसा माना जाता है कि इस घराने से पूर्व खॉं साहब प्रारम्भ में केवल **ध्रुपद शैली** ही गाते थे बाद में **ध्रुपद शैली** के अतिरिक्त ख्याल गायन शैली को अपनाया तथा कुछ कालान्तर बाद अपनी **प्रतिभा** एवं **बौद्धिक** योग्यता के आधार पर एक नई गायकी का निर्माण किया जो उन्ही के नाम से **मशहूर** है खॉं साहब ने संगीत की प्रारम्भिक **शिक्षा** अपने चाचा **जंहागीर खॉं** से प्राप्त की थी खॉं साहब के दो पुत्र थे जिनका नाम **मंजी खॉं** और **भूर्जी खॉं** है ल अपने समय के **उच्चकोटि** के कलाकार थे इन दोनों भाइयों ने संगीत की शिक्षा अपने पिता अल्लादिया खॉं से प्राप्त की थी इस प्रकार यहाँ की संगीत परम्परा का विकास इनके वंशजों द्वारा होता आ रहा है इस घराने का प्रतिनिधित्व **केसर बाई, शंकर राव सरनाइक, मोधू बाई कुर्डीकर** आदि वर्तमान में योगदान दे रहे हैं ।

“गायन शैली का स्वरूप”

प्रमुख विशेषताएँ—उत्तर भारतीय संगीत में मशहूर इस घराने की गायकी में एक प्रकार का मानसिक **संयम** है यहाँ की गायकी में विशेष रूप से **बौद्धिक** भाषा की **प्रधानता** एवं **प्रबलता** है इसकी बढ़त और इसके राग विस्तार में भी एक प्रकार का बौद्धिक विकास सुस्पष्ट होता है इस घराने की गायकी का आनंद इसकी **जटिलता** और इसके **पेचीदेपन** में है अर्थात् इस घराने की गायन शैली की प्रमुख विशेषताओं में स्वर लय का बड़ा ही सुंदर मिलन है जो इस घराने की बंदिशों को आकर्षक व सौन्दर्य बनाती है भाव व **भावुकता** का **सुंदर** सवन्मय सामान्यतः अन्य घरानों में कम ही प्रतीत होता है इस घराने द्वारा **शास्त्रीय गायन** के प्रत्येक अप्रचलित रागों की गायकी में उपज हेतु विशेष झुकाव रहता है इस घराने की गायकी अधिकतर **तीनताल, एकताल, चारताल, झूमरा इत्यादि** तालों में निबद्ध होती है ।

प्रस्तुत किये गए उत्तर भारतीय संगीत के गायन शैली में प्रसिद्धि प्राप्त इन घरानों के अतिरिक्त गुरु शिष्य परम्परा का कायम रखते हुए अपनी गायकी में **स्वरसौन्दर्य** उपज एवं **लयकारी** में विशेष योग्यता व संगीत जगत में प्रतिष्ठा प्राप्त कुछ अन्य घराने भी गायन संगीत के लिए उत्तर भारतीय संगीत में पहचान व प्रसिद्धि प्राप्त कि है उनका नाम इस प्रकार है । **जैसे— विष्णुपुर घराना, सहसवान घराना, बेतिया घराना, उदयपुर घराना, मेवाती घराना, वाराणसी घराना, अतरौली घराना एवं पंजाब घराना इत्यादि**

