EMERGING TRENDS AND TECHNOLOGIES IN THE AREA OF I.T., SCIENCE, SOCIAL SCIENCES, COMMERCE AND MANAGEMENT (ICET-2020)

Editors

Dr. A. K. Gupta,
Prof. Ajay Jain,
Dr. S. K. Jain,
Dr. Priyadarshini Agnihotri,
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Editors

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SOME THEOREMS FOR CONTRACTIVE MAPPINGS IN BANACH SPACES

Dr. Sushanshu Shekhar
M.Phil., Ph.D. (Physics), Department of Physics, Jai Prakash University, Chapra

Abstract - In this paper we study on some theorems for contractive mappings in banach spaces. We observe that it is possible to improve every theorem involving for contractive mappings. It was shown in a that certain contractive conditions can be reduced to the pair wise contractive condition

$$||gf(x) - f(x)|| \leq \alpha||f(x) - x||$$

$$(+)||fg(x) - g(x)||\beta||g(x) - x||.$$

Keyword: Contractive, Nonnegative, Consequently, Converges.

1 INTRODUCTION & CORE AREAS

We need the following

Lemma. Let f and g be mappings of an L-space (X,→) into itself, and D a nonempty family of nonnegative extended real valued functions on X×X. Suppose that there exists a point x0∈X satisfying the following conditions :

$$(\infty)||f(x_0) - x_0|| < \infty \text{ for all } ||.|| \in D.$$

(0) There exist functions α,β of D into [0, 1] such that, for all ||.||∈D and x∈0 x0,gf,

$$||gf(x) - f(x)|| \leq \alpha(||)||(f(x) - x)||$$

$$||fgf(x) - gf(x)|| \leq \beta(||)||gf(x) - f(x)||.$$

Then the sequence {xn}n∈ω defined by (*) x2n= gf n(x0) and x2n+1=f(x2n) for all n∈ω satisfies inequality

$$\sum_{n=0}^{\infty} ||x_{2n+1} - x_n|| < \infty$$

for all x−y ∈D; consequently if (X,→) is x0, D, f, g -complete, then the sequence {xn}n∈ω converges to a point in 0 x0,gf , the closure of the set 0(x0,gf)

PROOF. Let ||x−y|| be in D. Then for each positive integer n, we have

$$||x_{2n+1} - x_{2n}|| = ||fgf(x_{2n-2}) - gf(x_{2n-2})||$$

$$\leq \beta(||x - y||)||gf(x_{2n-2}) - f(x_{2n-2})$$

$$\leq \alpha(||x - y||)\beta(||x - y||)||(f(x_{2n-2}) - x_{2n-2})||$$

$$=\leq \alpha(||x - y||)\beta(||x - y||)||(x_{2n-2} - x_{2n-2})||$$

and hence

$$||x_{2n+2} - x_n|| \leq (\alpha(||x - y||)\beta(||x - y||)^n||x_1 - x_0||)$$

Therefore, for each n∈ω,

$$||(x_{2n+2} - x_{2n+1}|| \leq ||gf(x_{2n}) - f(x_{2n})||$$

$$\leq \alpha(||x - y||)||f(x_{2n}) - x_{2n}||$$

$$\leq \alpha(||x - y||)(\alpha(||x - y||)\beta(||x - y||)^n||x_1 - x_0||$$

It follows that $\sum_{n=0}^{\infty} ||x_{n+1} - x_n|| < \infty$

Theorem 1. bet f and g be mappings of an L-space (X,→) into itself, and D a non-empty separating family of nonnegative extended real valued functions on X×X. Suppose that there exists a point x0∈X satisfying the conditions ∞ , 0 , and (c) (X,→) IS (x0, D, f, g)-complete.

Then the following statements hold:
1⁰ If for each ||x−y||∈D, there exists a d-fixer φ||x−y|| on X such that

$$\varphi||x - f(x)||, ||f(y) - gf(y)|| \geq 0$$

for all x∈0 (x0,gf) and y∈0(x0,gf) with

$$||(x - f(x) \neq 0 \text{ or } ||(f(y) - gf(y))|| \neq 0$$

then the sequence {xn}n∈ω defined by (*) converges to a coincident point of f and g.

2⁰ If for each d∈D, there exists a ||.||-fixer on X such that

$$\varphi||x - f(x)||, ||f(y) - gf(y)|| \neq 0$$

for all x, y ∈ X and that φ||x, x,−y, y||≥0 implies || x−y ||=0, then the sequence {xn}n∈ω defined by (*) converges to a coincident point of f and g which is a non-variant of f.

$$\varphi_{||.||}\, ||x, f(x) - y, g(y)|| \geq 0$$

for all x, y ϵ X and that φ||.|| | x,x−y,y| ≥0 implies ||x−y||=0, then the sequence {xn}nϵω defined by (*) converges to a unique invariant point of f which is also a invariant point of g.

Proof. By Lemma, the sequence converges to a point a in the set 0 x0, gf. In order to prove 10, suppose f (a) ≡ a, then ||a−f a ||≠0 for some dϵD. Hence,

$$\varphi_{||.||}\,||a - f(a)||, x_{2n+1}, x_{2n+2}) = \varphi_{||.||}\,(a, f(a), f(x_{2n}), gf(x_{2n})) \geq 0$$

for all nϵω. Since $X_{2n+2} \to a$, $X_{2n+2} \to a$ and since d $(X_{2n+2}, X_{2n+1}) \to 0$ by

Lemma, we have

$$\varphi_{||.||}\,(a, f(a), a, a) \geq 0$$

Which yields ||a−f a ||=0, a contradiction. Therefore f (a) = a. Suppose g(a) ≠a.
Then ||f a−gf a ||=||a−g a ||≠0 for some dϵD, and so we have

$$\varphi_{||.||}\,(a, a, a, g(a)) = \varphi_{||.||}\,(a, f(a), f(a), gf(a)) \geq 0$$

which gives ||a−g a ||=0. This contradiction establishes g(a) = a.

From 1^0 it follows that, under the hypothesis of 2^0, a is a common fixed point of f and g. Hence, to prove 2^0, it suffices only to show that a is a unique fixed point of f. Let b ∈ X be a fixed point of f. Then for all d ∈ D, we have

$$\varphi_{||.||}\,(b, b, a, a)\varphi\,(b, f(b).f(a), gf(a)) \geq 0$$

which implies ||(b−a||=0, Thus a=b.

By virtue of 2^0, to establish 3^0, we have only to prove that is a unique invariant point of g. Let bϵX be invariant point of g.

Then for all ||.||ϵD, we have

$$\varphi_{||.||}\,(a, a, b, b) = \varphi_{||.||}\,(a, f(a), b, g(b)) \geq 0$$

Hence ||a−b||=0 for all ||.||ϵD. Thus a=b. Thus completes the proof.

By a pseudo-o-metric on a set X, we mean a nonnegative extended real valued function

$$||.|| \text{ on } X \times X, \text{ such that } ||x - r|| = 0 \text{ for all } x \in X.$$

Theorem 2. Let f and g be mappings of an L-space (X,→) into itself, and D a nonempty separating family of pseudo-o-metrics on X such that the

function x→||a−x|| is continuous for each d, a ∈D×X. Suppose ∞, 0, and (c) hold for some x0∈X and suppose for ||.||∈D, there exist a φ||.|| ∈[0,∞] and a d-fixer on X such that

$$\varphi_{||.||}\,||x, f(x) - y, g(y)|| \geq 0$$

for all x, p∈ 0 (x0.gf) with ||x−y||<$\varphi_{||.||}$ and either ||x−f x ||≠0 or || $\varphi_{||.||}$ | y−g y | ≠0. Then the sequence {xn} n∈ω defined by (*) converges to a coincident point of f and g.

Proof. By Lemma, $\{x_n\}_{n\in\omega}$ converges to a point $a \in \bar{0}(x_0.gf)$. Suppose $f(a) \neq a$. Then $||a - f(a)|| \neq 0$ for some $d \in D$. Since $X_{2n+1} \to a$ and the function $x \to ||a - x||$ is continuous, we have $||a - x_{2ni+1}|| \to ||(a - a)|| = 0$ for some subsequence $\{x_{2ni+1}\}_{i\in\omega}$ of $\{x_{2n+1}\}_{n\in\omega}$. Hence we can choose a $k \in \omega$ such that $||a - x_{2n+1}|| < \rho_d$ for all $i \geq k$. Put $u_i = x_{2n_{k-i^{+1}}}$ and $v_i = x_{2n_{k+i^{+2}}}$ for all $i \in \omega$. Then $||v_i - u_i|| \to 0$ by Lemma, and $\varphi_{||.||}\,||a - f(a)||, u_i - v_i|| = \varphi_{||.||}\,||a - f(a), u_i - g(u_i)||$ for all $i \in \omega$. So we have $\varphi_{||.||}\,||a - f(a), a - a|| \geq 0$ which implies a contradiction $||a - f(a)||0$.Therefore, $f(a) = a$. Suppose $g(a) \neq a$. Then we have $||a - g(a)|| \neq 0$ for some $||.|| \in D$. Since $||a - a|| = 0 < \rho_d$, we have

$$\varphi_{||.||}\,(a, a, a, g(a)) = \varphi_{||.||}\,||a - f(a), a - g(a)|| \geq 0$$

Which gives a contradiction ||a−g a ||=0. Therefore, g(a) = a.

Moreover, we have the following result which is similar to Theorem 1.

2 CONCLUSION

In the above study it has been tried to furnish the important results in this area and further scope for the study in future.

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A STUDY OF PROBLEM OF ALIENATION AMONG TODAY'S YOUTH

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Abstract: Youth is the future of any nation, an asset towards future. Youth period is very energetic in human being and their demands and expectations are very high for the future. They need proper care and guidance because they seek special attention from every one. Due to lack of proper love, care and guidance, they start becoming pessimistic. They feel alienated among their well-wishers. The need is to understand their problems and complexities and the problem of alienation during the youth period. From educational point of view, for a teacher it is very necessary to understand the problems of their students and help them in facing the problem during this period. Therefore, this paper aims to understand the problem of alienation, its causes and rising complications in today's youth. Furthermore, it makes some recommendations to overcome this problem of alienation.
Keywords: Alienation, Isolation, Seclusion, Alienated Youth, Pessimism.

1. INTRODUCTION

Alienation is an intricate, yet common state. Being both sociological and psychological, it can have an effect on health and intensify prevailing medical conditions. Alienation is a significant concept in sociology, that refers the thought in the works of the great German philosopher and activist, Karl Marx. In his early works, he used the perception of alienation to depict the condition of humankind under capitalism, a condition that Brecht's phrase clears in few words 'man can only live by forgetting that he is a human being'.

As the perception of alienation has passed into everyday use, its meaning has budged and has come to mean frustration, disappointment and disconnection. Some time it has been used to allocate all sorts of negative attitudes that are there in an individual being or in society. Its place can be found in all social sciences like Theology, Psychology and in Philosophy and Literature too. The term 'Alienation' has been described in different ways by theorists, philosophers, psychologists, and sociologists referring different psycho-social disorders, including self-rejection, anxiety, anomie, desolation, depersonalization, indifference, social incompetence, isolation, atomization, helplessness, worthlessness, segregation, pessimism, cynicism and the loss of values or ethics.

Alienation is a vague concept and its intricacies seem difficult to comprehend. It was sometime synonymed with anomia. However theorists of alienation have generally distinguished between social condition and therefore the response of people to those conditions. Alienation usually refers to the later, while the term 'anomie' describes a

social state where conditions of normlessness or the breakdown of social rules are identifiable. The Sociologists have differentiated between anomie and alienation. They defined anomie solely as a social occurrence whereas alienation is entirely a subjective phenomenon concerted to a being.

The Encyclopaedia Britannica has depicted alienation as the condition of feeling estranged or separated from one's surroundings, work, work products, or self, with such variants as powerlessness (the feeling that destiny is powerful, and so man is helpless before his fate), meaninglessness (a sense of worthlessness), cultural estrangement (the sense of exclusion from customary social values and ethics) and self-estrangement (feeling that the individual is out of touch with himself in one way or another).

2. ALIENATION IN TERMS OF EXISTENTIALISM

Existentialism is regarded as the third force of psychology which rounds around the individual's personality. The existentialists are of the view that it is a disconnection of a person from real self, due to concern for others and following the dictates of social institutions. According to Kierkegaard; man's being is dependent on a ceaseless strain between survival and essence, and turns to alienation resulting in dependency upon others, the loss of freedom, and the personification of idealism. While as JP Sartre adds to this existential and philosophical portrayal of alienation between people. He thought that the way to protect a person from alienation was in reliable subsistence where he/she makes a major assertion of his/her own choice and free will (JP Sartre, 1946).

Existentialism says that the state of alienation gets rooted in the man's nature to an extent that the man realizes the worthlessness of the world and makes a lot of efforts to come out of his state but finds himself unable to overcome this situation and to run from his pre-destined fate. Furthermore, according to Satre and Albert Camus, the person who suffers alienation feels himself as a lonely being, universe has no meaning for him, refusing to accept the truths of life, and his own life becomes a burden and painful (JP Sartre, 1946). Likewise, Finkelstein says that every person emerges from emptiness and progresses through his life towards the certain emptiness which waits for him at last, the death. (SWFinkelstein, 1967).

3. DIMENSIONS OF ALIENATION

There have been five dimensions mentioned that encompass alienation; powerlessness, meaningless, normlessness, social isolation and self-estrangement. These five dimensions of alienation are used as a guideline for teachers to assess how probable it is that their students are already alienated or on the way to becoming so (Mau, 1992).

All the above mentioned dimensions of alienation are described in detail as follows:

3.1 Powerlessness

Powerlessness is when individuals believe what happens in their lives is outside of their control and that what they do ultimately does not matter. They believe they are powerless to shape their life course. Seeman has defined alienation technically as "the expectancy or probability held by the individual that his own behaviour cannot determine the occurrence of the outcomes, or reinforcements, he seeks." Seeman argues that this is "the notion of alienation as it originated in the Marxian view of the worker's condition in capitalist society: the worker is alienated to the extent that the prerogative and means of decision are expropriated by the ruling entrepreneurs". (softpanorama.org)

3.1.1 Self-image

Many people develop in them a self-image of powerlessness. They believe that they cannot accomplish anything, so there arises the need to ask for other's consent before taking any action (I am not permitted to take decisions). It may also come from a self image of being unable to achieve goals (I do not have the skill or knowledge to do anything). It has been found that low self-image cripples an individual that he is not able to take any initiative in his life. Furthermore, the powerless people tend to drool over the unattainable things.

3.1.2 Fear of failure

Fear of failure is another cause of powerlessness that is mostly based in the fear of harassment and denial and may be related to the paranoid-schizoid position. The person imagines himself a failure in future and imagines other people criticizing, snubbing and shunning him. All this results in the feelings of shame, remorse and aloneness.

3.1.3 Internal conflict

Internal conflict can lead to powerlessness, for example where a manager wants to discipline an employee but also wants to be liked -- the result can be a stasis of inaction.

3.1.4 The power of powerlessness

Strangely, powerlessness is a form of power. If one feels powerless, then he gains the power to seek other's help. He can pose himself powerless like a little kid and then seek help from adults. The beggars uses powerlessness to convince others that they are of lower status and are in dire need of money. They can never be threat to anyone due to their low status. That is why beggars often sit on the floor and lower themselves.

3.2 Meaninglessness

Seeman defines meaning as "the individual's sense of understanding events in which he is engaged". Seeman writes that meaninglessness "is characterized by a low expectancy that satisfactory predictions about the

future outcomes of behavior can be made." Powerlessness is related to the sensed capability to have power over outcomes, and meaninglessness relates to the sensed capability to envisage outcomes. This way, meaninglessness is closely related to powerlessness. Seeman argues, "The view that one lives in an comprehensible world might be a prerequisite to expectancies for control; and the unintelligibility of complex affairs is presumably conducive to the development of high expectancies for external control". (webseitz.fluxent.com)

3.3 Normlessness

Normlessness refers to the lack of any appropriate norms or standards. Normlessness, for what Durkheim has used the term 'Anomie', describes the state in which the social conventions and standards that control individual's conduct or behavior are violated and prove ineffective. This results in alienation, isolation, seclusion and devocalization at both personal as well as social levels. Individuals turn to socially undesirable actions to fulfill their ambitions, and lose the sense of right and wrong.

3.4 Social Isolation

Social isolation is a state in which the individual loses contact with society entirely or almost entirely. The individual rejects offers of friendship from his age-mates or elders. It can be found in the individuals of any age group, but the symptoms are different for different age groups.

Social isolation has identical characteristics in both short-term instances and for those with a historical lifelong isolation cycle. All types of social isolation includes - stay home for long time, no interaction and communication with any family member, any acquaintance or friend, and avoid contact with others deliberately, even if any chance occurs.

3.5 Self-estrangement

Self-estrangement is a vague concept in social sciences. It refers the lack of contact between the individual's cognizant and his actual life. It is "the alienation of man's essence, man's loss of objectivity and his loss of realness as self-discovery, manifestation of his nature, objectification and realization" (Karl Marx, 1844). The person feels alienated from others and society as well. He feels estranged by his work by feeling his work meaningless, thereby losing his sense of self at the place of work. Self-estrangement contributes to complete exhaustion at work and a lot of mental and psychological strain.

4. CAUSES OF ALIENATION

There can be several causes of alienation ranging from psychological disorders to social situations.

4.1 Causes concerning health

Psychological or physical condition can cause alienation. Possible health-related causes are:

- Psychological disorders like anxiety, nervousness, obsessive compulsive disorder, and schizophrenia
- PTSD (Post-Traumatic Stress Disorder)
- self-denial or self-rejection due to mental disorder
- Chronic physical pain

4.2 Social Causes

Social causes can include a change in environment (due to change in school or job, marriage). Change in environment can make the people feel disconnected from others, their environment, or themselves even.

4.3 Job-concerning causes

When a person feels estranged at his workplace, work alienation happens. This disconnection may cause dissatisfaction and a feeling of alienation from his work, from his colleagues, from the environment, or from himself too.

4.4 Parental causes

Parental alienation occurs when a parent shows negative, strange and alienating behavior towards his/her child. It describes a psychiatric disorder in children, particularly in the divorce cases. Sometimes it can be an explanation for a child's refusal to visit a parent. Rejection of a parent has multiple factors. These can include interactions from both parents and feelings of vulnerability from the child.

4.5 Early Childhood Experiences

Alienation can occur in any individual if he has terrible experiences in his early childhood or in his growing up such as attachment to a parent or caregiver in early childhood, big changes in child's comfort zone, bullying or peer victimization, any kind of harassment in his growing up. But, alienation is considered a warning sign if it goes along with other disorders, such as a phobia or a personality disorder.

5. COMPLICATIONS OF ALIENATION

Feeling alienated can give rise to several kinds of social problems such as drug or alcohol abuse, truancy, criminal activity, poor school or work performance

Alienation can also add to symptoms of psychological and physical disorders such as anger and depression, health effects from drug or alcohol abuse, eating disorders, suicidal attempt.

5.1 Hypotheses

- There is no significant difference between the alienation among male and female B. Ed. students.
- There is no significant difference between the alienation of the rural and urban B. Ed. students.
- There is no significant difference between the alienation of the rural and urban male B.Ed. students.
- There is no significant difference between the alienation of the rural and urban female B.Ed. students.

5.2 Delimitations of the Study

- The study was delimited to Sirsa district.
- The study was delimited to 100 students of B. Ed. colleges.
- The study was delimited to only one variable i.e. alienation

6. RESEARCH METHODOLOGY

The descriptive survey method was used for the present study. The sample was 100 students (25 urban boys + 25 rural boys + 25 urban girls + 25 rural girls) of B.Ed. colleges of Sirsa district. The sample was selected randomly.

6.1 Tool Used and Scoring

For the present study, Students Alienation Scale, developed by **Dr. R.R. Sharma,** Education Department, University of Garhwal Sri Nagar was used. There are 54 items in the Student Alienation Scale. The respondents have to response in agree and disagree. Each agreed statement carries the value of 1 mark and each disagreed statement carries no mark. Sum of the total in five dimensions give the total Alienation score on the scale. Therefore, on the total scale highest mark is 54 and lowest is zero. The score of the scale can be used dimension-wise as well as in total. The location of items on different dimensions has been given in the following table.

Table 1

Dimensions	**S. No. of Items**
Powerlessness	1, 5, 9, 12, 17, 19, 23, 28, 41
Isolation	2, 6, 13, 18, 20, 24, 29, 33, 37
Self-estrangement	3, 10, 14, 21, 25, 30, 34, 36, 38, 42, 45, 46
Meaninglessness	4, 7, 11, 15, 26, 31, 39, 43
Normlessness	8, 16, 22, 27, 32, 35, 40, 44, 47, 48, 49, 50, 51, 52, 53, 54

7. ANALYSIS AND INTERPRETATION OF DATA

7.1 Hypothesis No. 1: There is no significant difference between the Alienation among male and female B. Ed. students.

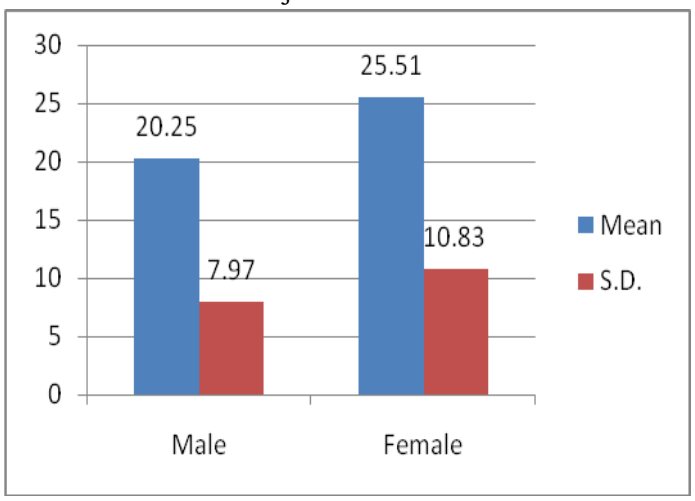
Mean, S.D. and t value of Alienation between male and female B.Ed. students

Table 2

Category	N	M	SD	t	Level of Significance
Male	50	20.25	7.97	2.87	Significant at 0.05 Level
Female	50	25.51	10.83		

Interpretation

It revealed that mean value of male and female students regarding Alienation is 20.25, 25.51 and S.D. is 7.97, 10.83 respectively. The calculated 't' value is 2.87 which is greater than the table value at 0.05 level of significance. It is concluded that there is significant difference between the Alienation of male and female students. It shows that female students felt more alienation than male students. Hence, the hypothesis i.e. there is no significant difference between the alienation among male and female B. Ed. students is rejected.