निष्कर्ष—भारतीय संगीत की परम्परा **विश्व** की परम्पराओं में सबसे **अद्वितीय** संस्कृति रही है जिसमें इन परम्पराओं के विकास में उच्चकोटि के गुरु और कई पीढ़ियों की **गुरु—शिष्य** परम्परा तथा अनेक महान संगीतज्ञों का विशेष योगदान माना जा सकता है भारत देश एक ऐसा सुदृढ सुसंस्कृत व कला—समृद्ध व्यवस्थित देश है जहाँ प्रत्येक कलाओं का विकास प्राचीन परम्पराओं व संस्कृतियों पर आधारित होता चला आया है परन्तु इन संस्कृतिओं को कायम रखने हेतु जिसे सर्वाधिक महत्वपूर्ण माना जाता वह है **परम्परा** वर्तमान में भारतीय संगीत का जो कुछ भी स्वरूप निर्मित हुआ है वह सब मुख्यतः घराने एवं उनकी परम्पराओं के कारण ही सार्थक हुआ है घरानों के कारण ही कलाकारों की प्रतिभा में बहार आई और ख्याल गायकी का आविष्कार विभिन्न सौन्दर्य प्रणालियों द्वारा संभव हुआ प्राचीन संगीत परम्परा में जिस समय स्वरलिपि पद्धति प्रचार में नहीं थी उस समय **गुरुमुख** से सीखी हुई बंदिशों एवं गायकी को जीवंत रखने में महत्वपूर्ण कार्य घरानों के माध्यम से कलाकारों ने किया है वास्तव में घरानों की परम्परा से ही संगीत **कलासमृद्ध** विकसित हो पाई है इन घरानों के प्रारम्भिक काल में संगीत की परम्पराओं में सस्ते मनोरंजन के अंधकार भरे उस युग में इन्हीं घरानेदार संगीतज्ञों ने अपनी **कठोर साधना** असीम गुरु **भक्ति** और **तालीम** से संगीत को जीवित रखा यदि यह घराने नहीं बने होते तो संगीत की परम्परागत विधा अवश्य ही **मध्ययुग** व **ब्रिटिश** काल में नष्ट हो गई होती । घरानों ने हमारी **सांगीतिक** संस्कृति की **रक्षा** की है और कला के **रक्षक** का उत्तरदायित्व निभाया है इन अनेक विद्वानों द्वारा किए गए प्रयास ही हैं कि आज हम संगीत की लुप्त हुई बहुत सी विधाओं एवं परम्पराओं के द्वारा पुनः एकत्रित किए गए ग्रन्थों के माध्यम से **सांगीतिक शिक्षा** व **ज्ञान** प्राप्त कर रहे हैं अतः वास्तव में कहा जा सकता

है कि भारतीय संगीत की परम्पराओं के घराने का स्वरूप प्रदान करने, संगीत के विकास व **संरक्षण** में संगीत गुणीजनों ने अत्यंत **कलात्मकता** के साथ साथ शास्त्रीय व क्रियात्मक दोनों ही पक्षों में अपनी **प्रतिभा कौशल** एवं **रियाज** के बल पर संगीत कला को जीवनपर्यंत **प्रभावत्मकता** के साथ प्रस्तुत कर संरक्षित करने का **श्रेष्ठकार्य** किया है भारतीय संगीत समाज आप सभी विद्वानों के **अतुलनीय** व **अद्वितीय** सांगीतिक कृत्यों को संदैव **श्रद्धा-सुमन** स्मरण करता रहेगा।

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शोधार्थी

गीतिका लोहट

बरकतुल्लाह विश्वविद्यालय

भोपाल (म0प्र0)



शोध संक्षेपिका

डा0 नीना श्रीवास्तव (संगीत विभाग)

सरोजिनी नायडू शासकीय कन्या महाविद्यालय

भोपाल (म0प्र0)