7.2 Hypothesis No. 2: There is no significant difference between the Alienation of the rural and urban B. Ed. students.

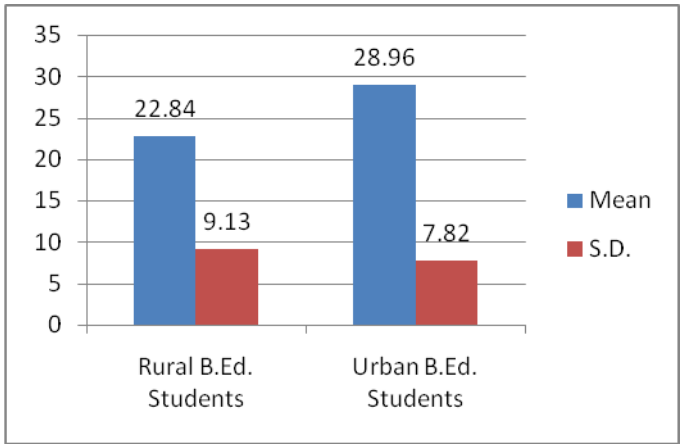
Mean, S.D. and t value of Alienation of rural and urban B.Ed. students

Table 3

Category	N	M	SD	t	Level of Significance
Rural B.Ed. Students	50	22.84	9.13	3.72	Significant at 0.05 Level
Urban B.Ed. Students	50	28.96	7.82		

Interpretation

It observed that mean value of rural and urban B.Ed. students regarding Alienation is 22.84, 28.96 and S.D. is 9.13, 7.82 respectively. The calculated 't' value is 3.72 which is greater than the table value at 0.05 level of significance. It is concluded that there is significant difference between the Alienation of rural and urban B.Ed. students. Hence, the hypothesis i.e. there is no significant difference between the alienation of the rural and urban B.Ed. students is rejected.



7.3 Hypothesis No. 3: There is no significant difference between the Alienation of the rural and urban males.

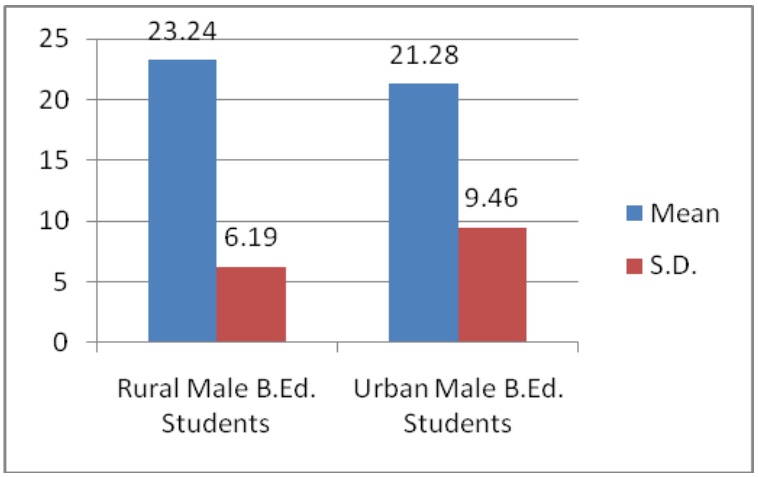
Mean, S.D. and t value of Alienation of male rural and urban B.Ed. students

Table 4

Category	N	M	SD	t	Level of Significance
Rural Male B.Ed. Students	25	23.24	6.19	.909	Significant at 0.05 Level
Urban Male B.Ed. Students	25	21.28	9.46		

Interpretation

This observed that mean value of rural and urban male students regarding Alienation is 23.24, 21.28 and S.D. is 6.19, 9.46 respectively. The calculated't' value is .909 which is less than the table value at 0.05 level of significance. It is concluded that there is no significant difference between the Alienation of rural and urban male students. Hence, the hypothesis i.e. there is no significant difference between the alienation of the rural and urban male B.Ed. students is accepted.



7.4 Hypothesis No. 4: There is no significant difference between the Alienation of the rural and urban female B.Ed. students.

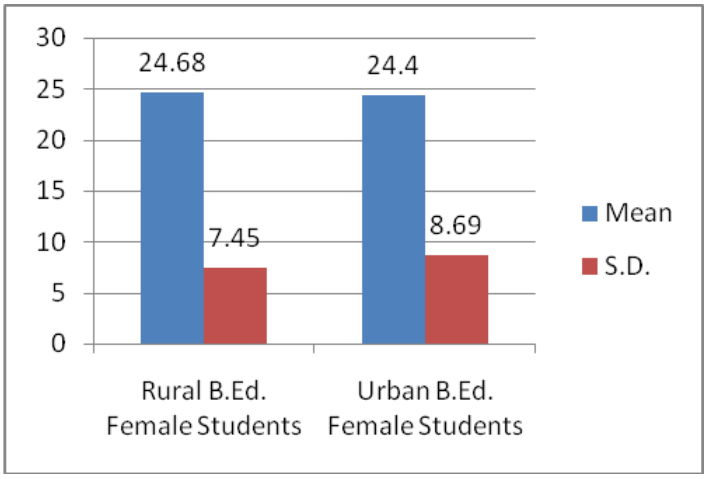
Mean, S.D. and t value of Alienation of rural and urban B.Ed. students

Table 5

Category	N	M	SD	t	Level of Significance
Rural B.Ed. Female Students	25	24.68	7.45	.126	Significant at 0.05 Level
Urban B.Ed. Female Students	25	24.40	8.69		

Interpretation

This observed that mean value of rural and urban female students regarding Alienation is 24.68, 24.40 and S.D. is 7.45, 8.69 respectively. The calculated 't' value is .126 which is less than the table value at 0.05 level of significance. It is concluded that there is no significant difference between the Alienation of rural and urban female students. Hence, the hypothesis i.e. there is no significant difference between the alienation of the rural and urban female B.Ed. students is accepted.



8. CONCLUSION

In this research the major findings state that there is significant difference between the Alienation of male and female students. Female students have been found more alienated than male students as they spend their most of the time at home. Similarly urban students have been found more alienated than rural students because urban students are nurtured in nuclear families and most of the parents are working. They are less linked to their communities and their families due to disintegration of joint family.

8.1 Recommendations

There is a need for communities to develop understanding and sympathetic attitude for today's youth forgetting the generation gap and its conventions and norms. The society must have some alternatives for the young people that can provide space of prolific and creative activities. There is a need to bring changes in the education system that must aim for sustained action and positive social change. Ways to facilitate this learning should be explored in popular education.

Whether we reflect on forms of emancipator learning (Freire, 2000) or other approaches to adult education (Brookfield, 2002), it is evident that learning one's alienation is an initial step to develop approaches to overcome alienation. Female students should be motivated to their study and social activities so that they can overcome alienation. Urban students need friendly family environment to prevail over alienation. They should have social interaction with their friends and society.

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IMPORTANCE OF GREEN MARKETING

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Abstract - Green marketing is an essential phenomenon in the modern industry. This idea has made it easier to re-market and pack existing items that still conform to these standards. The emergence of green marketing has also opened the door for businesses to label their products individually and applaud the eco-friendliness of others while dismissing that of others. These targeting strategies are explained explicitly as a result of a trend in consumer business research. As a result, businesses have increased their target levels for renewable customers. Through their attention, these same customers are involved in implementing environmental problems into their buying choices by introducing them into the marketing strategy's mechanism and material for any product needed. This article explores how businesses have raised their target levels for green customers, environmental issues, and how they can affect their purchasing decisions.

Keywords: Environmentally safe, Eco Friendly, Green Product, Recyclable.

1. INTRODUCTION

Green marketing is the promotion of products that the American Marketing Association claims are environmentally sustainable. It covers a wide variety of practices, including design improvements, changes in the development cycle, labeling changes, and promotional improvements. Nevertheless, green messaging is not a simple task in which many concepts overlap and refute each other; the presence of various financial, environmental, and retail interpretations applied to this concept indicates this. Different terms are also used for sustainable marketing or environmental marketing.

Therefore 'green marketing' submits to the integrated marketing philosophy, where production, distribution, and the recycling of goods and services happen fewer harmful to the atmosphere with a rising understanding of global warming, non-biodegradable solid waste, adverse impacts of pollution, etc. The change to "green" may appear exclusive in the short run, but it would be necessary and beneficial, cost-competitive in the long term.

Green marketing (also known as ecological marketing or environmental marketing) Pride and Ferrell (1993) refer to efforts by a company to produce, sell, price, and deliver goods that do not affect the environment. Polonsky (1995) describes green marketing as any practice intended to create and encourage targeted transactions or wish to meet human needs or desires that happen by the minimal harmful impact on the natural environment.

2. WHY GREEN MARKETING?

The Times reported: "Air pollution risk to humans, agriculture and animals in the USA. Estimated amounts of ten thousand trillions of dollars." "More than 12 studies have identified a correlation among air pollution or lower birth weight premature birth and child mortality in the US, Brazil, Europe, Mexico, South Korea, and Taiwan." Seeing that resources are limited, and human needs are limitless, advertisers must make optimal use of resources without wasting to accomplish the organization's objective.

Environmental marketing is, thus, necessary. Consumers around the world are deeply involved in protecting the environment. Global research indicates that people are worried about the climate and change their behavior. This lead to the creation of green marketing, which advocates for the rising demand for sustainable and socially conscious goods and services. Therefore, the rising user consciousness around the world about protecting the ecosystem they live in needs to give safe land to their offspring.

Different surveys by activists signify that people think for the environment and adjust their style of actions to be less adverse to it. Already we can see that most customers, both human and commercial, are profoundly concerned about environmentally friendly goods. In the late 1980s and 1990s, green marketing was the first environmental marketing workshop held in Austin, Texas, in 1975. Many green marketing books were published consequently.

3. GREEN PRODUCTS AND ITS CHARACTERISTICS

The products created by green technologies are considered green technology and have no environmental hazards. To protect natural resources and sustainable growth, the promotion of green technologies and green products is required. The following measures can characterize green products:-

1. Items originally cultivated,
2. Items that can be recycled, reused and biodegraded,
3. Natural ingredient products,
4. Recycled materials, non-toxic substances, goods
5. Type of products under licensed chemical,
6. Items not damaging or polluting the climate,
7. Items not checked on animals,
8. products with environmentally friendly packaging such as recycled cans, refillable containers, etc.

4. NEED OF GREEN MARKETING

Problems such as global warming or ozone umbrella loss are crucial to a sustainable life. A growing person, rich or poor, should be involved in a safe and robust quality of life, so will the corporate elite. The primary goal of every company is a financial benefit and economic development.

Nevertheless, environmental degradation from the managing industry globally is now done late. This understanding creates corporate identity in the business community. Eco promotion by the corporate community is still an egoistic and competitive industry view, attracting the customer, and receiving a license from the regulatory body. Industries in Asian nations have the required green marketing from the developing world, but there is still a significant difference in awareness and execution.

5. CHALLENGES IN GREEN MARKETING

5.1 Need for Standardization

It has been establishing that only 6% of the marketing statements from "green" campaigns are valid, or these representations are not validated by standardization. Such statements cannot be confirmed by standardization. There is no standardization to mark food as organic. There would be no verifiable way because other governing agencies are interested in issuing certifications. For such a marking and licensing, a standard quality management board must be created.

5.2 New Concept

The benefits of Green goods are becoming more known to Indian literate and urban consumers. Already for the mainstream, it's all a novel idea. The user must be informed and aware of the risks to the environment. The new ecological campaigns have to hit the mainstream, and it takes time and energy. Indian customers understand the value of using raw and herbal beauty ingredients from their ayurvedic roots. Indian customers are introduced to balanced habits, including yoga and the consumption of fresh food. The customer is now conscious of these things and would be willing to consider green products.

6. GOLDEN RULES OF GREEN MARKETING

- **Know you are Customer:** Ensure definite the customer is conscious of or concerned with the problems the company attempts to contend with (Whirlpool has found that it is impossible for customers not to pay the price for a CFC-free refrigerator, as the consumer knows what CFCs are).
- **Reassure the Buyer:** customers may trust that the company does the job it is to do, and in the context of the world, it must not neglect its consistency.
- **Consider Your Pricing:** When you accuse the best for your item or because of economies of level and utilize high-quality materials, also items that are environmentally friendly-make sure these buyers are willing to pay the price and that it values it.
- **Thus leading brands should recognize that consumer expectations have changed:** This is not sufficient for a corporation to green its

products; customers want goods to buy pocket-friendly and lead to that their environmental impacts.

7. GREEN MARKETING – ADOPTS BY THE FARMS

Green marketing has been increasingly supported by businesses worldwide, or the subsequent are the potential cause for this widespread acceptance:

Opportunities - When demand evolves, many businesses use these developments as an incentive to leverage and gain a strategic edge over companies that sell more sustainable alternatives. Several examples of businesses that have tried to be more socially conscious and meet their customer needs are:

- McDonald's replace the waxed paper clamshell packaging for growing public awareness about polystyrene production and the loss of the ozone.
- Tuna producers have changed their fishing methods due to growing anxiety over driftnet harvesting and subsequent dolphin mortality.

8. THE FUTURE OF GREEN MARKETING

The simple answer to all this is that successful green marketing involves implementing appropriate marketing concepts to make green products attractive to customers. There are also things to be learned to overcome green marketing myopia. Nevertheless, the problem remains: what is the potential of green marketing? Business scientists regarded it as an "infringement" subject because the adoption and preservation of environmentalism do not fit well with the traditional marketing proverb of "provide consumers what they want" and "get them as fast as they can." Research shows that effective green products by upholding three crucial criteria avoided green marketing myopia.

9. CONCLUSION

It is now time to choose global 'green' marketing. If all countries have strict positions as green marketing is essential to save the world from waste, this will dramatically change their economic atmosphere. Company when an intelligent marketer not only persuades the consumer but also insists that the consumer market his product. Green marketing cannot be viewed as a pure marketing strategy but can be pursued even more aggressively because it has a social and environmental dimension. It is essential for green marketing to be the norm, not a novelty or a fad, with the threat of global warming.

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PRIMARY SCHOOL IN RURAL AREA: ISSUES AND CHALLENGES

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Abstract:- In 2012, over 96% of all kids age 6-14 in provincial India were selected school. This figure has been well over 90% for near 10 years. India is subsequently well on its approach to accomplishing the MDG objectives for training. Notwithstanding, enrolment in school doesn't consequently convert into ordinary participation; and neither enrolment nor participation guarantees that kids secure even fundamental capacities in perusing and arithmetic. A developing collection of examination in India shows that while kids might be in school, they are not learning; and that improved provisioning and foundation doesn't add to better learning results. This paper will summarize emerging findings and conclusions from an ongoing longitudinal study of primary school children. The original study tracked about 30,000 Grade 2 and Grade 4 students over a period of 18 months (2009-2011). It assessed gains in student learning over this period and related these to household, classroom, school, and teacher related factors. In a subsequent stage, a subset of these students has been tracked for an additional 2.5 years. This paper will present preliminary findings for this subset of children who have now been tracked for 4 years. It will analyze learning trajectories and patterns of transition as children move from early primary to upper primary classes, and relate these to the larger (classroom, school and home) context in which these children live. The paper will focus on key issues requiring attention from policy makers if learning, rather than schooling, is to be guaranteed to all children.

1. INTRODUCTION

During the most recent decade India has gained colossal ground towards universalizing admittance to basic training. As indicated by every accessible measurement, today over 96% of youngsters in the grade young gathering (6-14 years) are joined up with school. This is a noteworthy accomplishment given the size and decent variety of the nation. Significant advancement has been made regarding provisioning as far as structures, homerooms, educators, reading material and different offices. Nonetheless, a developing assortment of proof focuses to the end that kids are far underneath the norms built up by both the Indian educational program structure and universal benchmarks as far as learning results.

Data from the Annual Status of Education Report (ASER), a national survey that annually assesses basic reading and arithmetic skills of about 600,000 children in the 5-16 age group across all rural districts of India, show that in every state, children in primary school are

struggling even with basic reading and arithmetic.1 Nationally, about half of all children in grade 5 are unable to read a grade 2 level text; outcomes in arithmetic are even poorer. Despite substantial increases in budgetary allocations to the elementary education sector, this situation has not improved over the eight year period for which ASER data is available.

Findings from other large scale assessments, including those conducted by the Government of India, utilize different tools and methodologies, but also suggest that children are not at the level expected of them by the curriculum.2 Not surprisingly, then, the results achieved by the two Indian states that participated in the 2009 round of PISA put them almost at the bottom of the ranking of 74 participating countries – ahead only of Kyrgyzstan. On April 1 2010 the Right of Children to Free and Compulsory Education Act (hereafter RTE) became law in India.

The new law makes it the responsibility of the state to ensure that every child in the age group 6-14 in India receives eight years of education. The spirit of RTE clearly intends 'education' to go beyond access and guarantee learning for all. However, what the law actually specifies are the inputs that should be present in schools (in the form of buildings, facilities, teachers, etc.) rather than the outcomes that children should be guaranteed (in the form of specific learning benchmarks). It thus makes a series of assumptions about how the inputs it mandates will translate into processes in schools and outcomes for children.

These assumptions are based on how schools should, in theory, be organized and function rather than on the realities of children, classrooms and schools in India today. In this paper we use evidence from several sources to argue that some key assumptions underlying RTE are not valid in the context of schools in rural India today, and will not help to move the country further along the path towards ensuring access to quality education for all children. Moving from guaranteeing access to ensuring that all children learn requires going beyond the provision of inputs to rethinking how resources can best be organized within schools in order to facilitate learning.

First, RTE's focus on ensuring that all children are in school translates into a directive that all children should be enrolled. In India, enrolment figures for the 6-14 age group have been in excess of 90% for many years now. But unlike in western countries, enrolment is a highly misleading indicator of children's actual exposure to school. An examination of children's attendance provides far more accurate information about children's actual participation in school and can provide important insights into where educational policy should focus in order to ensure that all children learn. Once in school, what is the content that children should be expected to learn?

RTE has little to say about children's learning outcomes; however it does require teachers to complete the curriculum of the grade they are

teaching. Clearly, then, it is assumed that all children are at a level of mastery where they are able to keep up with the content prescribed for the grade in which they are enrolled, such that when teachers have finished the syllabus, presumably children have mastered its contents. We present evidence from several sources to show that this is very far from being the case in rural India today. Large proportions of children are two or more grade levels behind where the curriculum expects them to be able to be.

Ensuring that children learn therefore requires either that the curriculum be redesigned in line with children's actual abilities, or that remedial programs be instituted on massive scale to enable children to catch up. Finally, we examine the assumption that children in school today are enrolled in the age appropriate grade. The elementary education system and RTE both assume that children enter school at a certain age and advance a year at a time through the system, such that children enter grade 1 at age 5 or 6 and complete eight years of schooling at age 13 or 14. In fact, large proportions of children in school today are overage for the grade they are enrolled in.

We provide evidence to show that overage children attend school less often and learn less than their peers. While RTE requires all states to provide age-grade mainstreaming support for the small proportion of children still out of school, reality on the ground shows that if schools are to be organized by age and grade, then age-grade mainstreaming is needed on a massive scale for children already in school. We focus these analyses on students in grade 4 in government schools.3 In the Indian elementary education structure grade 4 is usually the penultimate year of primary school (grades 1-5), which is followed by upper primary school (grades 6-8).

Transitioning from grade 5 to grade 6 often requires children to change schools and travel longer distances to school. Before the introduction of the RTE, grade 5 was also the grade in which students were required to pass an examination in order to be promoted to grade 6. Additionally, it was often the level of schooling at which girls, by now at the age where they were approaching puberty, would be taken out of school. For all of these reasons grade 5 has historically seen the highest dropout rates of any grade in the primary school years.

A focus on grade 4 thus enables us to examine what children have learned during their first three years in school and also what happens to them as they reach the stage of transitioning from primary to upper primary school. These analyses are of crucial importance if RTE is to achieve its goal of guaranteeing eight years of grade-appropriate learning to all children.

2. DATA SOURCES

The investigations introduced in this paper draw on three information sources. To begin with, the Annual Status of Education Report (ASER),

encouraged each year since 2005 by the non government association Pratham,7 gives yearly cross sectional information on tutoring status and fundamental learning results for youngsters in the age bunch 5-16 in country India. ASER gives the main yearly huge scope estimation of kids' learning accessible in India today. Dissimilar to other learning appraisals in India and somewhere else, ASER is family unit instead of school-based, so as to arrive at kids in various types of schools just as those not at present going to class.

A common set of tools and procedures are used to administer a reading assessment whose highest level of difficulty consists of asking a child to read a short text at grade 2 level of difficulty. The most difficult question in the arithmetic assessment involves asking the child to solve a three digit by one digit division problem, commonly taught in grade 3 or 4. Assessments are administered one on one with each child, and the same tools are used with all children in the 5-16 age group regardless of grade or schooling status.

Second, the Inside Primary Schools (IPS) data set contains a rich range of data from a longitudinal study conducted by ASER Centre10 of close to 30,000 grade 2 and grade 4 students who were randomly sampled from 900 government primary schools located in 5 major Indian states (Andhra Pradesh, Assam, Himachal Pradesh, Jharkhand and Rajasthan). This study tracked sampled students over the course of about fifteen months (2009-2010) in order to answer two basic questions. First, what is the "value added" in terms of learning that children acquire during a year in school? And second, what school, classroom and household factors are associated with better or worse learning outcomes?

In addition to a baseline and end line learning assessment in language and mathematics, the study included three visits to each sampled child, during which extensive information was collected on their schools, classrooms, teachers and households. A first set of findings from this study was published in 2011. Third, a subset of students in the IPS sample was tracked for two additional years beyond the end of the original study.

All sampled students in Ajmer district (Rajasthan) and Medak district (Andhra Pradesh) were tracked in early 2012, about eighteen months after the original end line assessment; and again one year later, in early 2013. Details about children's schooling status were recorded in both follow up visits, and the 2013 visit also included a third round of learning assessments in language and mathematics.

Overall, 90% of the subsample was located in the most recent (2013) visit and of the children located, about 94% were administered the new assessment. This data set thus captures progress made by 1,072 individual children in reading and arithmetic over a period of three and a half years, from grade 2 to 5 for about half the sample and from grade 4 to 7 for the other half.

Assumption 1: Enrolment figures reflect children's participation in school

Educators and understudies must be truly present in school all together for the educational program to be executed and for "learning" (anyway characterized) to happen. While there has been impressive discussion over instructor non-attendance as of late, the considerably more significant issue of understudy non-attendance has gotten far less consideration. Universal and public strategy archives utilize various proportions of enrolment as the standard pointers of kids' admittance to tutoring.

RTE also emphasizes enrolment, requiring states to ensure that every child in the 6-14 age group be enrolled in school. This may make sense in OECD countries, where children who are enrolled in school do in fact attend school regularly. But this is not the case in India and in many developing countries. Being enrolled in school means only that the relevant information about a child has been recorded in the school register. It has little bearing on how often that child is actually present in school. The government of India routinely tracks and releases enrolment statistics at district, state and national level.

From these and other statistics such as those produced by ASER, we know that more than 96% of children age 6-14 are currently enrolled in school; and that enrolment has been more than 90% for close to a decade. Although individual schools maintain child-wise attendance records, these data are neither routinely scrutinized nor systematically aggregated. Every year, the ASER survey includes a visit to the largest government primary school in each sampled village. During this visit, class-wise enrolment and attendance figures are recorded.

Data for 2012 reveal that nationally, 71% of all children enrolled in primary schools (grade 1-5) were present in school on the day of the survey. Across states this proportion varies substantially, from 94% in Kerala to 50% in Bihar. Data from a single day in the year provides a first estimate of the magnitude of the problem, but is insufficient to draw conclusions about attendance patterns among children. The IPS study recorded the attendance of each sampled child individually on each of three visits to their schools over a period of fifteen months.

Among the grade 4 children sampled, less than half were found present in school on all three visits; attendance among grade 2 students was substantially poorer Attempts to relate children's enrolment status to their learning outcomes thus confront the problem of substantial variation in the actual exposure to school that individual children have received.

The following sections of this paper will show that analysis of attendance data can provide important information about the characteristics of children who attend school regularly versus those who do not. With the goal of universal primary school enrolment very close to being met, translating enrolment into attendance and attendance into

learning are the challenges that lie ahead. Regular collection and analysis of data on children's attendance is a vital next step.

Assumption 2: Children in school are at grade-appropriate levels of learning

A fundamental suspicion supporting the instruction framework in India, as somewhere else on the planet, is that youngsters in a given evaluation have aced the substance executed in lower grades: for instance that a kid in grade 3 has perceived the substance educated in grades 1 and 2. In this manner the educational plan for each evaluation expands on that of earlier years, and reading material addition quickly in unpredictability regarding ideas just as language. This supposition that is reflected in various arrangements of the RTE Act, which explains the jobs and duties of instructors in some detail.

The following clause requires teachers to assess the learning ability of each child and accordingly supplement additional instructions, if any, as required. As we shall see in this section, bringing children from where they are currently up to grade level is not a matter of providing supplemental help to a small number of children to enable them to catch up. In fact, very few children in school are at grade level and most are two or more years behind where the curriculum expects them to be. In India, as elsewhere, the curriculum for each grade is transmitted to teachers and children via textbooks.

All teaching-learning is anchored by the textbook, which is very often the only reading material available in students' homes. Policy makers, administrators, and teachers themselves routinely view "completing the textbook" as teachers' primary task. The underlying assumption is that children are at the level required by their textbooks and that if they are unable to keep up, it is their own or their families' fault. Although the language assessments used in the IPS study included several other domains in addition to reading, they contained some questions that are similar to the ASER reading questions.

For example, students in the IPS grade 4 sample were asked to read a grade 3 level passage whereas in ASER, the highest level tested comprises a grade 2 level passage. A comparison of data from IPS and ASER for Andhra Pradesh and Rajasthan, the two states common to all three data sets used for this paper, show that despite differences in sampling and tools, results across these two data sources are broadly consistent. Although these two states are quite different in terms of what children can do, in both states, a substantial majority of children are at least two grade levels behind where they are expected to be in terms of reading ability.

The ability to read is fundamental to making progress in school. The consequences of being unable to read become more serious as children progress to higher grades, and textbooks become increasingly

complex. India has an automatic promotion policy that enables children to progress from one grade to the next regardless of their mastery of content. Given systems to identify children who need additional support, those who are falling behind could perhaps access the additional help they need. But in the absence of such systems, what happens to individual children as they continue to be promoted to higher grades?

Longitudinal data from the IPS study and its follow up provide some answers. In the context of poor attendance and poor learning outcomes, it is not clear whether children whose attendance is poor learn less, or whether children who are not learning attend school less often. For the IPS sample, we do not know whether children who were unable to read in 2009 had attended school less often over the preceding three years than children who could read. What the IPS data do show is that grade 4 children who were able to read grade 3 level text in 2009 attended school more often during the subsequent year than those who were not readers.

It may be that household characteristics drive both reading ability and attendance, such that children from more affluent homes and/or with more educated parents learn to read faster and attend school more regularly. But it is likely that even limited success in school encourages children to attend more often, whereas the experience of being completely unable to follow the textbook acts as a discouragement. Finally, we look at how children's ability to read is related to their academic progress in school, specifically in the two subjects that are the building blocks for all academic work -language and mathematics.

Not surprisingly, children's reading ability is clearly related to their score in the language assessments, even though these tested several competencies in addition to reading – such as listening comprehension, vocabulary, and writing. While the mean language score improves over the three year period for most children, there is a substantial percentage point gap between those who could read grade 3 level text in grade 4, those who were able to read this text a year later in grade 5, and those who were unable to read at this level even in grade 5.

To summarize, the data presented in this section has highlighted several patterns related to attendance and learning in and beyond grade 4. We used longitudinal data to show that there is a clear relationship between attendance and reading ability. We showed that most children lag at least two years behind grade level in terms of their ability to read; and that children who are unable to read were twice as likely to drop out of school after grade 5. We highlighted the fact that children who do not acquire grade-appropriate reading skills fall behind in learning achievement, not only in language but also in mathematics.

Finally, we presented evidence to show that children who lag behind are unable to catch up even to the level of their peers, much less to grade level. The proportions of children who are lagging behind are very substantial. Without immediate, focused intervention, large numbers

of children will complete their eight years of mandatory schooling with enormous learning deficits. The age-grade distribution varies substantially across states. Southern states tend to have much tighter age bands in each grade than do northern states.

For example, in Andhra Pradesh in the south of India, more than 80% of grade 4 children in the IPS sample were 8 or 9 years old, versus less than 60% in Rajasthan. In Rajasthan as in some other states in the north of the country, it is not uncommon to find children who are 13, 14, or 15 years old in primary school. These children are physically and emotionally at a very different stage of development than most of the children in their classrooms.

3. CONCLUDING THOUGHTS

The Right to Education Act is currently over three years of age. The fantasy is that RTE will empower each kid in India to go to class routinely, learn well reliably, and complete at any rate eight years of tutoring effectively. The goal is attainable – however just if training approaches depend on ground real factors. This paper has indicated that those ground truths are unpredictable, and regularly share little practically speaking with conventional suspicions about schools and tutoring. In country India in grade 4, about portion of all youngsters are overage for their group.

Few are at grade level in terms of learning, and most are two or more grades behind. About a third attend school regularly. Many are first generation school goers, and have limited access to academic support outside school. RTE offers very little that will help states, schools and teachers to focus on these challenges. The law focuses on enrolment but does not mention the issue of poor attendance. It requires age-grade mainstreaming for out of school children, without recognizing the fact that most children currently in school are neither at the age nor at the level of mastery appropriate for their grade.

It specifies pupil-teacher ratios with which schools must comply, but does not recognize the fact that in most primary schools in India it is the complex, multi grade nature of classrooms, rather than the number of students, that leads to difficulties in teaching and learning. It states that teachers must complete the curriculum, but ignores the fact that the textbooks are far too difficult for most children to handle. And it abolishes examinations in elementary school, which means that children can now complete eight years of schooling without acquiring even basic reading and arithmetic skills.

Fortunately, there are signs that some state governments are beginning to recognize and act on the issue of poor learning outcomes. A growing number of states are conducting their own assessments of basic learning outcomes. Some, such as Bihar, have set clear learning goals for each grade and reorganized schools so that children are grouped by ability level, rather than age or grade, for part of each day. Methods are

available to tackle the enormous learning deficits that are visible among children in school across rural India today. But a necessary first step is to base plans and policies on ground realities.

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AN ANALYTICAL RESEARCH ON AUDIO POWER AMPLIFIER

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Abstract - The audio power amplifier is used to amplify low-power audio signals to a level that can be suitable for driving the loudspeakers. Thus the audio power amplifier becomes a kind of essential part in the electronics that could make sounds. A good performance audio power amplifier with tonality control is designed. It consists of three parts: pre-amplifier unit, the tonality control unit and the power amplifier unit. In the pre-amplifier unit, a TL071CP operational amplifier is applied, to amplify the low signal to be suitable for the tonality control unit. For the tonality control unit, a filter is used to achieve bass and treble control, resulting in different frequency response. In the last part, the low voltage power amplifier LM386N-1 is used.

Keywords: Audio Power Amplifier, Audio Signals, Control Unit, Frequency, Voltage.

1. INTRODUCTION

The audio power amplifier, which is also known as the audio amplifier, is a kind of electronic amplifiers that amplify low-power audio signals (the frequencies of the low-power signals are always between 20Hz to 20KHz,which is the range of human hearing) to a level that can be suitable for driving the loudspeakers. Nowadays all types of electronics that could make sounds are widely using the audio power amplifier, such as mobile phones, MP4players, laptops (See Fig1), television, audio equipment, etc. The audio power amplifier plays a quite important role in the sound reinforcement, and the speakers cannot play a good role in amplification without the audio power amplifiers. Since the transistor was invented in 1940s, many kinds of different power amplifiers were developed. Up to 1970s, the transistor amplification technology became quite mature, and a variety of new circuits were developed. Examples of this are the circuit combination of Class A amplifier and Class B amplifier, current amplification circuits with large output power and small distortion. So the transistor amplifiers became the mainstream in the audio technology field.

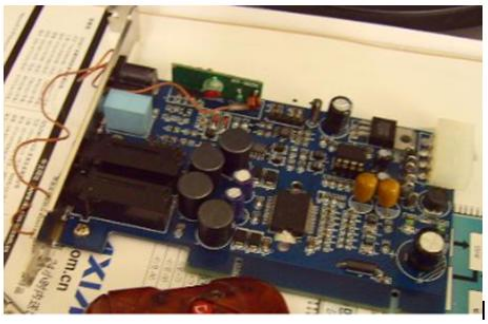


Fig.1 Audio Power Amplifiers in laptops

In the early 1960s, Jack Kilby developed a new member in audio technology, i.e. integrated circuits. Up to early 1970s, the integrated circuits became recognized by the audio industry for its cheap price, small size and more functions. So far, thick film audio integrated circuits, operational amplifier integrated circuits are widely used in audio circuits.

2. AIM OF AUDIO POWER AMPLIFIERS

By the analysis of the composition of audio power amplifier and the performance indices of amplifiers, the working principle of the audio power amplifier is better understood. Under this condition, using the common electronic circuits, an audio power amplifier is aimed to be built successfully with the function of tone and volume control. Besides, the tonality can be changed 12dBup and down (compared with gain value at f0=1 kHz)in the frequency range of 100Hz to 10 kHz. Good performance such as low distortion, low voltage, and low noise are preferred.

3. THE COMPOSITION OF AUDIO POWER AMPLIFIER

Audio power amplifier is a key part in stereo system. It mainly consists of three units: pre-amplifier unit, tonality control unit and power amplifier unit. The simple block diagram is shown in Fig 2.Every part will be explained in details.

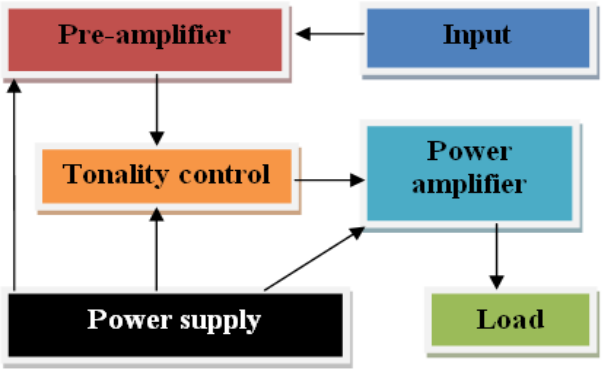


Fig. 2 The Simple Block Diagram of Audio Power Amplifier

(I) Pre-Amplifier Unit

A pre-amplifier is required to amplify a signal, when the source level is too low and has to be pre-amplified in order to be able for further processing, control or any other use. The function of audio power amplifier is to amplify the input signal from the audio source, and then drive it to the speaker. The audio sources are various: for example, microphone, record player, CD player etc. More importantly, different voltage is provided for different audio source, from some milli volt to hundreds of milli volt, but the input sensitivity of the power amplifier is constant. If different kinds of audio source input directly into the power amplifier, problems will arise. For the low input signal, the output power is low, and the power amplifier cannot use full capacity. For the high input signal, the output signal of the power amplifier will suffer overload and distortion seriously, so the power amplifier will lose the function of clean audio amplification. Therefore, a qualified and functional audio power amplifier must contain a pre-amplifier, which makes the input signal adequate to be sent to the power amplifier.

In addition to this, for the low input signal, the noise of the pre-amplifier input stage has a vital influence on signal-to-noise ratio of the whole system. As a result, the pre-amplifier unit must use low noise elements. If an integrated operational amplifier is put into use, low noise and low drift must be considered.

Last but not least, another requirement of pre-amplifier is that its frequency band must be wide enough, so that amplification without distortion can be ensured.

In the pre-amplifier design process, the non-inverting amplifier equation is needed, see Fig 3.

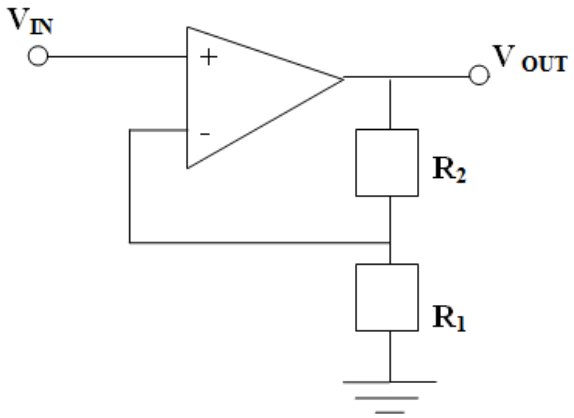


Fig. 3 Non-inverting amplifier

$$V_{out} = \left(1 + \frac{R_2}{R_1}\right) \cdot V_{in}$$

From equation the voltage gain can be calculated.

(ii) Tonality control unit

Tone controls allow the frequency response of the audio system to be adjusted to compensate for the response of speakers and their enclosures or the listening room, or to simply provide a more pleasing sound. The most common of all modern tone control circuits was named after P.J. Baxandall who came up with the idea in 1950s.It contains bass control and treble control, see Fig 4. In this type of control, the op-amp is often added to act as a buffer.

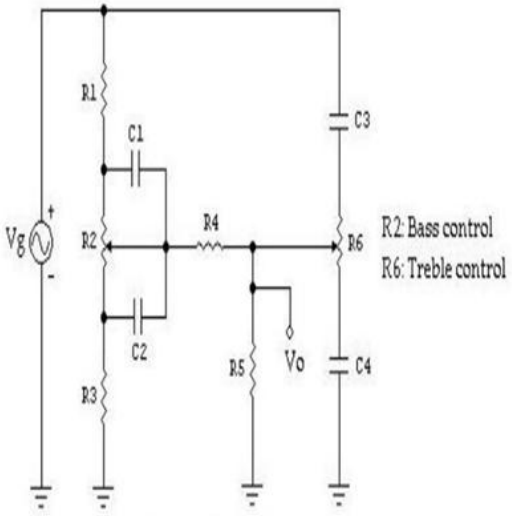


Fig. 4 The James/Baxandall tone control network

This tone control network can be analyzed separately, see Fig 5 and Fig 6.

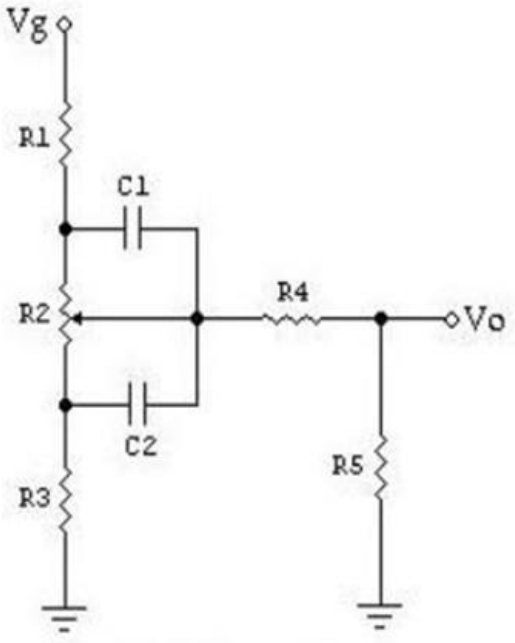


Fig. 5 Bass control circuit

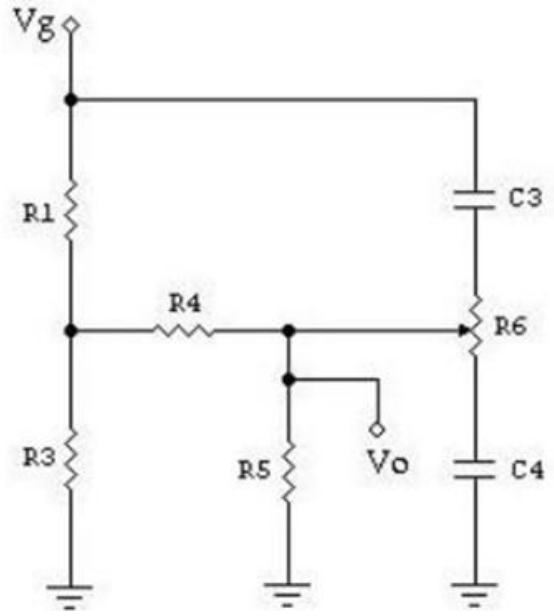


Fig. 6 Treble control circuit

(iii) Power Amplifier

The power amplifiers are those amplifiers which are designed to take a signal from a source device and make it suitable for driving a loudspeaker.(In a Disc Jockey system the signal typically comes from a preamplifier or signal processor). Ideally, the ONLY thing different between the input signal and the output signal is the strength of the signal.

The main performance qualities of a power amplifier are distortion, frequency response, signal-to-noise ratio, power etc. When the load RL is constant, a good power amplifier should be designed for high output power, low distortion and noise, and bandwidth.

At present, integrated power amplifiers are widely used due to low cost, stability, low distortion, small size etc.

4. PERFORMANCE INDICES FOR AMPLIFIERS

(I) Output Power

Strictly speaking, the output power for amplifiers is usually regarded as maximum RMS-power output per channel, at a specified distortion level at a particular load, which is considered as the most meaningful measure of power.

The power can be calculated by the equation:

$$P_o = \frac{U_O^2}{R_L}$$

Where RL is the impedance of the load and UO is the highest RMS voltage at a specified distortion level across RL. In general, a power amplifier for loudspeakers will typically be measured at 4 and 8 ohms.

(II) Frequency Response

Frequency response is the term used to describe the range of tones that a stereo system can reproduce.

There are two requirements for frequency response:

One requirement is that the range of frequency response should be wide enough. The lower frequency should be as low as possible, and the upper frequency as high as possible. Typically, the specified frequency range for audio components is 20Hz to 20 KHz, which is the approximate range of human hearing.

The other requirement is that the frequency response should be flat. It means being linear. A well-designed amplifier is linear across the whole operating range, and its frequency response just varies a little between 20Hz to 20 KHz.

(III) Signal to noise ratio

Signal-to-noise ratio is the ratio of signal power to noise power. There is no doubt that the higher signal-to-noise ratio, the better performance of the amplifier. It can be expressed as equation.

$$\mathrm{SNR} = \frac{P_{signal}}{P_{noise}}$$

Also, the SNR can be expressed as equation.

$$\mathrm{SNR_{dB}} = 10\log_{10}\left(\frac{P_{signal}}{P_{noise}}\right)$$

SNR can also be obtained by calculating the square of the amplitude ratio as equation.

$$\mathrm{SNR_{dB}} = 10\log_{10}\left(\frac{A_{signal}}{A_{noise}}\right)^2 = 20\log_{10}\left(\frac{A_{signal}}{A_{noise}}\right)$$

Where, A is the RMS voltage value.

(IV) Total Harmonic Distortion

Harmonic distortion is caused by device non-linearity. When a non-linear device is stimulated by a signal at frequency f1, spurious output signals can be generated at the harmonic frequencies 2f1, 3f1, and 4f1…nf1.

Total Harmonic Distortion of a signal is the ratio of the sum of the powers of all harmonic components above the fundamental frequency to the power of the fundamental frequency as expressed in equation.

$$THD = \frac{P_2+P_3+P_4+\cdots+P_\infty}{P_1} = \frac{\sum_{n=2}^{\infty} P_n}{P_1}$$

In other words, total harmonic distortion is mainly used to compare the output signal of the amplifier with the input signal, and to measure the difference of harmonic frequencies between the two.

The value of THD is expressed in percentage or in dB, and the lower the better. Generally speaking, the minimum value of THD is at 1 KHz, so the THD values of many products are measured at 1 KHz. For hi-fi application, it is usually expected to be less than 1%, which is inaudible to the human ear. Only THD larger than 10% can be perceived.

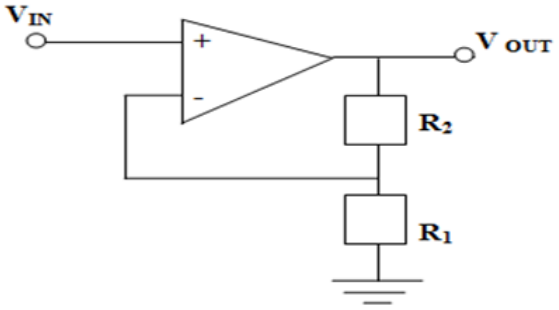
With use of negative feedback, low distortion is relatively easy to achieve in amplifiers.

5. METHODS

To build a complete circuit for the audio power amplifier, three units are needed to be designed: pre-amplifier unit, tonality control unit and power amplifier unit. The circuit designed in this work is simulated by Multisim Software first, and then is built on the circuit board to do the measurements.

(i) Pre-amplifier unit design

This part is designed as Fig 3.



After studying the working principle of the operational amplifier, the actual values of the resistors R1and R2is determined. R1=10kΩ and R2=30kΩ. the voltage gain for the pre-amplifier is calculated: (1+R2/R1)=4.

(ii) Tonality Control Unit Design

A conventional tone control is show in Fig 7, and its characteristics can be seen in Fig 8.

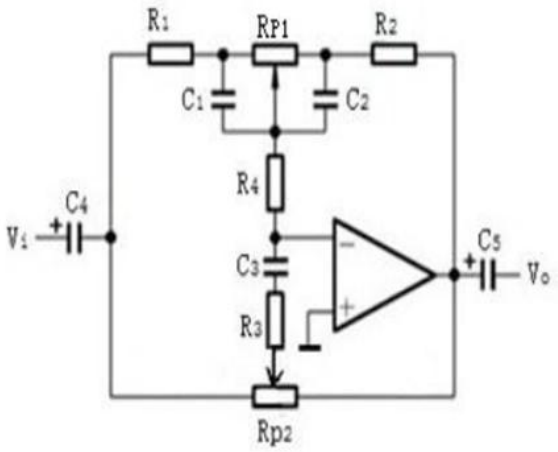


Fig. 7 Tonality control circuit

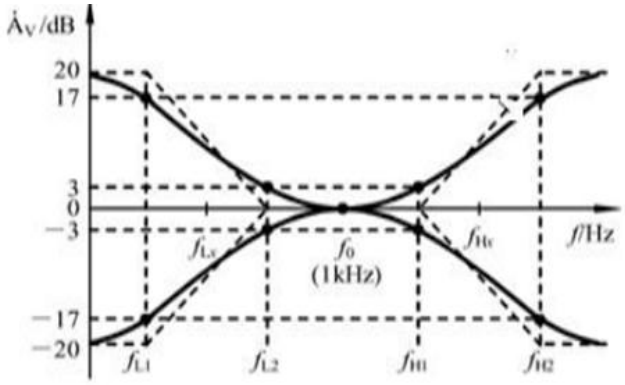


Fig. 8 Ideal tonality control curve

Because the tonality is needed to change 12dB up and down in the frequency range of 100Hz to 10 kHz(which means that FLx=100Hz, FHx=10 kHz, x=12dB).

To get the value of the alto corner frequency in the bass frequency range and treble frequency range, the equation are used:

$$f_{L2}=\frac{2xf_{Lx}}{6}$$

$$f_{H1}=\frac{f_{Lx}/2x}{6}$$

So the values calculated are as follows:

f_{L2}= 400Hz;

f_{H1}=2.5 kHz;

f_{L2}=10 f_{L1}, f_{L1}=40Hz;

f_{H2}= 10f_{H1}=25 kHz;

f_0=1 kHz

(iii) Power Amplifier Design

LM386n-1 is a power amplifier that can be used in low voltage circuits. The voltage gain of it can change from 20 to 200, and its low distortion feature can make the total audio power amplifier better. In this part design, one of the typical applications on its datasheet is chosen, and its voltage gain is 20. The circuit is shown in Fig 9.