Abstract-

संगीत शब्द की उत्पत्ति 'गीत' शब्द में 'सम्' उपसर्ग लगाने से हुई है। 'सम्' का अर्थ है—सुचारु रूप से अथवा सही ढंग से और 'गीत' शब्द का अर्थ 'गाने' से है। 'सम्यक्प्रकारेण यद्गीयते तत्संगीतम्।' अर्थात् जो सभी प्रकार से अथवा सुचारु रूप से गाया जाए, वह संगीत है। भारतीय सांगीतिक परम्परा के मनिषियों के अनुसार संगीत में तीन कलाओं का समावेश माना गया है, यथा:— "गीतम् वाद्यं च नृत्यम् त्रयं संगीतमुच्यते।" अर्थात् गायन, वादन और नृत्य के समूह को संगीत कहते हैं। इसी प्रकार आचार्य बृहस्पति ने भी संगीत को गीत, वाद्य एवं नृत्य का समन्वय बताया है। मानक हिन्दी शब्दकोष के अनुसार:— "मधुर ध्वनियों या विशिष्ट नियमों के अनुसार और कुछ विशिष्ट रूप से होने वाले रंजक प्रस्फुटन को संगीत कहते हैं।" पं. अहोबल के अनुसार:— "गीतं वादित्र नृत्यानां त्रयं संगीतमुच्यते।" अर्थात् संगीत वह कलात्मक विद्या है, जिसमें गीत, वाद्य तथा नृत्य का लयात्मक समन्वय दृष्टिगोचर होता है।

गीतवादित्रनृत्यानां रक्तिः साधारणों गुणः।

अतो रक्तिविहीनं यत्न तत् संगीतमुच्यते।।

प्रस्तावना:—

संगीत—कला मानव का अनुभव है और मानव के "भावों और विचारों" को प्रकट करने की एक "विशिष्ट भाषा" है, जिसको सम्पूर्ण विश्व के प्राणी समझ सकते हैं। संगीतकला का क्षेत्र व्यापक है तथा इसके अपने "नियम और शास्त्र" होते हैं। विद्वानों की संगीत के प्रति भिन्न-भिन्न धारणाएँ होती हैं। संगीत—कला का विवेचन अनेक विद्वानों ने अपने-अपने दृष्टिकोण से किया है। मैथिलीशरण गुप्त के अनुसार "अभिव्यक्ति की कुशल शक्ति ही संगीत—कला है।" महात्मा गांधी के अनुसार "यदि कला जीवन को सुमार्ग पर न ले जाए तो वह कला, कला नहीं होती।" टालस्टाय के अनुसार कला एक मानवीय चेष्टा है। कला द्वारा मनुष्य अपने जीवन में प्राप्त हुए अनुभवों को ज्ञान—पूर्वक संकेतों के माध्यम से प्रकट करता है। सही मायने में जब मानव अपने भावों अथवा ज्ञान की अभिव्यक्ति जिस प्रकृति अनुकृत एवं सौन्दर्य से युक्त माध्यम द्वारा करता अथवा करवाता है, उसे संगीत—कला कहते हैं। अतः मूल रूप से संगीत—कला का अर्थ मानव के भावों की सुन्दरतम अभिव्यक्ति है।

जगत में मनुष्य जन्म के साथ ही कई प्रतिभाएँ साथ ही आती हैं। उचित वातावरण में उसकी प्रतिभा पल्लवित होती है। माता-पिता, गुरु, भाई-बहिन, पति-पत्नी, मित्रों आदि के सहयोग से उसकी जीवन-यात्रा निरन्तर अग्रसर होती रहती है। तथा वह जीवन में कई **आँखों को स्पर्श** करता है।

इसके विपरीत कुछ लोग ऐसे भी जन्म लेते हैं जिनके साथ जन्म से ही कुछ शारीरिक विकलांगता पाई जाती है। जैसे:- "मूक-बधिर, अंधत्व आदि शारीरिक विकलांगता मुख्य रूप से दो प्रकार की होती है- 1. मूक-बधिरता, 2. अंधत्व।

ऐसे अधिकांश लोगों में भी एक-एक विशिष्ट प्रतिभा जन्म के साथ ही विद्यमान होती है। जिसमें संगीत, साहित्य, चित्रकारी जैसी कला तो अनिवार्य रूप से होती है।