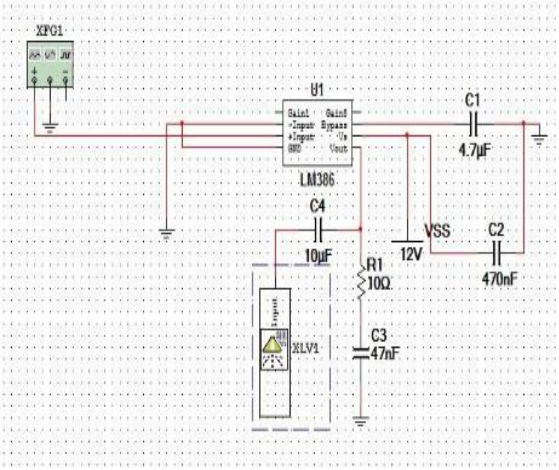


Fig 9 Designed power amplifier circuit

(iv) Complete Audio Amplifier with Tonality Control

Build the three parts together in the end, and the whole circuit is obtained. See Fig 10.

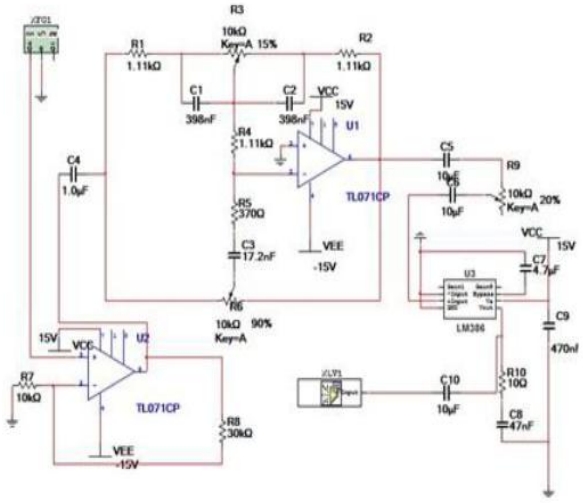


Fig. 10 Designed whole circuit

6. RESULTS

This section describes the results from one part. This part is to build the circuit on the board with the electronic elements needed, and measure the output waveform, gain, power and distortion etc. Also, connect the circuit with a true speaker at the same time, to check if the tonality

control can work normally and the sound heard by ear is pure. Build the circuit on the board and connect the oscilloscope to the output. Use the function generator to supply a sine-wave input with 100mVpp. Besides, use the power supply to supply the TL071CP with ±15V and LM386N-1 with 6V. See Fig 11 and Fig 12.

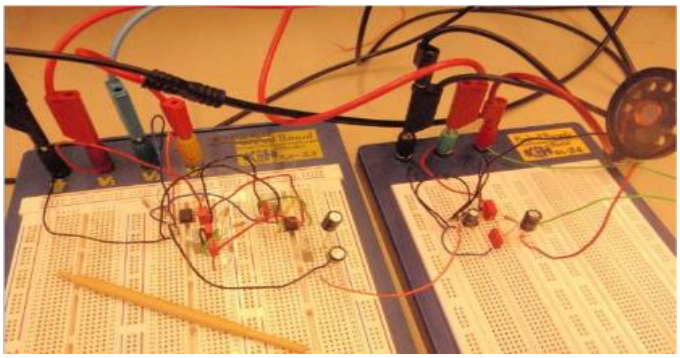


Fig. 11 Build the circuit on the board

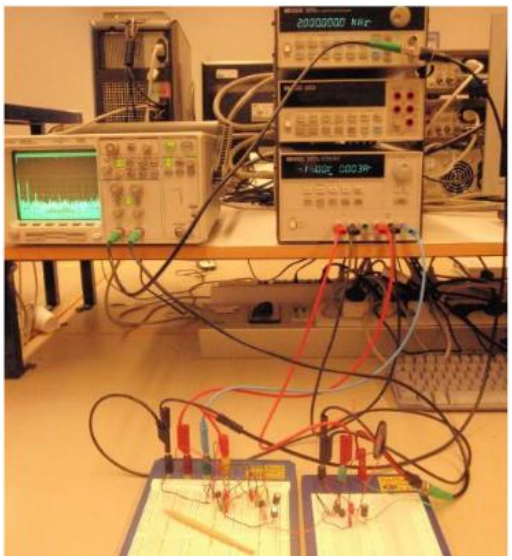


Fig. 12 Build the circuit on the board with power supply, oscilloscope connected

7. CONCLUSION

The audio power amplifier is designed with three parts: pre-amplifier unit, tonality control unit and power amplifier unit. For the pre-amplifier unit, Tl071CP integrated operational amplifier is used to achieve the gain of 4; for the tonality control unit, a filter is designed to achieve different tone; for the power amplifier unit, LM386N-1 integrated low voltage power amplifier is applied. This work is finished satisfactorily with measured results. With tonality control, different sound can be heard by ear clearly. One weakness is that it sounds impurely with a large volume, and the distortion can be seen on oscilloscope. Anyway, it is better if this shortage can be improved in the future.

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CONSEQUENCES AND REMEDIAL MEASURES TO CONTROL THE IMPACT OF COVID 19 ON INDIA

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Abstract: Now a day we are facing the problem of COVID 19 or in other words lockdown. Corona Virus is spreading all over the world including India. Whole world is presently dealing with these two words and trying to cope up with this critical situation. World Health Organization announced it pandemic. Most of the countries are in lockdown mode. Presently, the prime objective of the country's leaders is to save the life of their countrymen. First priority is health, country's man power and economic resources are indulging in health sector. Currently, India's only 25% of the economy is in working mode and 75% in lockdown. Most of the sectors are affected by it. India was moving to about 3 trillion economies and was target to achieve in 2020-21 growth rates, but with covid-19 it is not possible to achieve. Indian economy has the fifth place in the world economy, the continuous spreading of this virus affecting on demand and supply in the Indian market as well as global market. Present study deal with the positive and negative impact of COVID 19 on India's social, economical, political and technological ground and also suggest some remedial measures to deal with the situation.
Keywords: COVID 19, India, Consequences, Remedial Measures.

1 INTRODUCTION

Corona virus disease is defined as severe acute respiratory syndrome. Primarily, it was identify in Wuhan city, Hubei province, China. On 31st December 2019 initially reported to world health organization and on 30 January 2020 WHO announced it's a global health emergency. On 11th March2020 announced Covid-19 as global pandemic? it was spreading all over the world very fast as we see the data from 31st December to first week of may more than 3.52 million cases have been reported in 187 countries and 2,48,000 deaths recorded.

In India first case was recorded on January 30, 2020 but till first week of May The Ministry of health and family welfare confirmed about 42836 cases and 1389 deaths. As it was announced as pandemic Government of India take it as health emergency and apply Lockdown in whole the country from 23rd March 2020 to 14th April 2020 except emergency services, suspended all the tourist visas and tourism.

It was affected to entire 1.3 Billion population of the country but after this dates when the cases increases but the growth rate of infected persons was decreases Prime minister extended the ongoing nationwide lockdown 2 from 15th April 2020 to 3rd May 2020.As the result that States

of Goa, Sikkim, Nagaland, Arunachal Pradesh Tripura and Manipur announced them "Corona virus free states" with Zero patients of this virus by the Government of India. India tremendously deals with the Covid19 outbreak and as second top population country left impact on world's ability to deal with this situation.

By this lockdown has tremendous effect on daily wagers, small and medium term industries, farmers and self employed who are left with no earnings in the absence of transportation and access to market?

1.1 What is Covid 19?

Corona virus (Covid19) pandemic can be defined as global health crisis and a greatest challenge we are facing in this time. The Covid19 is an infectious decease caused by newly discovered corona virus which was first time found in Wuhan the city of China. Corona virus spreading by when an infected person sneezes or coughs droplets of saliva or discharge from the nose. Infected person feel mild to moderate respiratory illness and it is more dangerous for the diabetes, chronic respiratory disease and cancer patients.

1.2 Consequences of Covid-19

Before this pandemic economic situation, India was having the problem from demand side but now after this we are facing the problem from supply side. Today the Country has demand but supplier doesn't avail to satisfy the demand. This is very critical condition for any economy when a few percent market shares are in working mode only. Here, we want to throw light on some problems regarding covid-19:

- **Reopen of Small and Medium Scale Industries:** Country is facing a huge problem in reopening of the Industries or industrial area, because they will face many problems to restart with the fear of Corona virus infection. How can they make social distance? In most of the small and medium scale industries are working in a single room with large numbers of workers. Medium and small business will affected mostly where it serves 30% share in GDP. After Lockdown when they will restart their business definitely they will face the problem of working capital and Labour.
- **Reopen of Local Market:** It is a big challenge in front of local government to reopen the market for the common men. As, the fearing of spreading the Corona virus will always be there.
- **Factor of Production:** Factor of production likes Labor, capital and entrepreneurship will also a big challenge for the economy. Most of the labor is already move to their native places because of unavailability of work, poor financial and economical condition. Now, most of the financial Institutions demanded government securities for providing credit facilities to industries or entrepreneur. This will create a fund or working capital problem in front of businessmen/entrepreneurs

- **Increased in the rate of Unemployment:** When the closed industry or Institution will reopen they will facing the problem of working capital as we discussed in the previous point. Due to this industry will looking for a cost cutting and will scrutiny the employees, in result unemployment will generate.
- **Condition of Daily Wages Workers:** Daily wages worker will face the problem of wages as the whole industry in the country will take some time to cover this lockdown loss then they will come in their full mode of production.
- **Dependence on China:** India imports 25% goods from the china. Most of the sectors dependent on china's raw material so it will be affected. Its big challenge for these types of industries to sustained in the current market situation.
- **Tourism and Hospitality Industry:** The impact of COVID 19 on tourism and hospitality industries is severe. These industries will suffered the most because of this no movement of tourist for the coming one or two year.
- **Food Industry:** Food industry will also affect by the COVID 19, as the hygiene and social distancing are the most common factor for this.
- **Education Industry:** Although education industry has taken some good steps during this lock down period by arranging online line classes for students to cover their academic losses. But their academic session is already six month behind from their normal session. New session will get affected by this.
- **Farmers Problem:** Grains are ready to sell in the market but due to lock down merchants are not taking interest and Government does not have sufficient space to store them.
- **Turn back of Labor:** It is a big challenge for the government that how will turn back Labor from their native places to the urban areas. It will affect the Labor based industries in the urban areas.

2 POSITIVE IMPACT ON SOCIAL LIFE

In this lock down time most of the people are free in the home and they are passing their time by watching Television. As India is the Religious country many cultures live together and enjoy festivals together. Doordashan is taking advantage of this lockdown time it launched a few Religious serials like Ramanyan, MahaBharat and many more serials which was most popular before. In that time when Ramayan or Mahabhart telecasted people arranged their working schedule according to the timings of these serials.

- **Family time:** People are giving much time to the family. Males are supporting in household work with their partner and playing indoor games with children.
- **Family bonding:** Working people are spending much time with the family resulting that they are making good bonding with

family members and understanding the feelings of family members.

- **Family ethics:** As the India is a religious country it have own values and customs due to lockdown all family persons is doing yoga, meditation, watching religious serials and many more.

3 POSITIVE IMPACT ON ECONOMICAL CONDITION

- **TV channel- Doordarshan:** Just before of lockdown time Doordashan was having very low TRP but now a days this channel is having very high TRP due to telecast these serials and getting too much profit and popularity from this. During this time about 7 million families are watching Ramayan and Mahabhart at home. It is just looking like it moved from ventilator to sport ground to run in the competition.
- **Hospitals and Doctors:** Daily government announces Red, Green and yellow hospital list for the deceases and the list of doctors on telephone consultancy for particular dieses. In this case they are getting too much patients and getting lots of benefit as well as popularity. Many private Doctors are giving consultancy it can be for social need but overall they are benefited by this.
- **Retail shops of Groceries:** For the E-commerce companies and Mall culture in the market Retail shops much affected in terms of sales but now a day all the retail shops comes in their full mode of sales and getting too much profit in this time. Municipal Department gave authority to sell goods in their street and due to closed all malls all people are bound to purchase needed goods from these shops. Before it Retailers was having only credit based customer and small price amount goods customers or having customers on their mutual relations.
- **Sanitizers:** In India before this pandemic very less persons used sanitizers they just apply their traditional ways for hygiene but now frequently ask for wash hands and use sanitizers the demand of sanitizers increasing very well resulting that all sanitizers purchased in starting days of this pandemic. Many companies saw this opportunity and start making sanitizers and supplied in the market and earn profit.
- **Immunity Booster tablets:** Before this pandemic only ill person or old person took immunity booster tablets for recover their body but during this time health experts frequently asked for increase your immunity to recover from this corona virus resulting that some people increases by their traditional and home ways to boost it but many people is taking immunity booster tablets or related products and increasing demand for this.

4 POSITIVE IMPACT ON POLITICAL CONDITION

Government deals with this corona virus pandemic time very efficiently. Most of the experts were forecast that India is not able to face this situation and millions of people will infected and many more deaths will happen in India But government is taking very efficient steps and hold all the situation at a very minimum level.

- **International level:** India is living impact on foreign countries to handle this pandemic very efficiently as compared to other countries. Also helping other nations by providing them medical and emotional support to deal with COVID-19.
- **National level:** Current central government has worked very efficiently to deal with the COVID-19 situation. Along with state government Prime Minister of India and his ministers are planned lockdown in the nations to save the life of the countrymen.
- **State level:** Most of the states are having revenue losses due to economic activity are stopped totally. But positivity is that some states are based on agricultures this year we have sufficient crops and business which are dependent on agriculture they will cover their losses due to lockdown very soon.

5 POSITIVE IMPACT ON TECHNOLOGICAL GROUND

- **Online courses:** Most of the educational institutions are launching online certification courses in very low prices and if we see the participants continuously increasing to search courses and taking advantage of this time to upgrade their self by these courses.
- **E- Shopping:** As Government announced the lockdown people cannot come out from their houses so in this time their near shopkeeper gave mobile number or app to purchases household goods from there people order on that and shopkeeper deliver goods on their house. E-shopping trends increases in this time and both the sides that is shopkeeper and consumer are updating their self by E-shopping.

6 SUGGESTIONS

- It is necessary to take some strong decisions and the need of good leadership.
- Government should focus on productivity instead of production.
- Strong planning to roll back of the industries.
- In this pandemic time needed for joint efforts of Government and Private sector both.
- Rate of interest on loan should be lower and simple process should be generated for taking loan by medium and small scale industries to maintain liquidity in the market

- Repo rate should be decrease by the Reserve bank of India and it is used for supply industries.
- Government should purchase sufficient food grains directly from the farmers form their field and build more warehouses for storage.
- Government should establish new industries with joint efforts of private sector or the new technologies for the agriculture in the rural areas where labour can get employment.
- in this lockdown time should do innovation just as a software company in this critical time making ventilators for the hospitals resulting that for the innovation we can make our country self dependent.
- Government should use for ex reserve for the import and export business.
- More funds should be sanction for the up gradation of technology in medical science and research in the field of medical.

7 CONCLUSION

Thus Corona virus is a very serious disease it cannot be ignore. It is affected to the economy of the country but health is prior as the chairman of Tata Group, Ratan Tata commented that "2020 is just to live alive do not worry about profit and loss and do not talk about your future planning and dreams just take care of your health this is as the profit." Small and medium term businesses are too much affected during this time. It is not the only the scene of India where as all over the world just looking whole world stop at same time. So we should learn from this situation it will not repeat just do something in this way. World health organization should update technology in the medical field they should increase research in medical science and create medicines before the diseases identified. Many more powerful viruses can come in future so we should aware from today and start research from today so that we can fight with this type of virus in the future and safe the world.

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REASONS FOR CRUDEOIL PRICE WAR AND IMPACT OF CORONAVIRUS ON THE ECONOMY WITH SPECIAL REFERENCE TO CRUDE OIL PRICE

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Abstract: Today world economy is dealing with the "Corona viruses" and market around the world is lockdown. Global economy is staring at another recession as the novel corona virus pandemic has forced businesses across the world to suspend operations. Sectors such as automobiles, real estate and banking seem to be having a difficult time ahead of them. Investors fear the spread of the corona virus will destroy economic growth and that government action may not be enough to stop the decline. In response, central banks in many countries, including the United Kingdom, have slashed interest rates. That should, in theory, make borrowing cheaper and encourage spending to boost the economy. This study is totally focused on the impact of corona virus on the economy with special reference to crude oil price.
Keywords: Corona Virus, Economy, Crude Oil Price.

1. INTRODUCTION

Corona virus affects the world economy very extensively. Due to this the usage of fuels is decreases because of lockdown and quarantine in many cities. The supply is overflowed in the market. So to maintain equilibrium point between supply and demand, the price of crude oil decreases. Investors fear the spread of the corona virus will destroy economic growth and that government action may not be enough to stop the decline. In response, central banks in many countries, including the United Kingdom, have slashed interest rates.

That should, in theory, make borrowing cheaper and encourage spending to boost the economy. The oil demand is hit hard because of the spread of virus that are disrupting factories, play havoc with the consumers, put off people from travelling and slowing other business activity, International trading is comes to low, there is no proper flow between industries and consumer, quarantine millions of people, as virus spread from china other tourism, travel and trade sectors all are in major hit, stock markets increases the loses. Some analyst say that, they estimate oil demand is on the worst hit in the global market

2. WHAT IS CORONA VIRUS

Definition by WHO- Corona viruses (CoV) are a large family of viruses that causes illness ranging from the common cold to more severe diseases such as Middle East Respiratory Syndrome (MERS-CoV) and

Server Acute Respiratory Syndrome (SARS- CoV). Corona virus is Zoon tic, Means they are passing on between animals and people. Based on previous research it is found that, researcher found no evidence that virus was made in a laboratory intentionally or otherwise engineered. Corona virus (Covid-19) is a new hassle that was discovered in China, Wuhan (2019) and has not been identified previously in humans. Corona virus cases are jumped from china to various countries and their effects are very threatening.

2.1 Crude oil

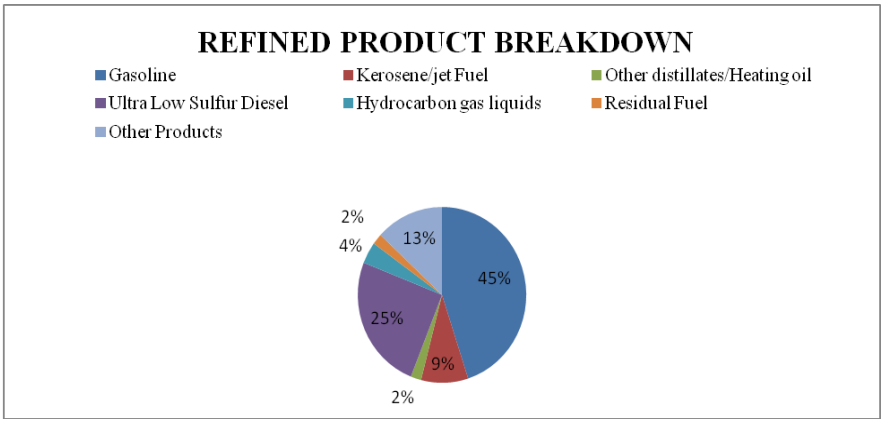
Crude oil is liquid form fuel sources located in underground and extracted from drilling. Crude oil is a liquid form which is formed from earth crust. It is a nonrenewable resource, which means that cannot replace naturally once it is used or consumed. The formation of crude oil happened million of years ago. Oil is fossil fuels, which means it is formed from large amount of tiny plants and animals such as algae and zooplankton. These organisms died and fall to the bottom of the sea and trapped by multiple layers of sand and mud. As times goes, organisms combined with mud and then heated to high pressure created by heavy layers of sediment.

This, process is known as digenesis. As times goes, these organisms started converted into natural gas or oil by more heat and pressure began to rise as the organisms get buried. The process takes millions of years to convert organisms into natural gas. So the availability of crude oil is limited on the earth. Crude oil is naturally available resources, unrefined petroleum product composed of hydrocarbon deposits and other organic materials. Each and every person use crude oil in many forms, all the countries in the world demand crude oil, not all the countries produce it. The top five oil producing countries are: United States, Russia, Saudi Arabia, Iraq and Canada.

2.2 Uses of Crude Oil

Crude oil is very valuable resources, as already discussed the crude oil is not produce by all the countries. After crude oil is extracted from the ground, it is generally transported to refinery, where it s heated and distilled into more usable product, and separated into useable petroleum products. These petroleum products include gasoline, diesel fuel, heating oil, jet fuel; petrochemical feed stocks, waxes, lubricants oils and asphalts.

2.3 Refined product breakdown



2.4 Oil Industry Structure

This oil industry structure is divided in three major sectors.

- Upstream
- Downstream
- Midstream
- **Upstream:** The upstream sector includes those companies which are searching for crude oil from the sea shore. Upstream sector companies work is to find the potential underwater or underground oil and natural gas by geological surveys, searching for oil reserves, and dig up more wells, drilling, and extraction of oil from underground areas, manufacturing and storage of crude oil. This all the works down by the upstream companies. Oil and Natural Gas Corporation (ONGC), PETRONET LNG, Reliance Industries, Aban Off shores etc. are the companies which come under the Upstream Sector.
- **Midstream:** Midstream companies work between upstream and downstream, act as a middle sources. They purchase the crude oil from the upstream and provide to the downstream, acts as a courier between upstream and downstream by providing transport of oil from the oil well to the refiners. They do this transport service by the pipelines, road transportation (oil tankers) and by oil shipments.
- **Downstream:** Downstream companies purchase crude oil from upstream companies, and they convert crude oil into the petroleum which is used in petrol, diesel, aviation fuel, kerosene, lubricants, petroleum wax etc. the products are distribute B2B and B2C. Indian oil corporation (IOCL), Hindustan Petroleum Corporation (HPCL) and Bharat petroleum Corporation limited (BPCL) etc. are the companies which all are traded in Downstream. Some of the downstream companies are now trying to taking up the work of Midstream work like transporting crude oil. Changes in Price of crude oil are directly affecting the

companies. If the price of crude oil is high it is profitable to the upstream companies, and affected to the downstream companies. If the crude oil price is low, it is profitable to downstream companies and it is not only profitable to companies but also to the customer and the government. Because they get in low price but the government impose some restrictions that the low price is not only benefitted to downstream and not affect the global economy.

2.5 Two most popular types of oil grades

1. Brent Crude oil (UK)
2. West Texas Intermediate (WTI)

These two types of crude oil are the most popular and used in all over the countries. There are some properties which differentiate between the Brent crude oil and WTI. There are variations in OPEC and NON OPEC nations. API Gravity (American Petroleum Institute), greater than 10 is considered as good is a measurement technique of crude oil quality. It is a testing of crude oil. It is measure by water, if the oil is floated in water it means the crude oil is good or it is lighter. Sulfur content (Less is good); when we measure crude oil it is necessary that sulfur is less.

When it comes to physical oil, there are different grades available but the most popular traded grades are Brent crude oil, North Sea Crude (known as Brent Crude) and West Texas Intermediate (known as WTI). Brent Crude's price is the benchmark for African, European, and Middle Eastern crude oil. The pricing mechanism for Brent dictates the value of roughly two-thirds of the world's crude oil production. Oil contains sulfur; in crude oil sulfur contains less than 1% which refers to “sweet crude” and the sulfur of crude oil helps to dictates how much processing the crude oil needs.

Both the crude oil contains less than 1% sulfur and making them both sweet. WTI Crude sulfur contains 0.26% and Brent Crude oil contains 0.37%. Both grades contain 1% less sulfur which makes them lighter and helps to get easily extracted. WTI Crude contains super quality of oil because of low sulfur and API scale. Generally the prices of Brent crude oil are little bit high than WTI.

3. FACTORS AFFECTING THE BENCHMARK OF CRUDE OIL

Brent and WTI have different chemical properties, which differ there crude oil prices and called as quality spread.

The WTI and Brent crude oil pricing is influenced by following factors:-

1. U.S. Shale crude oil production levels
2. Supply and demand of crude oil in US.
3. North Sea crude oil operations
4. Geopolitical issues in the international crude oil market

5. Political instability, natural disaster, global health issues etc. are the biggest shock factors in the oil market and this factor affect the crude oil demand. Because of the corona virus outbreak.

3.1 Crude oil in India

India Imports nearly, 85% of crude oil which Indians consumes, India is the biggest importer or crude oil. Iran and Saudi Arabia is the major importer for India. Saudi Arabia has been the India's top crude oil importer, but it was first time that overthrow by Iraq in 2017-18 fiscal year. According to the data obtained from the Directorate General of commercial intelligence and statistics, Iraq sold 46.61 million tons of crude oil to India.

According to the data India imported 207.3 million tons of crude oil in 2018-19, which is somehow less than previous financial year from 207.3 million to 220.4 million tons. India, import crude oil from Iraq is 46.61 million tons, during April 2018 and March 2019, but in previous year the supplied crude oil from Iraq are 45.74 million tones, which is 2% less than fiscal year 2018-19. In 2018-19, India imported crude oil 40.33 million tons from Saudi Arabia which is up from 36.16 million tons in the previous financial year.

The Persian Gulf nation was the third largest crude oil supplier to India. They import 23.9 million tons of crude oil in India, which is up from 22.59 million tons in the previous year according to the data. Venezuela, become the fourth largest crude oil supplier in India. They sold 17.49 million of crude oil to India, which is up from 17.32 million tons in the previous financial year. Nigeria was the next biggest importer of crude oil after Venezuela with 16.83 million tones of exports in 2018-19 to India.

3.2 The question is why the oil prices are crashing?

Saudi Arabia which was the world's largest exporter launched a price war in this year. The question is why Saudi Arabia does that because there was fallout between the OPEC and Russia. From 2016 OPEC and Russia joint hands and formed an alliances when the oil price was $ 32 per barrel. The reason behind this is to control the global oil market. The question is how to get control the global market. If the oil exporting countries reduce the production and supply less in the market. But the oil is something whose demand never is less, as a result after creating huge difference between demand and supply companies charges more money.

And the countries who import crude oil from Russia have to pay more money per barrel. So this was the whole idea of OPEC and Russia. That's why Saudi Arabia and Russia cut the oil production in 2016 by around 1 million per barrel day and Russia reduced by 5, 00,000 barrel a day. And the companies are started controlling the production this way and generated more revenue from this strategy. But the US Shale was very much aware about this and keeping this in mind the Russia and

Saudi Arabia policy restrained gave more chances to US shale companies to grow and that is why the US Shale was the largest crude oil producer in 2018 and it was expected that the company produce to about 13 million barrels a day in 2020 in the first quarter of this year.

Over this Saudi Arabia decided to fight against greatest market share by slashing its own price of oil by $4 to $7 per barrel and also planned to lift the production to over 10 million barrel a day. Due to the price war both the Russia and Saudi Arabia slashing their oil prices and importing companies have to think to whom they have to buy crude oil and that is largely depend on price. The biggest buyer of Saudi Arabia oil is Asian countries: India, Japan, China, South Korea. Due to Corona virus china and South Korea not consuming crude oil and china cut the import of crude oil by 20% because of lower demand in the market due to lockdown in the last month.

After china India is the most populated country that needs a lot of oil. Lower demand of crude oil because of lockdown tends to decrease the oil price and India get benefit for this. Higher crude oil price badly affect the twin deficits account Current Account Deficit (CAD) and Fiscal Deficit. CAD is when Imports commodity value is more than Exports value. Currently India is run on CAD, but they get benefit from oil price war. Fiscal deficit is when government expenditure is more than revenue. So this is the positive sign for Indian Economy, lower price of crude oil save some money on import bill. But it is totally depend on the government, whether to transfer the benefit to the consumer or to get reduce the CAD. And from 2020 budget FDI in India rise to $284 billion during 2914-19.

3.3 Reasons for crude price war

The sharp decline in crude oil price is not only affected by the global epidemic (corona virus) but also the lack of agreement in the OPEC nations (The Organization of the Petroleum Exporting Countries). It was set up in 1960, to systematize the petroleum policies for its members and to provide member states technical and economic aid. It is a group consisting of 14 countries worldwide; its aim is to manage the supply of crude oil and to set the price of oil on the world market. Countries that belong to OPEC include IRAN, IRAQ, KUWAIT, SAUDI ARABIA AND VENEZUELA (the five founders) and the other includes UNITED ARAB EMIRATES, LIBYA, ALGERIA, NIGERIA and other five countries.

Last week OPEC Conducted Meeting with Saudi Arabia, Russia and other oil producing countries me in Vienna, Austria. The meeting is for the oil production crises, which they are, facing from last three years. Meeting is for reducing the oil production, because there is excess supply in the market and the demand is offset dented. Saudi Arabia, the led Organization of Petroleum Exporting Countries (OPEC) has continuously pressurized Russia, for cutting the oil production because of corona virus. But Moscow, Russia has refused the proposal. OPEC replied, that

the removed all the limits on the cartel's Crude Production, this can cause flood, because already oversupplied of oil market at a time when demand is falling. The Russians, refused the proposal and this really ruin the alliance, if they kept the price up so long.

OPEC ministers quote agreed to cut the output by 1.5 million barrels per day (bpd) 0r 1.5 million Barrels demand until the end of 2020. OPEC said it would hold another meeting between OPEC group members meeting on June 09. China, the worlds' biggest importer of oil, has cut with a wide, its crude oil in recent weeks as the whole country is lockdown and implemented quarantine measures. The international Energy Agency, in February said the global oil demand in the Q1 of 2020 is expected to fall down by 435,000 bpd. That would be first in- demand drop since 2009, when global was in the grip of financial crisis.

3.4 Saudi Arabia has started a global crude price war

Corona virus affects the world economy very extensively. Due to this the usage of fuels is decreases because of lockdown and quarantine in many cities. The supply is overflowed in the market. So to maintain equilibrium point between supply and demand, the price of crude oil decreases. Saudi Arabia wanted to lead the OPEC and Russia by making deeper cuts in oil production to support crude oil prices in order to break the affect of corona virus which disturb the economy globally. Riyadh, Saudi Arabia (capital) responded by increasing the production and offering its crude at steep discounts. Analysts said that, it all has to be done to punish the Russians for abandoning the agreement. Saudi Arabia also has wished to stats its position as the world's top oil exporter.

3.5 Russia did not agree to cut production

Russia wanted to see the complete effect of corona virus on oil demand before taking any kind of action. They also aware about the policies of Saudi Arabia. But Moscow, has only want to test the US Shale industry. Russians believes that cutting output would only benefit to US shale producer, which would turns into the world largest oil producer. US Shale oil industry has struggled a lot to making profit despite of its growth over decade. And Russia thought that was a great opportunity to Russians to hurt the US oil industry. Russia said that from April 01 everyone can produce whatever they want and in which quantity they want to produce.

The crude oil market is about anticipation of supply and demand, and oil prices are very volatile which directly affect the economy of the countries. As all we know about the global effect Corona virus. The price of crude oil is extremely sensitive to geopolitical and weather events. Oil price are down about 20 percent, since the start of the year, i.e. very tough for the OPEC that strongly hit the financial budget of the OPEC countries. While, Mascow, Russia, has stated that they all trading in current price. The Saudis announced and officially agreed on cutting oil

price and they will lead the way by cutting additional prices and Russia, will join because of immense amount. The pandemic is spread in more than 150 countries and the consumer buying behavior is too low. The oil usage is drastically decreases.

According to Margaret yang said, Singapore markets analyst that "A deeply imbalance supply and demand relationship will keep putting oil prices under pressure". The oil demand falls down due to spreading corona virus, this not only affect the domestic market but international market. The price war between the major oil producers Saudi Arabia and Russia continues and falls down the agreement proposed by OPEC. The Russia has continuously increasing the production, and the supply is overcrowded in the market, US have called for De-escalation.

Impact of Corona virus on crude oil: since, January the spread of corona virus is globally, as the virus spread beyond Asia. The oil market has continued to suffer the major loss. The biggest question is how deep and how long?

Corona virus affect the oil production market in major two ways- first way is to travel restriction due to contaminated issues, the peoples comes in contact the pandemic effects will increases. So for reducing the effects the government imposes strict restrictions on travelling. And these restrictions reduce the limits of usage of jet fuels, supply chain slows and industries and academic activities decline as they sent their workers to home, all started activities is work from home- means less usage of oil and these all directly affects on oil consumption. Secondly the major effect on stock market, as the whole market thrashes which effects global economy badly which is largely affects the global oil market over the long term.

The oil prices started reducing, the domestic price rate in India of petrol and diesel bring down about to Rs. 4 a liters In mid of January. Petrol is down Rs. 3.74 a liter and diesel is down Rs. 4.41 a lit. In Delhi, India Petrol was reached to prices Rs. 71.96 and Diesel is Rs. 64.65 a lit. Falling price are good for oil importer countries like India, that Imports 85% of oil. Lower oil price helps keep inflation balance, reduce oil subsidies, reduce current account deficit and leave more resources in the hands of government for spending more on public welfare like on medicine, Covid- 19 equipments, livelihood resources to poverty line etc.

But there are certain reasons which came out which is market politics. Oil price war is already started among countries which are Saudi Arabia, United States and Russia. The importer- India, Japan, china, Korea seen this opportunities.

Chine is the biggest game player here because they started recovering. China oil imported rose by 4.5% in March and they started taking advantage of cheap oil by raising stock market. According to IMF- Demand of oil fell not because of only OPEC + Dealing up come in short span of time but also because of pandemic that spread all over globally.

The IMF warned that the whole economic get shirked by this pandemic with 3% fall in global GDP.

3.6 Will low oil prices will benefit the India economy

It has two aspects one is positive and second is negative. The positive aspects are reducing the trade deficits, as India is the biggest importer of oil, the reduction in oil price helps in reduces in current deficit. According to a report of live mint- a fall in prices of oil by $10 per barrel helps reduce the current account deficit by $9.2 billion. Oil prices affect the entire economy, According to money control every $10 per barrel fall in crude oil helps to reduce the inflation by 0.2% and total price inflation by 0.5%.

The government fixes the price oil subsidies rate, reducing oil price helps to narrow fiscal deficit. Another benefit is for the consumers, it provide benefit to the consumer by reducing price. When the oil price goes down, the product price also fall. Then the reduction in product price increases the disposable income. How India benefits from low crude oil prices- There are many countries in the world produces Crude oil. The top five crude oil producers and their international global market shares in 2018 are:

United States	**Russia**	**Saudi Arabia**	**Iraq**	**Canada**
13.2%	13.0%	12.6%	5.6%	5.2%

There were severe drop in oil price on April 20 is -$37.63 per barrel, the United States produce the WTI grade oil. US are the biggest producer of crude oil and produce WTI. The world largest producer of crude oil is running out of storage capacity to store all the oils that were produced by oil refineries. Oil industries massively facing two major problems:

- First one is oil demand, which is hit by the nation lockdown
- Second is convincing other oil producer to reduce the output.

To maintain the stock they run by their own pockets. Oil is traded on its future price, means it is work on contract basis, the buying country have to place the order of next month in this month, which is helps the exporting company to decide the oil price. For example, if country but one million barrel oil in may than they have to place the order in April. On April the price of WTI is–(-$37.63) is the price of May, 20th April was the last date of deciding the price of WTI. But the price of WTI in June is $20.43 which is positive.

There could be some reasons, the traders expected that the demand goes up in June when the lockdown removes and they also get that the governments are taking steps and start making oil reserves for oil storage. But the situation is that all the National reserves are full, they all are running on full capacity there is no space to store. Therefore the prices of crude oil are negative. In economics the law of demand

stated\s that, when the price of commodity increases the demand falls down and when the price of commodity decreases the demands increases. So the negative price of crude oil is to increase the demand.

3.7 Does India benefit from crashing the oil price in US of WTI?

The answer is No, India Imports oil from OPEC countries which is Brent Crude oil. The price of Brent is fallen by 5% and the price is still around $25 to $27 per barrel. So there is hardly change in the price of petrol and diesel in India. If the India buy the American crude oil(WTI) which is negative, even then shipping charges are not economical all are expensive, India SPR (strategic Petroleum Reserve) are running out of full capacity and all three SPR in India which are located in Vishakhapatnam, Mangalore and Padur all are full.

Total crude oil reserves of some countries are-

Countries	**Capacity**
China	550 million barrels
Japan	528 million barrels
South Korea	214 million barrels
India	39 million barrels

4. CONCLUSIONS

Global economy is staring at another recession as the novel corona virus pandemic has forced businesses across the world to suspend operations. Sectors such as automobiles, real estate and banking seem to be having a difficult time ahead of them. Government has to create the SPR to store the maximum crude oil Government, have to invest more on medical facility by imposing more budgets on medications in India. The reasons for crude oil price war are many and discusses in this paper, but it is also true that the Corona virus has played a vital role in this regards.

Now, the world economy is in coma and tries to stabilize the current situation along with COVID -19. There is a economic crisis everywhere in the world and the GDP is also coming down because of the lockdown around the world. Presently the world first has to deal with the corona virus and only after that the crude oil price matter will be resolved. So again this entire hazardous situation is temporary for few months it is not permanent. Global demand of crude oil is not always same after the pandemic outbreak everything is comes to normal and the demand of oil again rises.

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AN ANALYTICAL STUDY ON ROLE OF GRIT IN STUDENT'S LIFE

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Abstract: A two-factor of "GRIT" are Perseverance and Consistency has been studied to find humans personalities and their intelligence. In this paper, we focused on demographic variables (Gender, Age, experience and Qualification) of college students. What role GRIT plays in achieving success in student's life? The study is based on primary data collected through a structured questionnaire from the Students of College in Indore. This study is to find out impact of analytical study and student's personality traits towards their goals. To test the hypothesis, Normality, Reliability, Independent t-test and ANOVA were used on the data collected with the self constructed questionnaire. The result shows that human's perceptions towards their success are varied. GRIT is situation based cognitive skill.
Keywords: Perseverance, Consistency, GRIT, Cognitive Skill.

1. INTRODUCTION

Grit is a positive trait based on one's perseverance (determination) and efforts combined with the passion to attain a meaningful long time goal. A person with true grit follows his/her passion (goal) (dream) with courage, strength, confidence, commitment even after failures. Other few important components of grit are resilience, Conscientiousness Optimism and creativity.

Grit is an ability which can be educated, created and drilled after some time. If one has this skill then it can also predict the success while selecting and completing a mission regardless short or long term.

To have smartness, talent and intelligence is great but to accomplish success we need the ability to persevere. And without grit our talent smartness and intelligence would be nothing more than the unused potential.

In this pandemic situation where infusion of E-learning is happening in all spheres even grit can be polished, enhanced in order to attain one's goal with flying colors. Students can develop this skill in a more effective way just by organizing their time at their convenience as the resources are readily available from anywhere and at any time, allowing them to study or upgrade at their own pace.

Though there can be cognitive and psychological challenges but highly motivated and self regulated learners would likely to be successful in e learning and thereby improving grittiness as well.

2. LITERATURE REVIEW

Duckworth, Peterson, Matthews, & Kelly, 2007, their factor based study shows two factors of "GRIT" as perseverance and consistency, which predicts their personalities and IQ.

Burke et al., 1989; Pope et al., 1999; National Research Council, 2006; Niebuhr et al., 2008, their studies is based on demographic features. The study shows that GRIT depends upon human's personality, their intelligence as well as on physical fitness.

Porter and Steers, 1973; Price, 1977; Muchinsky and Tuttle, 1979; Muchinsky and Morrow, 1980; Ladik et al., 2002. Their studies concluded that demographic variables also strongly associated with retention.

Robert et al., 2007 has found that human's personality traits associated with agreeableness, conscientiousness and emotional stability.

2.1 Objective of the Study

- To study GRIT with respect to demographic variables among College Students.

2.2 Hypotheses of the Study

$H0_1$: There is no significant difference in GRIT with respect to Gender among College Students.

$H0_2$ There is no significant difference in GRIT with respect to Age among College Students.

$H0_3$: There is no significant difference in GRIT with respect to Employee Status among College Students.

$H0_4$: There is no significant difference in GRIT with respect to Qualification among College Students.

3. RESEARCH METHODOLOGY

1. **Universe:** Students from colleges of Indore City.
2. **Research type:** Descriptive research has been used to analyze the impact of demographic variables.
3. **Sampling Technique**: Convenient sampling has been used so that students who are easily approachable have been considered to collect the data.
4. **Sampling Unit:** Students of professional academic institutions have been considered as respondents for the study.
5. **Sample size:** Complete and corrected responses received are 109, hence it is the sample size considered for the study
6. **Tool for data collection**: Primary survey has been conducted with the help of a self-designed structured questionnaire and also 10-items grit scale Duckworth et.al (2007), was used to collect the data from the students. Reliability of the scale has been tested by using Cronbach's alpha. Value stands .**765,** which stands excellent to continue the research work.

7. **Tool for data analysis:** The collected data has been tabulated and analyzed through appropriate statistics tools using SPSS i.e. Cronbach's alpha, T-test & One-Way ANOVA.

4. RESULT ANALYSIS & INTERPRETATION

4.1 Reliability test

Reliability test has been made for testing the reliability of GRIT scale, with the help of Coefficient (Cronbach's Alpha). Reliability of data is (.765) **(Annexure 1, Table 1.1)** which is good, according to different theory of reliability value above 0.6 is appropriate. Also the data was normally distributed and homogeneous in nature.

As value of p=0.149 **(Annexure 2, Table 1.1)** which is greater than .05 (at 5% level of significance) which shows that null hypothesis is accepted. There is no significant difference in GRIT with respect to Gender among College Students is accepted. Hence it concluded that gender does not make any difference in perception of accepting GRIT. So we can say that it hardly matters that human is male or female GRIT reflects their nature and enhance personality to pursue their goals. Study concluded that with the perseverance and consistency students can easily achieve their goals irrespective of Gender.

Since p=.320 **(Annexure 2, Table 1.2)** which is greater than .05 (at 5% level of significance), which means that null hypothesis is accepted. Therefore, $H0_2$ (There is no significant difference in GRIT with respect to Age among College Students.) is accepted. It can be inferred that Age does not affect GRIT in human's life. If person wants to achieve his goal with his smartness and talent he can do it.

Since p=.542 **(Annexure 2, Table 1.3)** which is more than .05 which means that null hypothesis is accepted. Therefore, $H0_3$ (There is no significant difference in GRIT with respect to Employment Status among College Students.) is accepted. It can be interpreted that Employment Status does not affect GRIT in student's life. Thus we can say that being employable doesn't mean that a person has developed grittiness.

Since p=.378 **(Annexure 2, see Table 1.4)** which is more than .05 which means that null hypothesis is accepted. Therefore, $H0_4$ (There is no significant difference in GRIT with respect to Qualification among College Students.) is not accepted. Study reveals that Qualification does affect GRIT in student's life. We can say that education maters a lot but higher qualification does not guarantee success in life. Thus we can say that GRIT is a self motivated learning.

4.1 Limitations of the Study

1. The study was limited to professional college students
2. The sample size was small
3. The convenience sampling technique
4. Being the cognitive skill the state of mind has an impact while filling questionnaire

4.2 Suggestions

To improve grit in an individual, it is important to improve the subjective capacity so, the propensities which can improve subjective capacity and ensure against intellectual decay for a life expectancy are Physical Activity, Receptiveness to Experience, Interest and Creativity, Social Connections, Care Meditation, Cerebrum Training Games, Get Enough Sleep, Diminish Chronic Stress.

5. CONCLUSION

This research study concludes that there are no such factors like age, gender, qualification or employability status that ensure the grittiness in a person i.e a student. Being a cognitive skill it can be developed gradually by putting individual efforts. One must be aware that it is the skill that helps in managing life in the long run especially for generation-Z.

Hence, despite the fact that there are numerous intercessions and techniques that can be executed so as to create GRIT, it is the nature of cooperation's and mediations - not the systems themselves - that issue most. "Human change happens more promptly with regards to mindful and confiding seeing someone" (Pappano, 2013). We should recollect the significance of offering social enthusiastic help to our students." We are required to strengthen them to develop grit in them so that they can face challenges that life throws at them. Encouraging grit implies helping students see how to set and accomplish their objectives. At the point when we show students how to direct their consideration, feelings and conduct, we engage them to seek after objectives that are generally critical to them (Duckworth, 2007), which makes way for helping every student arrive at his or her maximum capacity.

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Annexure 1

Table 1.1

Reliability Statistics

Reliability Statistics

Cronbach's Alpha	N of Items
.765	10

Annexure 2 for testing of hypothesis

Table 1.1

Independent Samples Test

Gender

Group Statistics

	GENDER	N	Mean	Std. Deviation	Std. Error Mean
GRIT	1	46	3.1128	.81582	.12029
	2	63	3.0646	.64821	.08167

Independent Samples Test			
		Levene's Test for Equality of Variances	t-test for Equality of Means

		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
GRIT	Equal variances assumed	2.212	.140	.344	107	.732	.04822	.14030	-.22991	.32636
	Equal variances not assumed			.332	83.215	.741	.04822	.14539	-.24094	.33739

Table 1.2
Independent Samples Test
AGE

Test of Homogeneity of Variances

GRIT

Levene Statistic	df1	df2	Sig.
.945	4	104	.441

ANOVA

GRIT

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.451	4	.613	1.189	.320
Within Groups	53.612	104	.516		
Total	56.063	108			

Table 1.3 Independent Samples Test Employment Status

Group Statistics

	EMPLOYMENT	N	Mean	Std. Deviation	Std. Error Mean
GRIT	1	14	3.3750	.80789	.21592
	2	95	3.0422	.70127	.07195

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
GRIT	Equal variances assumed	.375	.542	1.626	107	.107	.33279	.20471	-.07302	.73860
	Equal variances not assumed			1.462	16.020	.163	.33279	.22759	-.14963	.81521

Table 1.4 Independent Samples Test Qualification

Test of Homogeneity of Variances

GRIT

Levene Statistic	df1	df2	Sig.
.628	5	102	.678

ANOVA

GRIT					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.804	5	.561	1.076	.378
Within Groups	53.146	102	.521		
Total	55.950	107			

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THE FUTURE OF EFFECTIVE DIGITAL LEARNING AND ITS ROLE IN THE EDUCATION SYSTEM

Dr. Chetna Dubey

Abstract: In this ever-growing digital age, an increasing number of students are slowly but steadily moving towards online digital courses in almost every field including business, arts, engineering as well as programing languages and technical tools also commonly known as e-learning, digital classrooms are coming up rapidly in all streams around the world, and the learners are eagerly filling up the seats. Not only is digital learning a vastly advanced technological medium but it also provides the learners with the great deal of flexibility, allowing them to study at any time, from any place at the their own convenient speed without worrying about time tables and schedules. The students, for the first them, also have liberty to choose what they want to learn and what they don't. This advantage has made digital learning hugely popular, not only among engineering students but also students involved in many different fields. There are few basics which, when applied to digital learning classrooms improves students engagement as well as their interest. These basic principles are applicable to all kinds of digital learning courses be its language skills, process training skills or even soft skills etc.