भारतीय शास्त्रीय संगीत में गायकों के कुछ गुण-दोष बताए गए हैं। जिनमें से एक दोष है "आँख बंद करके गाना।" हमारे संगीत के इतिहास में शास्त्रीय गायक- पं. विष्णु दिगम्बर पलुस्कर, रवीन्द्र जैन सरीखे गायक हुए हैं। रवीन्द्र जैन जी भी एक ऐसी ही विभूति हैं जो बचपन से ही दृष्टिहीन हैं परन्तु उनको ऐसे दिव्य चक्षु संगीत और काव्य के रूप में प्राप्त हैं जिसके आगे सारा संसार "नत-मस्तक" है। चित्रपट के क्षेत्र में जिन्होंने संगीत निर्देशन व गायन के साथ-साथ लेखन के क्षेत्र में भी अपनी कला का लोहा मनवाया है। इस "त्रि-आयामी" कला में रवीन्द्र जैन जी का नाम अग्रणी स्थान पर है।

रवीन्द्र जैन जी का जीवन परिचय / बाल्यकाल / शिक्षा-दीक्षा

संगीत निर्देशक श्री रवीन्द्र जैन जी का जन्म- 28.02.1944 को अलीगढ़ में कनवरीगंज मार्ग पर उत्तर प्रदेश के एक सभ्यांत जैन परिवार में हुआ। उनके पिता श्री इन्द्रमणि जैन व्यवसाय से एक वैद्य एवं उनकी माता श्रीमती किरणदेवी एक कुशल गृहणी थीं। रवीन्द्र जैन जी के सात भाई और एक बहिन है। रवीन्द्र जैन जी का क्रम अपने भाई-बहिनों में चौथा था। जन्म से ही उनकी आँखें बंद थीं जिसे पिता के मित्र डॉ. मोहनलाल ने सर्जरी से खोली साथ ही यह भी कहा कि बालक की आँखों में रोशनी कम है और धीरे-धीरे बढ़ सकती है। इसे कोई काम ऐसा मत करने देना जिससे आँखों पर जोर पड़े। पिता ने डॉक्टर की नसीहत को ध्यान में रखकर संगीत की राह चुनी। जिसमें आँखों का कम उपयोग होता है। अपने पिता तथा भाई की आज्ञा शिरोधार्य कर मन की आँखों से सब कुछ जानने समझने की सफल कोशिश की। बड़े भाई से आग्रह कर उनके उपन्यास सुने। कविताओं के भावार्थ समझे। धार्मिक ग्रन्थों तथा इतिहास पुरुषों की जीवनियों से जीवन का मर्म समझा। बचपन से ही कुशाग्र बुद्धि के रवीन्द्र जैन जी सुनी हुई बात को कण्ठस्थ कर लेते जो हमेशा उन्हें याद रहती। रवीन्द्र जैन जी जन्मजात दृष्टिबाधित थे। परन्तु उनके माता पिता ने कभी भी उनको हीन भावना से नहीं देखा। और उन्होंने अलीगढ़ के ब्लाइण्ड स्कूल से पढाई की और चार साल की आयु से ही उनके पिता ने उनके लिये संगीत की शिक्षा की व्यवस्था कर दी। रवीन्द्र जैन जी को उनके पिता ने एक छोटा हारमोनियम भी लाकर दिया। रवीन्द्र जैन जी को बचपन से ही भजन गाना सिखाया। परिवार के धर्म, दर्शन और आध्यात्मिक माहौल में उनका बचपन बीता। प्रतिदिन मंदिर जाते और वहाँ एक भजन गाकर सुनाना उनकी दिनचर्या बन गया। उसके बदले में भजन गाने पर उनके पिता उन्हें एक रूपया ईनाम के रूप में दिया करते थे। उस समय एक रूपये की बहुत कीमत थी।

रवीन्द्र जैन जी को प्रारम्भिक गुरु के रूप में घमण्डीलाल जी जैन का सान्निध्य प्राप्त हुआ। श्री रवीन्द्र जैन जी को अपने प्रारम्भिक गुरु की छत्र-छाया बहुत ही कम समय के लिये मिली। प्रथम