In the age of internet and personal computer the phrase "online education" is heard regularly in regard to schooling at nearly every level. It`s has changed the concept of teaching and learning as we know it. In today's world the internet can be used as the primary means of instruction and assessment.

1. DIGITAL LEARNING

Digital learning is any instructional practice that effectively uses technology to strengthen a student's learning experience. It can be used as professional learning opportunities for experiences for students.

It also accompanied by technology or by instructional practice that makes effective use of technology. It encompasses the application of wide spectrum of practices including: blended and virtual learning.

A digital learning strategy may include any of or a combination of any of the following:

- Adaptive learning
- Badging and gamification
- Blended learning
- Classroom technologies
- e-textbooks
- learning analytics
- learning objects
- mobile learning e.g. Mobile Phones, Laptops, Computers, I pads

- personalized learning
- online learning(or e-learning)
- open educational resources (OERs)
- technological-enhanced teaching and learning
- virtual reality
- augmented reality

Digital learning is "learning facilitated by technology that gives students some element of control over time, place, path and pace".

Learning content is a bundle of information about a specific topic, used to educate digital learners. The content is seamlessly important into courses for easy accessibility to the virtual information contributing to overall organizational success.

1.1 Importance of Learning

Content of learning is a bundle of information about a specific topic, used to educate digital learners. The content is seamlessly imported into courses for easy accessility to vital information, contributing to overall organizational success.

- **Digital Learning:** Digital learning means learning by electronic media. Information & instructions created with these binary digits are therefore called digital learning. It means learning using electronic devices.

1.2 Usage of Digital Learning

Traditional teaching methods by chalk & talk involve a teacher sharing knowledge to students and everyone who are in contact with everyone. This is very much useful for those traditional schools where students in same place, same time. As such it can be very important for teacher to share knowledge to whole class at the same time.

- **Digital learning:** A platform & it's essential features many instructional designers, corporate trainers and general educators are moving towards digital learning. This allows learners to excess courses from anywhere they have an electronic device is inherently more interactive and interactive learning is far more effective than traditional techniques.

  Digital technology enhanced learning- Digital education is familiarised with the ease of transition between traditional schooling and intersect of technology.
- **Digital learning course:** Digital learning is broad term that becomes popular in recent decades. It is used as a synonym for electronic learning (e learning) which is commonly used to mean the opposite of teacher-pupil-style traditional Trans learning massive method.

2. LMS EFFECTIVE METHOD

Learning Management System are tools of instructional designers. These are the systems which allow teachers and instructors to add questions and answers to a pre-built framework which can then automatically be used to interact with multiple students. It will deliver the information to the students and automatically quiz them on it.

2.1 Effective LMS for learning

The latest generation of LMS is a mobile LMS. This leverages the high degree of smart phones saturation in the world and sends small, bite-sized micro lessons direct to learners mobile devices so that they can interact with courses at their own convenience. The 21st century has rightly termed as the digital era with the internet bringing with substantial change in people live we are heavily dependent on the usage of technology to even complete simple tasks. Most of you must have heard about digital learning. The E-Education has certainly ignited the teaching sector. Gone are the days of blackboards, the chalks and the dusters. They have been substituted with web-based education which strengths students learning experiences.

Digital learning can be better known as web-based learning which effectively makes use of the information technology to impart knowledge to the students. It`s is also known as Smart Teaching techniques. Many schools and colleges have adapted this method to make change in education students. Large LCD screens and projectors are the methods of teaching. It`s facilitate the learning process anywhere and anytime. Teachers do not use blackboard and white chalk.

3. IMPORTANT ASPECTS OF DIGITAL LEARNING

1. **Freedom to Choose the Place:** Digital learning or e-education is not bounded with the traditional classroom-type of teaching where every period was supposed to be of forty minutes but it has given the freedom to both the students as well as the teachers to choose their place. You can take online anywhere according to your convenience including attending it at the comfort of your home. However, this is applicable for mostly professional courses and not for school-going children.
2. **No Boundation of Time:** Another huge advantage that web-based learning has provided to the students worldwide is that learning is no more restricted to specific timings when the classes were conducted. You can download videos of the classes from the internet and you can know what was taught in the class today.
3. **Learn at Own Place:** There is no need to complete with the rest of the class but rather e-learning allows you to learn at your own pace. The tutorial videos are available online and you can view it as many times as you want to make your concepts clear about a

topic. This means you do not have to spend much time on one lesson as then the chapters become more interactive.

4. **The Digitalized Content:** Digitalized content means you get high-quality academic content which is easy to read and understand. It is delivered through various technical tools such as computers, laptops, smart phones and other electronic gadgets. The content is written by highly experienced academic content writers and they are very informative supported by videos and images for better understanding.
5. **The Main Technical Tool:** The main technical tool behind digital learning is also known as internet. You just need a computer or any other gadget with internet connection to start e-learning process.
6. **Online Tutors or Instructors:** No teaching or learning can be considered complete without the presence of a teacher and digital learning is no exception. It is only that their roles have undergone some changes but the basic responsibility remains the same; to educate digital learning students. He can provide personalized guidance to every student.
7. **Digital Learning has Made Research Work Simpler:** Beyond any doubt, the digital learning procedure has made the research work simpler specifically in the field of medical science, information technology and space. With information easy available on internet, can find a solution to any problem and carry work further. The research scholars can easily prepare their thesis without any difficulty. All the facts and the statics provided on the internet are the latest which adds to our work.
8. **Digital learning a Boon for the Parents as well:** The digital learning has proved to be a blessing not for only the teachers but also for the parents, who usually guide their children at home and help them in their studies and home work. They can consult the internet and online tutorials anytime in order to guide their kids in better way.
9. **Preparations for Exams Become Easier:** Another advantage of web based learning is that it helps great deals during the preparation of examination. Now days, most of the students preparing for higher exams suffering the internet to financestp their questions. More over the digital learning can be best trusted friends. Student can also consult online guide books and also give the online mock tests to consolidate the preparation. There are online tutors who can help in solving problems which makes tasks easier.
10. **Reduce the Burden of Paper Work:** The introduction of e-learning in the present scenario has led to the reduction and elimination of the burdensome of paper work which was the part of earlier system. Most of the exams are conducted are online, the

teachers don't carry bundles do answer sheet to their home for evaluation. Now a day's questions are usually multiple choose types which can be evaluated on computer itself within no time. So results are also declared very easily and there is more transparency and accuracy in it as compared to traditional ways of checking papers.

11. **Offers a Strong Platform for Better Communication:** The increased of digital and internet based learning has provided a strong platform for better communication between teachers and their students. Chat can also be done with the tutor with the help of webcam and using various application such as skype, Google hangouts and also the communication can also be made even more enhancing with the help of social media platforms, blogs and other discussions forums. Student can also clear doubts related to assignments & exams for better preparation of the subject.

3.1 Digital Pedagogy

Digital Pedagogy is a procedure which helps in improving the instruction o the students. It is a technical information, teaching & understanding of the students. It is a new experience for both the student and the teachers to inspires them to do something constructive by gaining the knowledge. Student can get more collaborative support which makes the concepts clear regarding the topics.

4. MAKING DIGITAL LEARNING SUCCESSFUL

We need to insure a few vital steps to make thus program successful one. So some initiative has to be taken jointly.

1. **Spreading awareness amongst the masses:** Digital learning has been identified at one of the most popular program and has been excepted globally. But some measures to be done to make more and people aware of it.
2. **Making more and more people computer literate:** Digital learning cannot be successful without proper computer knowledge and training. Thus firstly we have to make more and more people computer literate. Computer education should be made compulsory part of curriculum in every school. So computer training centres should encourage people to join it to learn the internet.
3. **Digital learning courses should be made more user-friendly:** The content and quality of digital learning course should be relevant as well meaningful. It must be designed keeping in view the learning ability of learner and his age. In short, it should be user-friendly and something which can be easily understood.
4. **The attitude of the teacher:** The attitude of the teacher also plays a vital role in student's anxiety or curiosity about internet

based learning. He should always be encouraging his students to make full use of tools while learning and enhancing knowledge.

5. **Bringing more diversity in course and assignments:** In order to make e-learning all the more interesting and interactive, it is advisable and worthy to introduce new diverse courses which the students can take related to their field to study. The more choices they have, the more attracted they would become towards the new learning technique.

5. BENEFITS OF DIGITAL LEARNING

- **Personalized Learning:** These opportunity to learn at best pace and path for them. A group of 28 practitioners, advocates, union leaders recently came together to reimagine education given the new opportunity of digital learning. They notied that learning can increasingly be tailored based on learners own passions, strengths, needs, family, culture, community.
- **Expended Learning Opportunity:** Education reimagined celebrates open walled learning and acknowledges that" learning and intentionally leverages its expansive nature in the learner's development of competencies. Learners with authentic, rich and diverse learning opportunities."

Access to full and part –time learning means that every student, state policy permitting, has access to many world languages, college preparatory curriculum and advanced studies.

- **High Engagement Learning-** The shift to digital can boost the student motivation. Anyone who has witnessed the engagement of game based learning can appreciate the potential to create learning experiences that boosts persistence.
- **Competency Based Learning-** Students show what they know and progress based on demonstrated mastery. Competency based learning changes everything about school, the transition of age cohorts to individual progress models will take longer, this is a generational shift.
- **Assessment Based Learning-** Digital learning powers continues feedback from content-embedded assessment, games, simulations and adaptive learning.
- **Quality Learning Products-** Digital learning tools allow students to produce professional quality products and to share them with public audiences. Presentations, publications and portfolios change the classroom culture from turn-it-in, to production for public audiences. Digital tools means more and better writing.
- **Relevant and Regularly Updated Content-** Student have more access to relevant and regularly updated content. Next generation instructional systems that include print and digital options with

online adaptive skills building allow teachers and students to personalize in new and exciting ways.

5.1 The Most Important Benefits of e-Learning for Students

Lets have an analytical look at the advantages of online learning are-

- Online learning accommodates everyone's needs
- Lectures can be taken any number of times
- Offers access to updated content
- Quick delivery of lessons
- Scalability
- Consistency
- Reduced Costs
- Effectiveness
- Less Impact on environment

Due to the wide set of benefits it gives to student's, eLearning has become quite popular and appreciated among students all over the world.

Digital media is now the new driver of change. Growth of exponential technologies such as artificial intelligence, robotics, Nano technology etc is bringing resounding impact on the evolution of education. These growth drivers are also changing employment dynamics as new skills and understanding are required to meet the future demands of the job industry. That is why educational institutes are compelled to incorporate digitization in the learning process to impart critical thinking, innovation, collaboration and problem-solving traits in students. The curriculum should also focus on innovations in technology and the general skills required to deal with modern businesses.

6. CONCLUTION

The Digital Learning which was introduced only a few years ago has been warmly and graciously welcomed by the world. Lot has been achieved in this area but still the journey is not a complete and long way to go. The digital learning and teaching community, as well as the learners, can take comprehensive advantage of the technology and can make their professional more interesting thereby breaking the shackles of conventional teaching methods. The modern-day education is to ascend many more steps further and bring an enormous change in society.

#####

ELECTROMAGNETIC ANALYSIS OF PYRAMIDAL HORN ANTENNA FOR J-BAND APPLICATION OF COMMUNICATION SYSTEMS

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Abstract- In this research paper, design and improvement of pyramidal horn antenna for J-band software is reported. It is particularly designed for 17 dB benefit and half of beam width about 25 ranges at 6.93 GHz. Horn aperture, horn axial period and distance from the throat of the antenna to aperture are the main layout constraints which can be calculated and used for the antenna design and simulation. Beam width in E-aircraft and H-plane horn is calculated and it's far 19.18 dB and 22.86 dB respectively. The mentioned antenna layout shows exact performance for J-band in radiometry, satellite tv for pc, and radar programs.

Keywords: Antennas; Communication systems; Electromagnetic analysis; Measurements; Radio propagation; Waveguides.

1. INTRODUCTION

The pyramidal horn might be the maximum popular antenna inside the microwave frequency stages (1 GHz to 18 GHz). The advantage of a horn is typically very close to its directivity because the radiation performance is very good. The horns are regularly used as requirements gain size in antenna improvement. Horn antennas are used as a feeder for large antenna shape along with parabolic antennas, as wellknown calibration antennas to degree the benefit of different antennas, and as a directive antenna for such devices as microwave radiometric, radar antenna, satellite tv for pc antenna, dish antenna. The advantages of horn antenna are mild directivity, low status wave ratio, broad bandwidth, easy to construct and adjustment. One of the first horn antennas turned into constructed in 1897 by way of Indian radio researcher Jagadish Chandra Bose in his pioneering experiments with microwaves. The development of radar in global struggle 2 inspired horn studies to layout feed horns for radar antennas. The corrugated horn invented via Kay in 1962 has grow to be widely used as a feed horn for microwave antennas together with satellite tv for pc dishes and radio telescopes. Interest in horn antennas diminishes at the whilst Guglielmo Marconi effectively carried out the primary transatlantic wireless transmission. At that point, it have become apparent that decrease frequencies had been better applicable for long distance transmission, and the horn was insufficient for this reason.

Horn antenna is available in many sizes and shapes such as pyramidal horn, pectoral horn (E pane and H plane), a conical horn, an exponential horn, corrugated horn, ridged horn, septum horn and aperture-limited horn. The typical horn antenna is shown in figure 1. The horn can be treated as an aperture antenna. To find its radiation

characteristics, to develop an exact equivalent of it, it is necessary that the tangential electric and magnetic field components over a closed surface are known.

The closed surface that is usually selected is an infinite plane that coincides with the aperture of the horn. When the horn is not mounted on an infinite ground plane, the fields outside the aperture are not known and an exact equivalent cannot be formed. However, the usual approximation is to assume that the fields outside the aperture are zero. Return loss, voltage at standing wave ratio (VSWR), gain, radiation pattern, half power beam width are the parameter through which we can characterize horn antenna for the particular application. For the radiometry, satellite, radar application the antenna is required to resonate in between 4 to 8 GHz, gain between 12 to 40dB, VSWR should be in between 1 to 2 and should maintain the half power beam width near about 20 degrees.

2. PYRAMIDAL HORN ANTENNA DESIGN

To be able to achieve sharper beam and highest directivity than that of the simple open waveguide radiator, the waveguide can be flared right into a horn with a great deal better aperture beginning. If width 'a' of the square waveguide is accelerated to 'a1' by way of flaring the waveguide in H-plane, the H-plane horn antenna formed and further if we do it for period 'b' of waveguide E-aircraft sectoral horn will be formed. For given duration of the horn, the best benefit is obtained by way of flaring the waveguide in both H and E-plane to achieve the pyramidal horn.

2.1 Design Calculation

The effective aperture of these pyramidal feed-horns is around 50% of its physical size, so

$$G = \frac{1}{2}\frac{4\pi}{\lambda^2}$$

The optimum aperture length of the horn antenna given as

$$A_e = \frac{D\lambda^2}{4\Pi}$$

The directivity of a pyramidal horn can be expressed as a combination of the directivities of the sectoral feed horns. The directivity of the antenna is calculated by,

$$D = \frac{\pi}{32}\left(\frac{\lambda}{a}\theta_e\right)\left(\frac{\lambda}{b}\theta_h\right)$$

or

$$D = \frac{G}{\eta}$$

The present Horn antenna is simulated the use of HFSS software program. The path of propagation of E and H field are in the Z path, Axial period of the antenna is taken at the X-axis and width on Y axis as proven in discern 1. The fabric used for the simulated motive is Brass so that you can make antenna greater green and high gain. The internal and outer wall of the antenna is kept at 1mm other than every other which suggest the thickness of the antenna is 1 mm. The square waveguide dimensions are initially chosen as a1 and b1 are 34.84mm and 15.80mm respectively. The dimensions of the hole flare of the horn antenna is calculated by way of the usage of which ends up as b2 = 96.96 mm and a2 = 116.01 mm. Generally, the greatest (from the point of view of most gain) design of a horn is preferred due to the fact, it outcomes inside the shortest axial length. The entire layout may be without a doubt reduced to the answer of a single fourth-order equation. For the reliable horn, ρe have to equal to ρh. Therefore, distance from the throat of the antenna to aperture is calculated using equation taken as ρe = ρh = 108.60 mm.

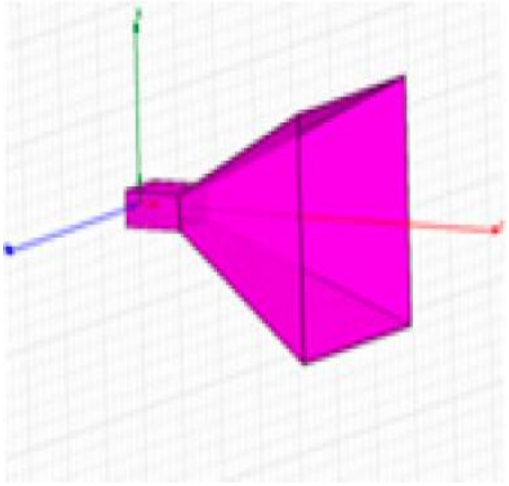

Figure 1 Horn antenna

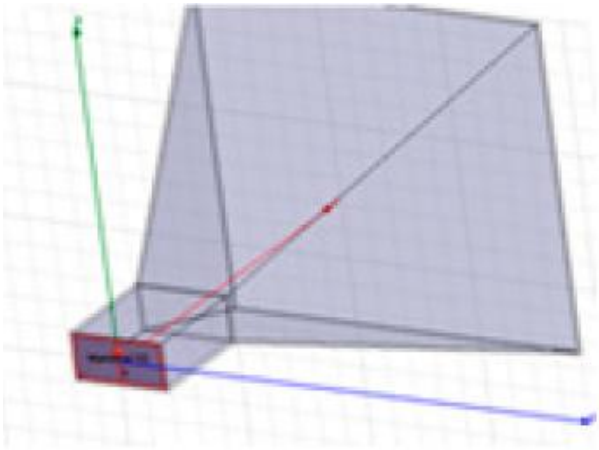

Figure 2 Port assignment

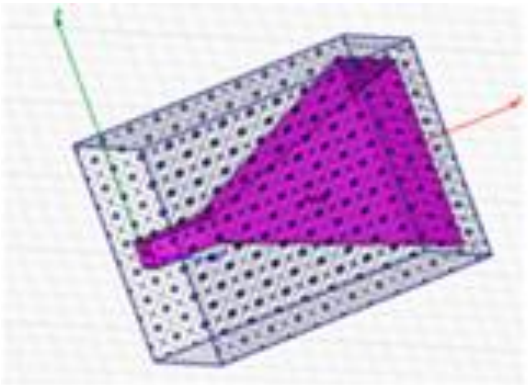

Figure 3 Antenna radiation box

The rectangular waveguide of 34.84x15.84 mm is selected for the length equals to λ of the given frequency which is 43.29 mm at 6.93 GHz. The rectangular waveguide is opened at distance ρ with opening mouth dimensions of 116.01 mm and 96.96 mm. For the excitation, wave port is assigned at waveguide terminal and it is feed with fundamental TE10 mode as shown in figure 2. Radiation box is selected at λ/4 distance from aperture dimensions surrounding the antenna and front side, in the direction of propagation which is shown in figure 3.

3. ANTENNA RESULTS AND ANALYSIS

3.1 Return Loss and VSWR

The return loss characteristics of the antenna are shown in figure 4.

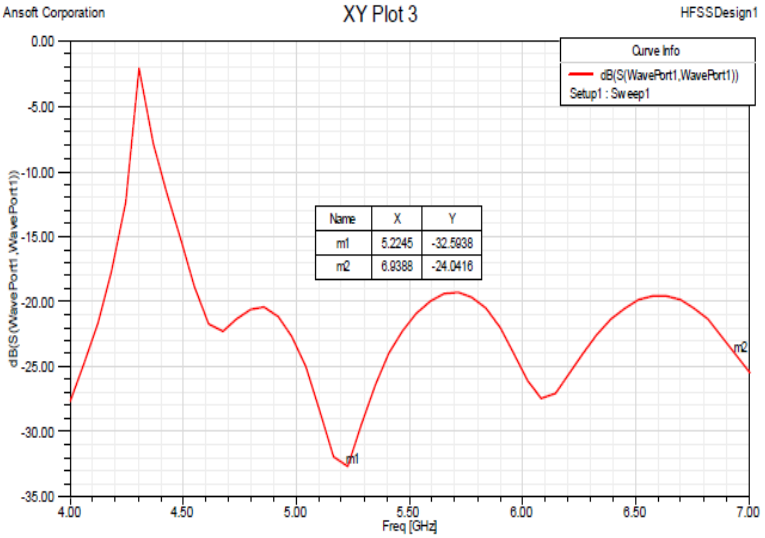

Figure 4 Return loss

It indicate that antenna resonate at 5.22GHz and 6.93GHz for S11 = -32.59dB and -24.04dB respectively. The VSWR found in between 1 to 2 for both the frequency mentioned above. This implies that antenna impedance at port and source terminal is well matched.

3.2 Radiation pattern

Radiation of the antenna is at 6.93 GHz having more power in main lobe and less on side lobe for ϕ-00 and θ-900 is shown in figure 5. The results show that pattern is symmetrical in both E and H plane. For the measurement of the radiation of the horn antenna, the gun power supply is placed at 9.9V.

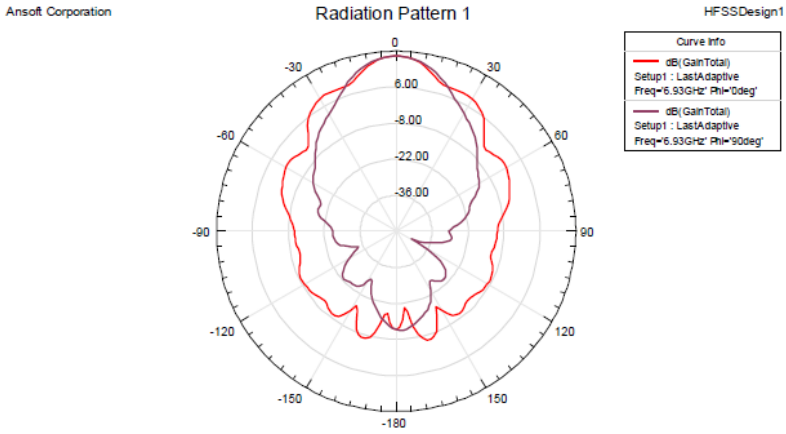

Figure 5 Simulated radiation pattern

The antenna beneath take a look at and the proposed horn antenna are stored at a hundred and forty cm apart from every different on rotating take a look at bench over 360°. The simulated and evolved antennae show true agreement with each other. Beam width received through the simulation is 19.20 dB and 22.87 dB for ϕ-zero° and θ-90°. This beam width is a whole lot in the direction of given beam width of 25 dB in each E and H plane. The outcomes display that antennas possess maximum peak power radiated in the Z path, with elevation angle ϕ and azimuthal perspective θ.

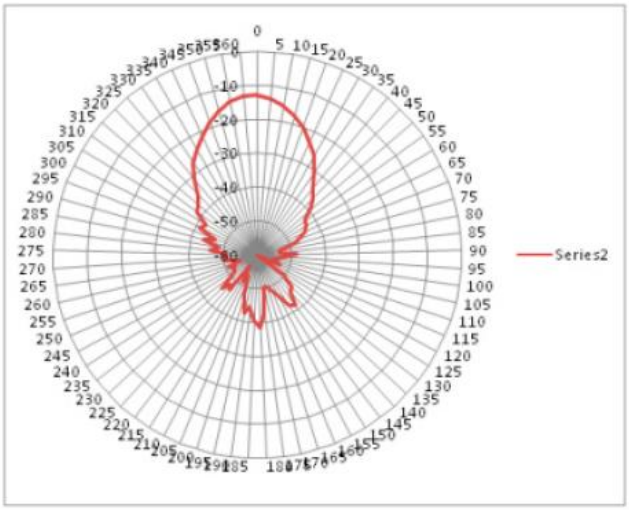

Figure 6 Measured radiation pattern

The antenna under test and the proposed horn antenna are kept at 140 cm apart from each other on rotating test bench over 360°. The measured radiation pattern is shown in figure 6. The simulated and developed antennae show good agreement with each other.

Beam width obtained by the simulation is 19.20 dB and 22.87 dB for ϕ-0° and θ-90°. This beam width is much closer to given beam width of 25 dB in both E and H plane. The results show that antennas possess maximum peak power radiated in the Z direction, with elevation angle ϕ and azimuthal angle θ.

3.3 Antenna gain

The simulated antenna gain at 6.93GHz. The peak gain of the antenna is in the order of 18.13 dB, which is very close to a theoretical gain of 17 dB. The power measured from the practical setup of the antenna bench is listed in table 1 with respective to the rotating angle of the antenna in 10 dB sequence.

The theoretical gain is calculated by using equation,

$$P_R = P_T G_T G_R (\lambda/\pi r)^2$$

where,
Receiving antenna power (PR) = -12.86 dB
Transmitting antenna power (PT) = 5 dB,
Gain of transmitting antenna (GT)=17 dB
Distance between PR and PT antenna (r) = 141cm
hence, gain of receiving antenna (GR) =14.25 dB which is closer to simulated gain, i.e 17 dB.

3.4 Antenna directivity

The total directivity of the antenna is 61.2891 dB at 6.93 GHz. In satellite and radar applications, the highly directive antennas are preferable so the given antenna shows the maximum directivity required for high-end applications.

3.5 Current distribution analysis

Electric powered field distribution in the horn contributes predominant position in the propagation of microwaves. At the square waveguide, each electric and magnetic fields touring with corresponding to each other, once the mouth of the square waveguide open at precise distance E subject and H area are indifferent from the rectangular waveguide and tour in loose space. Because of the pattern traits of both E and H-aircraft sectoral horn, pyramidal horn focuses its beam pattern in E and H aircraft. The corresponding E-subject distribution. The surface contemporary density travel along the boundary having a price of 3.93 A/m.

4. CONCLUSION

On this investigation, simulated and developed horn antenna results are top agreed with every different. The mentioned antenna offers the higher go back loss -24 dB, VSWR 1.13 and gains 18.13 dB. The reported antenna is exceedingly directive with the directivity of 61.28 dB at its height value. The radiation sample of measured and simulated antennas is near resemblance with every other. The developed antenna is made from brass cloth and it's miles beneficial for satellite tv for pc, radar, radiometry packages.

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IMAGE PROCESSING BASED SILENT SOUND TECHNOLOGY

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Abstract- These days at whatever point we are chatting on a PDA in a group, at that point really we are not talking, we are hollering a direct result of loads of aggravation and commotion around us. Nonetheless, there is no compelling reason to shout to pass on our message and squandering our energy any longer. For this reason another innovation known as the "Quiet Sound Technology" has been presented that will stop the commotion contamination. The Silent sound innovation is ideal answers for those individuals who have lost their voice however wish to talk on cell phones. It is created at the Karlsruhe Institute of Technology and you can hope to see it sooner rather than later. At the point when this innovation is utilized, it distinguishes each lip development and inside changes over the electrical heartbeats into sounds flags and sends them ignoring any remaining encompassing clamor. It will be truly advantageous for individuals who disdain talking boisterously on PDAs. "Quiet Sound innovation" expects to see each development of the lips and change them into sounds, which could help individuals who lose voices to talk, and permit individuals to settle on quiet decisions without annoying others. Rather than making any sounds, your handset would decipher the movements your mouth makes by measuring muscle activity, then convert this into speech that the person on the other end of the call can hear. So, basically, it reads our lips

Keywords: Silent sound, image processing, electromyography, cell phone.

1. INTRODUCTION

Quiet Speech innovation empowers discourse correspondence to occur when a perceptible acoustic sign is inaccessible. By obtaining sensor information from components of the human discourse creation measure - from the articulators, their neural pathways, or the actual mind - it delivers an advanced portrayal of discourse which can be incorporated straightforwardly, deciphered as information, or steered into a correspondences organization.

While improving guides for the discourse impaired has been a goal of biomedical designing for a long time, the new increment of interest in Silent Sound innovation emerges likewise from a second, very unique class of utilizations: giving protection to cell phone discussions. It is broadly concurred that mobile phones can be an inconvenience in gatherings or calm zones, and in numerous public places today their utilization is prohibited. Regularly the wireless client, as well, is awkward having the substance of their discussion become public.

At the same time, the ability to field an urgent or important call at any location could in many instances be a very useful service. This technology, if noninvasive and small enough to be incorporated into a telephone handset, would resolve these issues by allowing users to communicate silently, without disturbing those around them. Given the numbers of cell phones in use today, the market for this technology could potentially become very important if such a concept gained public acceptance. Silent Sound technology is a technology that helps you to transmit information without using your vocal cords.

Silent Sound technology is developed at the Karlsruhe Institute of Technology, Germany. This technology uses electromyography. It monitors tiny muscular movements that occur when we speak and converting them into electrical pulses that can then be turned into speech, without a sound uttered. It is very useful for those people who can't speak. By using this technology they can easily interact with the other persons. The benefit of this technology is that the listener can hear voice clearly. This technology aims to notice lip movements & transform them into a computer generated sound that can be transmitted over a phone.

Hence person on other end of phone receive the information in audio. The idea of interpreting silent speech electronically or with a computer has been around for a long time, and was popularized in the 1968 Stanley Kubrick science-fiction film "2001-A Space Odyssey." In the 2010 CeBIT's "future park", a concept "Silent Sound" Technology demonstrated which aims to notice every movement of the lips and transform them into sounds, which could help people who lose voices to speak, and allow people to make silent calls without bothering others.

Rather than making any sounds, your handset would decipher the movements your mouth makes by measuring muscle activity, then convert this into speech that the person on the other end of the call can hear. So, basically, it reads your lips.

Figure 1 Common people talking at same place without disturbance

“We currently use electrodes which are glued to the skin. In the future, such electrodes might for example by incorporate into cell phones,” said Michael Wand, from the KIT. The technology opens up a host of applications, from helping people who have lost their voice due to illness or accident.

The technology can also turn you into an instant polyglot. Because the electrical pulses are universal, they can be immediately transformed into the language of the user’s choice. “Native speakers can silently utter a sentence in their language, and the receivers hear the translated sentence in their language. It appears as if the native speaker produced speech in a foreign language,” said Wand.

2. METHODS

Silent Sound Technology is processed through some ways or methods. They are:-

A. Electromyography (EMG)

The Silent Sound Technology utilizes electromyography, checking little solid developments that happen when we talk. Electromyography (EMG) is a method for assessing and recording the electrical action delivered by skeletal muscles. EMG is performed utilizing an instrument called an electro-myograph, to deliver a record called an electro-myogram. An electro-myograph identifies the electrical potential produced by muscle cells when these phones are electrically or neurologically actuated.

Observed signs are changed over into electrical heartbeats that would then be able to be transformed into discourse, without a sound articulated. It is a strategy which screens little solid developments and heartbeats produced by it. The transducers included believer the beats into electric signs. The electrical source is the muscle layer capability of about - 90 mV. Estimated EMG possibilities range between under 50 μV and up to 20 to 30 mV, contingent upon the muscle under perception.

B. Image Processing

The most straightforward type of advanced picture handling changes over the computerized information tape into a film picture with negligible adjustments and alignments. At that point enormous centralized server PCs are utilized for modern intuitive control of the information. In the current setting, overhead planned are utilized to dissect the image.

In electrical designing and software engineering, picture handling is any type of sign preparing for which the info is a picture, for example, a photo or video outline; the yield of picture preparing might be either a picture or, a bunch of attributes or boundaries identified with the picture. In the quiet stable innovation the yield of this picture handling is a sound record. Most picture preparing procedures include regarding the picture as a two-dimensional sign and applying standard sign handling methods to it.

3. APPLICATIONS OF SILENT SOUND TECHNOLOGY

The Technology opens up a host of application such as mentioned below:- As we know in space there is no medium for sound to travel therefore this technology can be best utilized by astronauts.

1. Helping people who have lost their voice due to illness or accident.
2. We can make silent calls even if we are standing in a crowded place.
3. Allow people to make silent calls without bothering others.
4. Telling a trusted friend your PIN number over the phone without anyone eavesdropping -assuming no lip readers are around.
5. Silent Sound Techniques is applied in Military for communicating secret/confidential matters to others.
6. Since the electrical signals are universal they can be translated into any language. Native speakers can translate it before sending it to the other side. Hence it can be converted into any language of choice currently being German, English & French.

4. RESTRICTIONS

1. Translation into majority of languages but for languages such as Chinese different tone holds different meaning, facial movements being the same. Hence this technology is difficult to apply in such situations.
2. From security point of view recognizing who you are talking to gets complicated.
3. Even differentiating between people and emotions cannot be done. This means you will always feel you are talking to a robot.
4. This device presently needs nine leads to be attached to our face which is quite impractical to make it usable.

5. RESEARCH AND FUTURE PROSPECT

1. Silent sound technology gives way to a bright future to speech recognition technology from simple voice commands to memorandum dictated over the phone all this is fairly possible in noisy public places.
2. Without having electrodes hanging all around your face, these electrodes will be incorporated into cell phones.
3. It may have features like lip reading based on image recognition & processing rather than electromyography.
4. Nano technology will be a mentionable step towards making the device handy.

With all of the millions of phones in circulation, there is great potential for increasing earnings by saving 'lost calls' - telephone calls that go unanswered or uninitiated because the user is in a situation in which he or she cannot speak - not just in business meetings, but everyday situations. According to research, these 'lost calls' are worth $20 billion per year worldwide. For the cellular operator, these are

potential earnings that are currently being left on the table. When these 'lost calls' become answerable, and can be conducted without making a sound, there is a tremendous potential for increased profits. Now the research is going on technology that can be used in Office Environment too.

6. CONCLUSION

Quiet Sound Technology, one of the new patterns in the field of data innovation carries out "Talking without Actually Talking". Specialists guarantee that the gadget is working with 99% effectiveness. It is hard to analyze SSI advances straightforwardly in a significant manner. Since a considerable lot of the frameworks are as yet starter, it would not bode well, for instance, to analyze discourse acknowledgment scores or blend quality at this stage.

Quiet Sound' innovation plans to see each development of the lips and change them into sounds, which could help individuals who lose voices to talk, and permit individuals to settle on quiet decisions without disturbing others. As opposed to making any sounds, your handset would unravel the developments your mouth makes by estimating muscle action, at that point convert this into discourse that the individual on the opposite finish of the call can hear. Thus, essentially, it pays close attention to you. It will be one of the development and helpful innovation and in simple future this innovation will be utilized in our everyday life.

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ACALYPHAINDICA L. AN IMPORTANT MEDICINAL PLANT

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Abstract - Nowadays medicinal plants are used by a large population of the world in place of artificial chemicals. Many researchers worked in identifying plants which are used for the treatment of numerous diseases because of the side effects of the synthetic drugs. *Acalyphaindica* L. is one of the medicinal plants that grows all around the world and because of its simplicity this plant is used as a traditional medicine. This plant is used for curing asthma, pneumonia, scabies, bronchitis. *Acalyphaindica* have valuable properties of anthelmintic, diuretic.
Keywords: *AcalyphaIndica*L., medicinal plant.

1 INTRODUCTION

India a land of vast soil and different climatic condition is an ideal source of the cultivation of large number of plants with good medicinal plants and hence can be used in different industries like pharmaceutical, cosmetics, agrochemical.

*Acalyphaindica*L. belongs to the family Euphorbiaceae is one of the largest plants with more than 450 species. More than half of the species of this plant grows in America, Africa. This plant also grows in India mainly in waste lands, road sides, river banks, rockyhillsides. In India this plant mainly grows in Andhra Pradesh, Tamilnadu, West Bengal, Kerala (Manisha M et al., 2011). *AcalyphaIndica* L shows elevated concentration of phenols, flavonoids, alkaloids, catachols, tannins, saponins (Mahesh VK etal., 1984)

2 TAXONOMIC CLASSIFICATION

Scientific Name	:-	Acalyphaindica
Family	:-	Euphorbiaceae
Higher Classification	:-	Acalypha
Order	:-	Malpighiales
Kingdom	:-	Plantae

2.1 Vernacular Names

Sanskrit	:-	Arittamanjarie
English	:-	Indian Acalypha
Hindi:-Kuppu	;-	Khokali

3 TRADITIONAL USES

Knowledge of the individual constituent is most important in determining the pharmalogical activity of the plant. The leaves of *AcalyphaIndica* L can be used for the diagnosis of piles, jaundice, malaria etc.Leaves can be

used for eye infections. In Malaysia leaves are used in the treatment of fever, flu and headache. Juices form fresh leaves can be mixed with lime and onion which gives stimulating effect in rheumatism. The juice of the leaf is used along with cotton and inserted into each nostril. 50% ethanol extracts of pods exhibit the antifertility activity in female albino rats. Palms are used to press the leaves and thus the juice extracted from the leaves is applied on the part of skin infections. Leaves possess anti-periodic with laxative properties and the leaf extract can be applied to insect bites (Bourdy G and Walter A 1992).Burnt pods with little salt along with honey 3-4 times can be used for curing cough. For treatment against tummy ache, urinary disorder fruit flesh can be used. The stem of the plant has antibacterial activities against human pathogens. The seed of the plant is sweet and Seed powder is used in amoebiasis. For treatment against diabetes the pulp of the fruit around the seed is used. Roots are used for the cure against diabetes, ulcer, wound, boils, stiff situation. The extract of the root bark among alcohol for treatment against backwart fever.

The ethanol extract of *AcalyphaIndica* L shows utmost action against Pseudomonas aeruginosa, Bacillus cereus, Vibrio cholera. A study reveals that ethanol along with water extracts of bark, stem, leaves of *AcalyphaIndica* L are effective against Staphylococcus aureus, E.coli with antifungal activity adjacent to *Candidiaalbican*, *Microsporumcanis* and *Aspergillus fumigates*. The antifungal activity of *AcalyphaIndica* L is statistically similar to the drug ketoconazole.

4 CONCLUSION

The current review shows the medicinal properties of the plant with numerous bioactive compounds. *AcalyphaIndica* have tremendous antibacterial activities against human patheogens and hence from decades plants had been used in traditional ways with fewer side effects.

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A REVIEW ON THE PHYSICS AND ELECTRONICS RELATION IN HISTORICAL VIEW

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Abstract - An advanced logical consciousness of the popular advaitic articulation Brahma sat, jagat mithya, jivo brahmaiva na aparah is introduced. The one ness of jiva and Brahman are made sense of according to present day science perspective. The terms dristi, adhyasa, vivartanam, aham and idam are perceived in present day logical terms and a logical investigation is given.

Further, the forward (purodhana) and turn around (tirodhana) change of maya as jiva, prapancham, jagat and viswam, going through vivartanam is perceived and made sense of utilizing ideas from physical science and gadgets. The utilization of such a comprehension to the field of bionics, the electrochemical brain correspondence processes is talked about. The conceivable utilization of this understanding to assemble programming for demonstrating human perception and language learning and correspondence processes is indicated.

1 INTRODUCTION

Human knowing, discernment, thinking, scholarly capacities, understanding, experience and so forth, are mental cycles in the life form individual having a place with homosapien animal groups with vertebrate, assisting it with cognizing. Normally, human mental cycles are natural including physico-substance energy advances and changes connecting with mind and the sensory system. Proteins, which are comprised of amino acids which are situated in space as poly-peptides, are one of the main macromolecules that partake in these mental cycles. This is the hard-product part of human mental framework and connects with physiological brain science discipline.

The delicate product portraying human mental capacities is being created in the cutting edge logical fields of man-made consciousness. Human knowing (through receptors and cerebrum) and discernment are being demonstrated by numerous savants and researchers. Likewise a few parts of learning take demonstrating of human mental cycle as one of their topics. Epistemology, brain science, physiological brain science, nervous system science, man-made reasoning add to the investigation of human mental cycles in their own specific manner.

The Upanishads are packed with numerous articulations which manage human resources and mental cycles which can be utilized to comprehend and display human mental processes1-14. Indian otherworldly insight contained in the Upanishads, Advaita siddhanta,

Shad Darshanas and comparable texts isn't really religious but at the same time is mental and logical. The Upanishads are customarily remarked on as religious texts. Yet, Upanishads are likewise texts of science on human mind. Advaita and Dvaita ideas can be effectively used to comprehend the hypothesis of human mental processes. Atmajnana, the Upanishadic shrewdness when deciphered from brain research and current science perspective, yields a mine of data about periods of psyche, perspectives and elements of mind. The actual design of brain and a model and conceivable hypothesis of human cognizance and language learning and correspondence cycles can be introduced when the thoughts from Upanishadic shrewdness, Advaita thought and Sabdabrahma hypothesis are clubbed. As a continuation to this methodology, vivartanam, the main thought of Advaita pondered age of maya from Atman and change of maya to frame idam comprising of jiva, prapancham, jagat and so forth, and their cutting edge logical ramifications are introduced from physical science and gadgets view and understanding.

Vivartanam is the kind of progress that maya goes through while sristi (making of mental impressions) happens, when sristi is in the mindfulness we are intellectually working. When sristi is in the mindfulness a cover is shaped on dristi and makes adhyasa. As per Advaita naturally suspected just two mental circumstances are accessible for people in the familiarity with the Atman. The circumstances are nidra or sristi. Nidra compares to the sushupti condition of awareness (Concept Diagram I). During this period of psyche, all psychological capacities stop to be in the mindfulness and maya, whose changes these psychological capacities are, becomes nirvishaya suddha vasana pravaham. During this period of psyche maya doesn't bifurcate as divyam (jnana sakti) and swaram (prana sakti) as in jagrat and swapna cognizant states and both sense and activities organs stay lethargic and functionless.

All human getting the hang of, knowing, correspondence, discernment, thinking, experience, understanding and a state rising above these psychological capacities are the consolidated and concurrent activity of Atman, maya, antahkaranas (inward mental devices), pancha pranas, receptors and activity organs. Mental capacities occur as the between play of advaita (vishranta dristi-abandoned mindfulness unadulterated cognizance) and dvaita (synchronous presence of antarmukha dristi-consciousness of inside of the body and bahirmukha dristi-attention to the without of the body). Receptors are initiated by the antahkarana manas and this structures the baharmukha dristi-consciousness of the without of the body. During this attention to mind tanmatras (objectenergy structures) are detected by receptors by tuned manas. Discernment is develop from the contributions through receptors and manas. Manas gives dristi or attention to without and inside of the body, concerning the detecting and detected and made object-energy structures.

Advaita Siddhanta and Sabdabrahma Siddhanta of Indian grammarians are take these examples. Like Vedanta Darsana, Sabdabrahma Theory has advaita reasoning as its basis3-19. Advaita reasoning is an incorporated brain science, which maintains the equality of the knower in both the reluctant (jivatma) state and the Witness in the otherworldly unadulterated cognizant (paramatma) state with Being and Becoming in forward and turn around bearings during the cycles of Expression/Teaching and Knowing/Learning. Brahma sat jagat mithya jivo brahmaiva na aparah-is really serious about What is available forever is Brahman and jagat (which is moving or transient) is adhyasa and mithya (unbelievable); jiva is Brahman Itself, not unique or particular or independent.

In Advaita (No Two or non-double) state human brain has awareness as it were. As Prajnanam, Atman gives Dristi to notice, know about and be aware of understanding, implications and feelings of insights and perception made encounters. During advaita stage, no change of mayano creation, change and working of antahkaranas (internal mental devices) happens however the current of mindfulness is associated with receptors and activity organs which are prepared to work yet not in a working state. In dvaita (two or double) perspective human brain exists as cognizance and mindfulness. Upanishads call cognizance as Aham and attention to vasanas and prapancham as idam. The mindfulness, the indication of human mental capacities is temporary and exists or stops to rely upon the period of brain. Mindfulness is available in Jagrat (Wakeful) and Swapna (dream) cognizant states or periods of brain. In Jagrat Sushupti (Wakeful Sleep) or Sushupti (Deep Sleep) cognizance states or periods of brain attention to mind as being canny to mental tasks and doing mental capacities will be invested in unadulterated awareness. In Wakeful Sleep cognizant state mindfulness will be generally on and mind capacities whenever willed. We, people learn, know, convey, educate, see, think, insight, comprehend and so on, when an interchange of alert , dream cognizant states happen all the while utilizing double (dvaita) and non-double (advaita) cognizant states during which time maya, the reflected chit energy changes reversibly to work with us to perform mental undertakings. This two-way-forward and turn around change of maya-is in fact known as vivartanam in advaita suspected. In double (dvaita) perspective, receptors and activity organs are dynamic and capacity shaping mental tasks and consequently empower us to fill all psychological roles with the assistance of inward mental instruments (antahkaranas- - manas, buddhi, chittam and ahamkaram) which are two-way changes of maya. The rotating and synchronous ascent and set of double mental state and at any point present non-double awareness give us cognizing, open and other mental capacities.

A large portion of present endeavors target displaying machine comprehension as a detached interaction which is the aftereffect of

sensing. Yet, assuming human mental cycles are noticed, clearly human discernment is nevertheless a delegate interaction which moves detecting into sense (grasping/experience) and sense into articulation. Human mental cycle can be expressed consecutively as follows: (1) detecting: through receptors (knowing), (2) insight (thinking, thinking, independent direction, etc.,), (3) grasping/experience, (4) indicate significant experience or experienced importance. Human mental interaction is for the most part held to be a mix and speedy progressive changes of four modes i.e., I Speaker/Teacher: (a)Purport/Awareness (Meaningful Experience or Experienced Meaning (b) Understanding/Experience (c) Perception/ Thinking (d) Utterance/ Expression II Knower/ Listener/ Learner: (a) Knowing (through receptors) (b) Perception/Thinking (c) Understanding/ Experience (d) Purport (Meaningful Experience/ Experienced Meaning)/Awareness. Language is the main specialized device in everyday exchanges and furthermore in getting the hang of, understanding and conferring different familiarities, disciplines and abilities. This paper expects to demonstrate the way that the comprehension of human mental cycles could be improved if due consideration were paid to applicable information of material science energy and its changes assuming an essential part and-all the more shockingly and strangely - to Upanishadic shrewdness and advaita reasoning.

Human brain capacities in Jagrat (alert cognizant state) and Swapna (dream cognizant state) - named as dvaita (Two - aham-idam) cognizant states - utilizing above mental instruments and all the while utilizes these Jagrat and Swapna cognizant states and switches back and forth among dvaita and advaita No Two - just Aham - Aham - the Jagrat Sushupti-cognizant state and helps people to be aware, reason, do scholarly activities, figure out, experience and be happy, serene and silent (Concept Diagram I).