गुरु घमण्डीलाल जी से धुन बनाने का अर्थात् रचना करने का जो संस्कार उनमें है वह रवीन्द्र जैन जी को प्रथम गुरु से प्राप्त हुआ। संगीत के इसी मार्ग पर चलते-चलते रवीन्द्र जैन जी का परिचय पं. जनार्दन शर्मा से हुआ। उनका गायन सुनने के बाद पण्डित जी बहुत प्रसन्न हुए। पण्डित जी ने अपने शब्दों में कहा—सिर्फ नकल करने से बात नहीं बनती, कुछ अक्ल भी पास होनी चाहिये। उन्होंने कहा—“जो तुम गा रहे हो, उसकी स्वर लिपि समझो, स्वरों को पहचानो। वरना तुम्हारे पास अनमोल हीरे—मोती होते हुए भी सिर्फ उनकी जगमगाहट देखते रह जाओगे”। हर गुरु का विद्या देने का तरीका या शैली अलग-अलग होती है। पण्डित जी के सिखाने का तरीका भी कुछ अलग हटकर था। रवीन्द्र जैन जी के तीसरे और अंतिम गुरु थे—नाथूराम जी। जो अनुशासन प्रिय एवं कड़े इंसान थे। नाथूराम जी ने रवीन्द्र जैन जी को “संगीत प्रभाकर” की उपाधि दिलवाई।

रवीन्द्र जैन जी के जीवन में तीन गुरुओं के आगमन और धर्म, दर्शन और आध्यात्मिक माहौल में उनका बचपन बीता। जैन समाज और अलीगढ़ इन दो शक्तियों के सहारे रवीन्द्र जैन जी का जीवन आगे चलकर जगमग बन गया।

जन्मभूमि से कर्मभूमि—

रवीन्द्र जैन जी ने कलकत्ता तथा वहाँ के रवीन्द्र संगीत के बारे में काफी सुन रखा था। जब श्री पदमकुमार जैन, जी ने इनके समक्ष कलकत्ता जाने का प्रस्ताव रखा तो रवीन्द्र जैन जी रवीन्द्र संगीत के पीछे पागल होने के कारण अपने आप को रोक नहीं पाए। और कलकत्ता जाने का प्रस्ताव अपना लिया। श्री रवीन्द्र जैन जी ने अपने साथ अपने प्रमाण—पत्रों की फाइल पिताजी के आशीर्वाद स्वरूप पचहत्तर रुपये और माँ की ममता स्वरूप दाल—चावल की पोटली अपने बड़े भाई के साथ कलकत्ता जाने वाली कालका मेल में सवार हो गए। इस प्रकार श्री रवीन्द्र जैन जी ने कलकत्ता में संगीत के क्षेत्र में अपने जीवन का आरम्भ किया। फिल्म निर्माता श्री राधेश्याम झुनझुनवाला के जरिये रवीन्द्र जैन जी को संगीत सिखाने की एक ट्यूशन मिली। एवं पहली नौकरी बालिका विद्या भवन में चालीस रुपये महीने पर लगी। इस शहर में उनकी मुलाकात पण्डित श्री मणिरत्नम से हुई। नई गायिका हेमलता से उनका परिचय हुआ। वे बांग्ला तथा अन्य भाषाओं में मिलकर धुनों की रचना करने लगे। हेमलता से नजदीकियों के चलते उन्हें ग्रामोफोन रिकार्डिंग कम्पनी से ऑफर मिलने लगे। एक पंजाबी फिल्म में हारमोनियम बजाने का मौका मिला। सार्वजनिक मंच पर प्रस्तुति के एक सौ इक्यावन रुपये तक मिलने लगे। इस सिलसिले में वे श्री हरिभाई जरीवाला (संजीव कुमार) के सम्पर्क में आए। कलकत्ता का यह पंछी उड़कर मुम्बई आ गया।

सपनों की नगरी मुम्बई—

इस प्रकार रवीन्द्र जैन जी ने एक लम्बे समय तक कलकत्ता में अपना एक अलग स्थान बनाकर ख्याति अर्जित की। रवीन्द्र जैन जी का लक्ष्य कलकत्ता नहीं था। इसी कारण वे प्रतीक्षा कर रहे थे उस सुनहरे लक्ष्य का जहाँ से उनका स्वर्णिम भविष्य प्रारम्भ होना था। अर्थात् हिन्दुस्तान की सुप्रसिद्ध फिल्म नगरी मुम्बई में प्रवेश। सन् 1968 में दुर्गापूजा की छुट्टियों में राधेश्याम जी के साथ मुम्बई आ गए। अपने जीवन को एक नया मोड़ देने के लिये रवीन्द्र जैन जी मुम्बई के लिये तन और मन दोनों से तैयार हो गए। उनका पहला फिल्मी गीत 14 जनवरी, 1972 को सुप्रसिद्ध गायक मोहम्मद रफी साहब की आवाज में रिकॉर्ड हुआ। गीत के बोल थे— “ये सिलसिला है प्यार का, चलता ही रहेगा” इसके बाद फिल्म लोरी के लिये श्री रवीन्द्र जैन जी ने स्वर कोकिला लता मंगेशकर जी से चार गीत गवाए और एक गीत लता मंगेशकर जी और आशा भोंसले जी से गवाया। श्री रवीन्द्र जैन जी के संगीत निर्देशन में जो पहली फिल्म रिलीज हुई वह थी—“कॉच और हीरा” इस फिल्म में

श्री रवीन्द्र जैन जी ने सुप्रसिद्ध गायक मोहम्मद रफी साहब से एक और गीत गाया जिसके बोल थे—“नजर आती नहीं मंजिल”।

रवीन्द्र जैन जी एवं महानायक श्री अमिताभ बच्चन जी के शुरुआती दौर में सन् 1973 में राजश्री प्रोडक्शन फिल्म—“सौदागर” ने रवीन्द्र जैन जी की किस्मत के दरवाजे खोल दिये। इस फिल्म के गीत—“तेरा—मेरा साथ रहे” और “सजना है मुझे सजना के लिये” आज भी गुनगुनाए जाते हैं। जिस तरह रवीन्द्र जैन जी के पारम्परिक गीतों ने आम जनता में प्रसिद्धि प्राप्त की है, उसी तरह शास्त्रीय संगीत जो आम जनता की पहुँच से बहुत दूर है, उसे भी इतने सरल, आकर्षक व मनोरंजन से लबालब करके प्रस्तुत किया। कि उन गीतों को संगीत पारखियों के अलावा आम जनता ने भी खुले हृदय व खुले मस्तिष्क से अपने दिल और दिमाग में बैठाया।

इसके अलावा चित्रपट के क्षेत्र में भी श्री रवीन्द्र जैन जी एक ऐसे संगीतकार थे। जिन्होंने संगीत निर्देशन व गायन के साथ—साथ लेखन के क्षेत्र में भी अपनी कला का लोहा मनवाया है। इस त्रि-आयामी कला में रवीन्द्र जैन जी का नाम अग्रणी स्थान पर है। रवीन्द्र जैन जी एक ऐसी विभूति थे जो बचपन से ही दृष्टिबाधित थे परन्तु उनको ऐसे दिव्य चक्षू संगीत और काव्य के प्राप्त थे जिसके आगे सारा संसार नत—मस्तक है। शास्त्रीय गजल, भजन, तुमरी व लोकगीत इत्यादि का सम्मिलित रूप सुनने को मिलता है। उनके द्वारा दिये गए गीत व मधुर संगीत को सुनकर सहज ही विश्वास नहीं होता कि वे बचपन से ही दृष्टिबाधित थे। रवीन्द्र जैन जी के विषय में ज्यादा क्या कह सकते हैं ? उनके लिये कुछ भी कहना “सूरज को दिया दिखाने” के समान है। वे तो ज्ञान के महासागर थे। किसी भी अवसर पर वे तुरंत उस मौके के गीत को लिखकर तुरंत संगीतबद्ध कर देते थे। यह गुण हर किसी में नहीं होता, इसलिये अगर रवीन्द्र जैन जी को संगीत का सिद्धहस्थ कलाकार कहा जाए तो अतिशयोक्ति नहीं होगी। श्री रवीन्द्र जैन जी को हम साक्षात् सरस्वती—पुत्र भी कह सकते हैं। संगीत सम्राट पद्मश्री अवार्ड से पुरस्कृत श्री रवीन्द्र जैन जी कई विलक्षण प्रतिभाओं के धनी थे। श्री रवीन्द्र जैन जी का सांगीतिक योगदान—

आज के संगीत जगत में चित्रपट संगीत का स्थान बहुत महत्वपूर्ण है। इसका क्षेत्र बहुत व्यापक है। चाहे लोक—संगीत हो, पाश्चात्य संगीत हो, शास्त्रीय संगीत हो अथवा उपशास्त्रीय संगीत। सबको आत्म—सात करने की क्षमता चित्रपट संगीत में ही है। इस कारण चाहे बृज का लोक—संगीत रहा हो, या राजस्थान का, गजल हो या भजन, टप्पा हो या तुमरी हर चीज चित्रपट संगीत में उचित स्थान पर प्राप्त हो जाती है। चित्रपट एक ऐसा दर्शन है, जिसमें समाज की अनेकानेक उपलब्धियों व समस्याओं को एक कहानी के रूप में दर्शाया जाता है। इस कार्य को अनेकों गीतकार एवं संगीतकार करते हैं। इनमें ही एक श्रेष्ठ नाम गीतकार व संगीतकार श्री रवीन्द्र जैन जी का है। जो एक सफल संगीत निर्देशक तो हैं ही, साथ ही एक उच्च कोटि के कवि व गीतकार भी हैं। 60 के दशक से चित्रपट संगीत को श्री रवीन्द्र जैन जी द्वारा अपनी उच्च कोटि की कला को जन—जन तक पहुँचाने के लिये और उनके अंदर छिपी प्रतिभा को उजागर करने के लिये उनके परिवार ने भी उनको मुम्बई जाने के लिये प्रेरित किया। श्री रवीन्द्र जैन जी 19 सितम्बर 1969 को सदा के लिये मुम्बई आ पहुँचे। श्री रवीन्द्र जैन जी का धारावाहिक एवं गैर फिल्मी भजनों का गायन—

धारावाहिकों में गीत रचना— श्री रवीन्द्र जैन जी ने लगभग 100 से अधिक फिल्मों में गीत लिखने के साथ—साथ देश—विदेश में भारतीय संस्कृति एवं धर्म को रामायण, श्री—कृष्णा, जय हनुमान, महाभारत (संजय खान द्वारा निर्मित) एवं अलिफ लैला आदि धारावाहिकों द्वारा रवीन्द्र जैन जी के गीत विश्व के लाखों करोंडों घरों की पहचान बन गए। रामायण हिन्दुओं का पवित्र एवं शिक्षाप्रद

महाकाव्य है। तुलसीकृत रामायण के छोटे-छोटे प्रसंगों को सरल भाषा के द्वारा जन-जन तक पहुँचाने का कार्य धारावाहिक के माध्यम से अपने गीतों के द्वारा रवीन्द्र जैन जी ने किया है।

रवीन्द्र जैन एक ऐसे प्रेरणादायक व्यक्तित्व थे जिन्होंने अपनी मधुर आवाज से टी.वी. पर प्रसारित होने वाले रामानन्द सागर कृत रामायण में चौपाइयों और गीतों को अपने सुरों से ऐसा सजाया जिसे सुनकर हर इंसान भाव-विभोर हो जाता है। जिन्हें हम आज भी गुनगुनाते हैं। यूँ तो रामायण धारावाहिक में कई गायकों ने अपनी आवाज दी है लेकिन सबसे ज्यादा जिनकी आवाज मन में बसी वो रवीन्द्र जैन ही थे। मधुर धुनों का लम्बा सिलसिला उनके नाम से जुड़ा हुआ है। उन्होंने फिल्मी दुनिया को सुरीले नगमों की सौगात उस दौर में दी जब फिल्मों में बढती हिंसा ने संगीत के लिये गुंजाइशें कम कर दी थीं। ऐसे ही दौर में उभरे रवीन्द्र जैन एक ऐसी शख्सियत का नाम था जिसमें संगीतकार, गीतकार और गायक के रूप में हिन्दी सिनेमा को बेशुमार सदाबहार गाने दिये।

दर्शकों और श्रोताओं के अनुरोध पर डी.आर. प्रोडक्शन की शुरुआत हुई जिसके तहत आर. जे. सीरीज कैसेट और सी.डी. का निर्माण प्रारम्भ हुआ। जिसमें प्रसारित की गई। जय जय श्री राम, मंगल भवन अमंगल हारी, जय जय श्री कृष्णा, जय श्रीकृष्ण हरे हरे, मेरे महावीर, जय बाहुबली, नमों श्री गणेश कैसेट व सी डी काफी प्रसिद्ध हुई।

संगीत सम्राट उपाधि से भी श्री रवीन्द्र जैन को विभूषित किया गया। तथा देश और विदेश में अपने लाईव शो के जरिये भी वे अपने चाहने वालों से रू-ब-रू होते रहे। रवीन्द्र जैन की विशेषता यह थी कि त्वरित रचना का सृजन कर दिया करते थे।

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श्री रवीन्द्र जैन जी द्वारा धारावाहिक, फिल्मी, गैर-फिल्मी जैसे सांगीतिक अतुलनीय योगदानों को हम कभी नहीं भूल पाएंगे वे सदैव आत्मसात रहेंगे। उनके विषय में ज्यादा क्या कहना ? उनके लिये कुछ भी कहना सूरज को दिया दिखाने के समान है। वे तो ज्ञान के महासागर थे। संगीत सम्राट पद्मश्री अवार्ड से पुरूस्कृत श्री रवीन्द्र जैन जी कई विलक्षण प्रतिभाओं के धनी थे। किसी भी अवसर पर वे तुरन्त उस मौके के गीत को लिखकर, संगीतबद्ध कर देते थे। यह गुण हर किसी में नहीं होता। स्वर-रचना करना, पद-रचना करना, त्वरित-रचना का सृजन करना ऐसे दीप चक्षु संगीत एवं काव्य के प्राप्त थे। जिनके आगे सारा संसार नत-मस्तक है।

संगीत सम्राट पद्मश्री अवार्ड से पुरस्कृत श्री रवीन्द्र जैन जी की मृत्यु-

संगीत निर्देशक रवीन्द्र जैन जी 71 वर्ष की आयु पूरी कर दिनांक 09/10/2015 को एक महान संगीत सम्राट का निधन हो गया। फिल्मी दुनिया से छुट्टी मिलने के बाद रवीन्द्र जैन श्रीमद् भगवत गीता सामवेद, उपनिषदों का सरल हिन्दी अनुवाद कर रहे थे लेकिन वक्त ने साथ ही नहीं दिया। कुछ सालों से किडनी की बीमारी से उनके सृजन पर गहरा असर डाला और इस बीमारी की वजह से अचानक तबियत खराब होने पर चिकित्सकों द्वारा किये गए उपचार के दौरान लगभग 24 घण्टे वैण्टीलेटर पर रखने के उपरान्त इस महान संगीतकार का निधन हो गया। वे शिक्षा दे गए कि अगर “दृढ निश्चय” रखा जाए तो शारीरिक रूप से असक्षम होने के बाद भी सफलता प्राप्त की जा सकती है। इस प्रकार बचपन से ही दृष्टिबाधित होने के बाद भी संगीत की दुनिया को इन्होंने जो नायाब नगमे दिये वे हमेशा के लिये अमर रहेंगे।

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