In the dvaita (aham-idam) cognizant express a separated view of knower and known exists while knowing/learning. Subsequently a ternion (triputi) of knower-knowing-known exists and saw. The view of this set of three is missing in advaita (Aham) cognizant state; then, at that point, impression of knower and known gets retained in knowing and just consciousness of knowing as significant experience/experienced importance/grasping remaining parts/results. In advaita state insight/ understanding/sense (of a word) becomes mental energy-structure by and in Eternal Awareness Prajnanam, rising above dvaita cognizant state. Advaita cognizant state is likewise the condition of imply - tatpara, tatparya, rasa or bhakti state.

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पसंद आधारित श्रेयांक प्रणाली (C.B.C.S.)

डॉ. अंजू सोनकर
सहायक प्रोफेसर – गृह विज्ञान, लालता सिंह राजकीय महिला स्नातकोत्तर महाविद्यालय अदलहाट, मिर्ज़ापुर, उत्तर प्रदेश

उच्च शिक्षा किसी भी राष्ट्र की शिक्षा व्यवस्था का सर्वोच्च सोपान होता है। किसी राष्ट्र की प्रगति उस देश की उच्च शिक्षा के स्तर पर निर्भर करती है। हमारे देश में उच्च शिक्षा का नियमन यू0जी0सी0 द्वारा किया जाता है। उच्च शिक्षा के उत्कृष्टता लाने हेतु यू0जी0सी0 द्वारा समय–समय पर नव प्रयोग किये जाते रहे हैं। पसन्द आधारित श्रेयांक प्रणाली (CBC) एक ऐसी ही नूतन प्रणाली है जिसके प्रयोग पर यू0जी0सी0 द्वारा बल दिया जा रहा है। यह प्रणाली उच्च शिक्षा की संस्थाओं तथा विश्वविद्यालयों को नमनीयता तथा स्वतत्रता के प्रदान करते हुए उन्हें पाठ्यक्रमए पाठ्यवस्तु व शिक्षण अधिगम विधियों के अभिकलन के पूर्ण अवसर प्रदान करती है। इसको अपनाने पर विभिन्न संस्थाओं में छात्रों का आवागमन व स्थानान्तरण अधिक वस्तुनिष्ठ, विश्वसनीयता तथा कार्यपरक ढंग से सम्भव हो सकेगा, ऐसी आशा की जा रही है।

सी0बी0सी0एस0 की विशेषतायेः–

1. यह सभी केन्द्रीय एवं राज्य स्तरीय विश्वविद्यालयों के लिए एक समान प्रणाली है।
2. इसमें तीन मुख्य कोर्स होते है– केन्द्रीय, वैकल्पिक तथा आधारभूत कोर्स।
3. सी0बी0सी0एस0 में गैर श्रेयांक (Non-credit) कोर्स भी उपलब्ध है जिनका आंकलन संतोषजनक अथवा असंतोषजनक के रूप में किया जायेगा। इसे SGPA, CGPA की गणना में शामिल नहीं किया जाता है।
4. सभी तीन प्रमुख कोर्सो का मूल्यांकन तथा आकलन प्रभावी एवं संतुलित परिणाम देने के लिए किया जाता है।
5. कोई भी विद्यार्थी अपनी क्षमता के अनुरूप कई क्रेडिट ले सकता है।
6. सी0बी0सी0एस0 विद्यार्थियों को विभिन्न समयों तथा विभिन्न संस्थाओं में अध्ययन करने की सुविधा (विद्यार्थियों की सुगम गतिशीलता) प्रदान करता है। एक संस्था में अर्जित किये गये क्रेडिट को दूसरी संस्थाओं में ट्रान्सफर किया जा सकता है।

7. सी0बी0सी0एस0 में विद्यार्थियों को अन्तर अनुशासनिक अन्तरानुशासनिक तथा दक्षता– अभिमुख प्रश्नपत्रा के चयन का अवसर मिलता है तथा उन्हें अधिक नमनीयता उपलब्ध करायी जाती है।
8. सी0बी0सी0एस0 शिक्षा को वैश्विक मानकों के अनुरूप बनाती है तथा व्यापक आधार प्रदान करती है। कोई विद्यार्थी अनोखे ढंग के विषय संयोजन के साथ क्रेडिट ले सकता है। जैसे– भौतिक विज्ञान के साथ अर्थशास्त्र रसायन शास्त्र अथवा पर्यावरण विज्ञान के साथ माइक्रो बायोलाजी इत्यादि।

सी बी सी एस के आधारभूत तत्व :–

(1) सेमेस्टर–

इस प्रणाली में मूल्यांकन प्रति सेमेस्टर किया जाता है। किसी विद्यार्थी की प्रगति कोर्स के आधार पर देखी जाती है न कि निश्चित समय के आधार पर जैसे –कला एवं मानविकी के लिए 3 साल तथा इंजीनियरिंग के लिए 4 साल में कोर्स को पूर्ण कराया जाता है। प्रत्येक सेमेस्टर में 15–18 सप्ताह का शैक्षणिक कार्य होता है जो 90 कार्यदिवस के बराबर होता है। पाठ्यक्रम निर्मित करने कोर्स की पाठयवस्तु के अनुसार क्रेडिट प्रदान करने तथा शिक्षण के घण्टे निश्चित करने में नमनीयता रहती है।

(2) श्रेयांक प्रणाली–

प्रत्येक प्रश्नपत्र के लिए निश्चित श्रेयांक दिये जाते है। जब विद्यार्थी उस कोर्स को पास करता है तब उसे कोर्स के लिए निर्धारित क्रेडिट अर्जित करता है। यदि कोई विद्यार्थी किसी सेमेस्टर में एक ही कोर्स में उत्तीर्ण होता है, तो उसे बाद में उसी कोर्स का पुनः उत्तीर्ण नहीं होना होता है। छात्र अपनी गति से श्रेयांक अर्जित कर सकता है।

(3) श्रेयांक स्थानान्तरण–

यदि विद्यार्थी किन्हीं कारणों से अध्ययन के बोझ को झेल पाने में सक्षम नहीं है अथवा वह बीमार हो जाता है तो कुछ कोर्स को पढ़ने की स्वतंत्रता है तथा वह कुछ ही श्रेयांक प्राप्त करते हुए अगले सेमेस्टर में क्षतिपूर्ति कर सकता है।

(4) सतत एवं व्यापक मूल्यांकन–

विद्यार्थी का निरन्तर मूल्यांकन न केवल शिक्षक द्वारा किया जाता है बल्कि विद्यार्थी स्वयं अपना मूल्यांकन करता है।

(5) ग्रेडिंग–

यू.जी.सी. ने 10 बिन्दू आधारित ग्रेडिंग प्रणाली संस्तुत किया है

पसन्द आधारित श्रेयांक प्रणाली में छात्रों को अपनी पसन्द के प्रश्न पत्रों का चयन करने के अधिक अवसर प्रदान किये जाते है परीक्षा परिणामों के लिए ग्रेड व्यवस्था को अपनाया जाता है। तथा संचयी ग्रेड बिन्दू औसत (CGPA) का प्रयोग किया जाता है। सी0बी0सी0एस0 के अन्तर्गत किसी शैक्षणिक कार्यक्रम में सम्मिलित किये जाने वाले प्रश्नपत्रों को मोटे तौर पर तीन प्रकारों अर्थात् (i) केन्द्रीयभूत प्रश्नपत्र (core courses) (ii)वैकल्पिक प्रश्न पत्र (Elective Courses) तथा (iii) आधार प्रश्न पत्र में बाँटा जाता है। केन्द्रीय प्रश्नपत्रों से तात्पर्य उन प्रश्न पत्रों से होता है जिन्हें संबंधित कार्यक्रम ने अध्ययनरत सभी छात्रों को अनिवार्य रूप से करना होता है। वस्तुतः यह प्रश्नपत्र कार्यक्रम की केन्द्रीय व अनिवार्य रूप से आवश्यक होता है एवं प्रत्येक सेमेस्टर या शैक्षणिक वर्ष म एक/दो ऐसे पाठ्यक्रम अवश्य सम्मिलित किये जाते है। प्रायः किसी शैक्षणिक कार्यक्रम के लिए आवश्यक कुल श्रेयांको का 50ः केन्द्रीय प्रश्नपत्रों को दिया जाता है। वैकल्पिक प्रश्नपत्रों से अभिप्रायः उन प्रश्नपत्रों से होता है जिनमें से अपनी पसंद के अनुसार छात्र कुछ प्रश्नपत्रों का चयन करते है। ये प्रश्नपत्र शैक्षणिक कार्यक्रम के अध्ययन विषयों के अध्ययन में सहयोगी की भूमिका में होते है तथा छात्रों में कौशल व निपुणता को बढ़ाने वाले होते है। ये प्रश्नपत्र आधारभूत वैकल्पिक (Generic Electeves) के रूप में मूल अध्ययन क्षेत्र से हो सकते है। अथवा मुक्त वैकल्पिक के रूप में अन्य अध्ययन क्षेत्रों से भी हो सकते हैं। आधार प्रश्न पत्र सम्बन्धित शैक्षणिक कार्यक्रम के लिए आधारभूत ज्ञान, बोध व कौशल प्रदान करने वाले होते हैं। इनमें से कुछ अनिवार्य तथा कुछ वैकल्पिक हो सकते है। अनिवार्य आधार प्रश्न पत्र प्रायः उस स्तर के सभी कार्यक्रमों के लिए आवश्यक होते हैं तथा ऐसी विषयवस्तु को प्रस्तुत करते है जो ज्ञान व बोध की प्राप्ति अर्जन में सहयोग करते हैं। वैकल्पिक आधार प्रश्नपत्र प्रायः मूल्य आधारित होते है जो श्रेष्ठ मानव निर्माण की शिक्षा प्रदान करते हैं। CBCS में छात्रों को विभिन्न प्रश्नपत्रों यथा कन्द्रीय वैकल्पिक व आधारभूत में से अपनी पसन्द के प्रश्न पत्र चयन करने की छूट उपलब्ध कराई जाती है। इस प्रणाली के अनुरूप अभिकल्पित शैक्षणिक कार्यक्रमों में पर्याप्त लोचनीयता रखते हुए प्रश्न पत्रों का निर्धारण किया जाता है। विभिन्न प्रकार के प्रश्नपत्रों की पाठ्य–वस्तु व श्रेयाको के साथ–साथ उनके लिए आवंटित शिक्षण ट्यूटोरियल प्रयोगात्मक कार्य–सर्वेक्षण दत्त कार्य आदि का पूर्ण विवरण व मूल्यांकन प्रारूप भी प्रस्तुत किया जाता है। परन्तु यह ध्यान रखा जाना जरूरी है कि सभी प्रश्न पत्रों का भार समान होना आवश्यक नहीं है।

किसी प्रश्नपत्र का भार श्रेयाको के रूप में निर्धारित किया जाता है। श्रेयाक प्रणाली में साधारणतः एक श्रेयांक (credit) से तात्पर्य प्रति सप्ताह एक घंटा के शिक्षण से होता है।

यदि 180 कार्यदिवसो का सत्र माना जाये तब सामान्यतः एक श्रेयांक (बतमकमज) से तात्पर्य सम्पूर्ण शैक्षिक सत्र में कुल 30 घंटे का व्याख्यान ट्यूटोरियल रूपी शिक्षण–अधिगम कार्य में प्रतिभाग करने से होता है। इस प्रकार से 8, 6, 4 व 2 श्रेयांक वाले प्रश्न पत्रों के लिए छात्रों को क्रमशः कुल 240, 180, 120 व 60 घंटे का न्यूनतम समय शिक्षण–अधिगम हेतु लगाना होता है। प्रयोगात्मक कार्य या सर्वेक्षण आधारित प्रश्न पत्र के लिए एक घण्टे के स्थान पर दो घंटे की अपेक्षा की जाती है। छात्रों के द्वारा घर पर दिया जाने वाला अध्ययन समय इसके अतिरिक्त होता है। वस्तुतः प्रश्नपत्र का श्रेयांक उसके अध्ययन भार का एक सूचकांक है जो कार्यक्रम में सम्मिलित विभिन्न प्रश्नपत्रों को दिये जाने वाले भार का बताता है एवं कार्यक्रम को पूरा करने के लिए अपेक्षित कुल श्रेयांको को निर्धारित करने में सहायक होता है। त्रिवर्षीय पूर्णकालिक स्नातक कार्यक्रम प्रायः 120 श्रेयाकों का होता है जबकि द्विवर्षीय स्नातकोत्तर कार्यक्रम प्रायः 80 श्रेयांको का होता है। श्रेयांको की कुल संख्या का निधारण विश्वविद्यालय के द्वारा औपचारिक रूप से किया जाता है तथा इसमें थोड़ा बहुत अंतर हो सकता है।

पसंद आधारित श्रेयांक प्रणाली (CBCS) वस्तुतः छात्रों को केफेटेरिया या माल (Mall) प्रकार के व्यवस्था का अनुगमन करने की सुविधा प्रदान करती है जिसमें छात्र अपनी पसंद के प्रश्नपत्र चयनित करता है उनका स्व गति से अध्ययन करता है तथा अधिगम के लिए अन्तविषयी उपागम को अपनाता है। वह चाहे तो अतिरिक्त श्रेयाक के प्रश्नपत्र भी पूरा कर सकता है। इस प्रणाली में प्रायः मूल्यांकन की ग्रेड प्रणाली को अपनाया जाता है। विश्वविद्यालय अनुदान आयोग ने दस बिन्दू ग्रेडिंग प्रणाली (10 Point Grading system) को अपनाते हुए पसंद आधारित श्रेयांक प्रणाली (ब्ठैब्) में संचयी औसत ग्रेड बिन्दू (CGPA) की गणना की तरीके की संस्तुति भी की है।

यू0जी0सी0 द्वारा संस्तुत दस बिन्दु ग्रेड प्रणाली

अक्षर ग्रेड (Letter Grade)	ग्रेड विवरण (Grade Prescription)	ग्रेड बिन्दु (Grade Point)
O	असाधारण (Outstanding)	10
A+	उत्कृभट (Excellent)	9
A	अति उत्तम (Very)	8
B+	उत्तम (Good)	7

B	औसत से बेहतर (Above Average)	6
C	औसत (Average)	5
P	उत्तीर्ण (Pass)	4
F	अनुत्तीर्ण (Fail)	0
Ab	अनुपस्थित (Absent)	0

सारणी– शिक्षाशास्त्र में स्नातकोत्तर कला कार्यक्रम (कुल श्रेयांक=80)

प्रथम वर्ष (Previous Year)		द्वितीय वर्ष (Final Year)	
Papers	**Credits**	**Papers**	**Credits**
1. शिक्षा का दर्शन व समाजशास्त्र 2. शिक्षा मनोविज्ञान 3. शोध विधियाँ एवं सांख्यिकी	8 8 8	1. शैक्षिक मापन एवं मूल्यांकन 2. शैक्षिक प्रौद्योगिकी 3. शैक्षिक प्रशासन एवं प्रबन्धन	8 8 8
प्रथम वर्ष (Previous Year)		**द्वितीय वर्ष (Final Year)**	
Papers	**Credits**	**Papers**	**Credits**
1. शैक्षिक निर्देशन एवं परामर्श अथवा 2. शैक्षिक विचारक अथवा 3. शिक्षा में समसामयिक मुद्दे अथवा 4. तुलनात्मक शिक्षा	8	1.मुक्त एवं दूरस्थ शिक्षा अथवा 2. अध्यापक शिक्षा अथवा 3. विशिष्ट शिक्षा अथवा 4. परियोजना कार्य	8
प्रथम वर्श (Previous Year)		**द्वितीय वर्श (Final Year)**	
Papers	**Credits**	**Papers**	**Credits**
निम्न में से कोई एक प्रश्नपत्र (Any one Paper From)		निम्न में से कोई एक प्रश्नपत्र (Any one Paper From)	
1. प्राचीन एवं मध्यकालीन समाज 2. विकास के आर्थिक सिद्धान्त 3. भारतीय सामाजिक विचारधारा 4. इतिहास दर्शन एवं लेखन 5. भारतीय शासन एवं राजनीति	8	1. आधुनिक पा" चात्य दर्शन 2. मानव संसाधन प्रबन्धन 3. क्षेत्रिय अर्थशास्त्र का विकास एवं नियोजन 4. भारत में ग्रामीण समाज 5. भाषा विज्ञान, हिन्दी भाषा एवं लिपि	8
प्रथम वर्श (Previous Year)		**द्वितीय वर्श (Final Year)**	
Papers	**Credits**	**Papers**	**Credits**
गैर–श्रेयांकी कोई एक प्रश्नपत्र (Any One Non-Credit Paper) 1. सर्व धर्म समभाव व संस्कृति अथवा		गैर–श्रेयांकी कोई एक प्रश्नपत्र (Any One Non-Credit Paper) 1. भारतीय संविधान के मूलतत्व अथवा	

2. योग शिक्षा के आधार		2. नागरिक जीवन एवं स्वच्छता अभियान	
कुल प्रश्न पत्र = 6 (Total Papers=6)	40	कुल प्रश्न पत्र = 6 (Total Papers=6)	40

सात्रिक ग्रेड बिन्दु औसत (Semester Grade Point Average-SGPA) से तात्पर्य किसी छात्र द्वारा किसी सेमेस्टर में लिये गये प्रश्न पत्रों के औसत ग्रेड से होता है। इसे किसी छात्र द्वारा किसो सेमेस्टर के वांछित प्रश्नपत्रों (Courses) पर प्राप्त ग्रेड बिन्दुओं (Grade Points) की उनके श्रेयांकों (Credit) से गुणनफलों के योग एवं सभी वांछित प्र" नपत्रों के श्रेयांकों के योग के अनुपात से व्यक्त करते हैं। सूत्र रूप में कह सकते हैं कि–

$$SGPA\ (S_i) = \Sigma\ (C_i \times G_i) / \Sigma C_i$$

जहाँ SGPA (S_i) किसी छात्र के प वें सेमस्टर के औसत ग्रेड बिन्दु को, C_i प्रश्नपत्र (Courses) प के श्रेयांक (Credits) को, तथा G_i प्रश्नपत्र में प में छात्र द्वारा प्राप्त ग्रेड बिन्दु (Grade Points) को इंगित करता है। सात्रिक ग्रेड बिन्दु औसत (SGPA) की गणनाविधि आगे दी गयो सारणी के अवलोकन से स्पष्ट हो सकेगी।

सारणी
सात्रिक ग्रेड बिन्दु औसत की गणना
(Cumulation of Semester Grade Point Average)

प्रश्नपत्र (Course)	**श्रेयांक (Credits)**	**ग्रेड अक्षर (Grade Letter)**	**ग्रेड बिन्दु (Grade Points)**	**श्रेयांक बिन्दु (Credits Points)**	**प्रश्नपत्र प्रास्थिति (Course Status)**
प्रश्नपत्र–1 Course-1	8	A	8	8×8=64	Clear
प्रश्नपत्र–2 Course-2	6	A+	9	6×9=54	Clear
प्रश्नपत्र–3 Course-3	(8)	F	0	8×0=00	Not Clear
प्रश्नपत्र–4 Course-4	4	B	6	4×6=24	Clear
योग (Total)	18	-	.	142	SGPA=142/18 =7.89

संचयी ग्रेड बिन्दु औसत (Cumulative Grade Point Average-CGPA) से अभिप्राय किसी छात्र द्वारा अब तक अध्ययनरत सभी सेमेस्टरों के लिए औसत ग्रेड बिन्दु से होता है। किसी छात्र द्वारा अब तक किये गये सभी प्र" नपत्रों (Courses) पर प्राप्त ग्रेड बिन्दुओं (Grade Points) की उनके श्रेयांकों (Credits) के किये गये गुणनफलों के योग एवं सभी

प्रश्नपत्रों के श्रेयांकों के योग के अनुपात से व्यक्त करते हैं। सूत्र रूप में कह सकते हैं कि–

$$CGPA\ (S_i) = \Sigma\ (C_i \times G_i) / \Sigma C_i$$

जहाँ CGPA किसी छात्र के संचयी ग्रेड बिन्दु औसत का C_i प्रश्नपत्र (Course) प के श्रेयांक को तथा G_i प्रश्नपत्र प में छात्र ग्रेड बिन्दु को इंगित करता है। संचयी ग्रेड बिन्दु औसत (CGPA) की गणनाविधि आगे दी जा रही सारणी के अवलोकन से स्पष्ट हो सकेगी।

सारणी

सात्रिक ग्रेड बिन्दु औसत की गणना

(Cumulation of Semester Grade Point Average)

प्रश्नपत्र उत्तीर्ण किया (Course Cleared in)	**प्रश्नपत्र (Course)**	**श्रेयांक (Credits)**	**ग्रेड अक्षर (Grade Letter)**	**ग्रेड बिन्दु (Grade Points)**	**श्रेयांक बिन्दु (Credits Points)**
प्रथम सेमेस्टर	प्रश्नपत्र –1 Course-1	8	A	8	8×8=64
प्रथम सेमेस्टर	प्रश्नपत्र–2 ब्वनतेम.2	6	A+	9	6×9=54
प्रथम सेमेस्टर	प्रश्नपत्र–3 Course-3	8	B	6	8×6=48
बैक प्रश्नपत्र	प्रश्नपत्र–4 Course-4	4	O	10	4×10=40
द्वितीय सेमेस्टर	प्रश्नपत्र–5 Course-5	3	C	5	3×5=15
बैक प्रश्नपत्र	प्रश्नपत्र–6 Course-6	2	A+	9	2×9=18
द्वितीय सेमेस्टर	प्रश्नपत्र–7 Course-7	4	B+	7	4×7=28
द्वितीय सेमेस्टर	प्रश्नपत्र–8 Course-8	8	B	6	8×6=48
तृतीय सेमेस्टर	प्रश्नपत्र–9 Course-9	6	O	10	6×10=60
तृतीय सेमेस्टर	प्रश्नपत्र–10 Course-10	3	C	5	3×5=15
तृतीय सेमेस्टर	प्रश्नपत्र–11 Course-11	8	B	6	8×6=48
तृतीय सेमेस्टर	प्रश्नपत्र–12 Course-12	4	B	6	4×6=24
कुल प्रश्न प=(Total Papers)		64	कुल श्रेयांक बिन्दु (Total Credits Points)		462
संचयी ग्रेड बिन्दु औसत (Cumulative Grade Point Average) CGPA=462/64=7ण्22					

विभिन्न सेमेस्टरों में छात्रों को दी जाने वाली सात्रिक प्रतिलेख (Semester Transcript) में उस सत्र में लिये गये प्रश्नपत्रों (Courses)

सम्बन्धी विभिन्न सूचनाओं के साथ–साथ उस सत्र के सात्रिक ग्रेड बिन्दु औसत (SGPA) को दिया जाता है, संचयी प्रतिलेख (Cumulative Transcript) में तब तक पूर्ण किये गये प्रश्नपत्रों (Courses) सम्बन्धी जानकारी के साथ–साथ उत्तीर्ण प्रश्नपत्रों के सापेक्ष संचयी ग्रेड बिन्दु औसत (CGPA) दिया जाता है जबकि अन्तिम व पूर्ण प्रतिलेख (Final Transcript) में कार्यक्रम की समस्त आवश्यकताओं की पूर्ति होने (Programme Completion) की प्रास्थिति को इंगित करते हुए अन्तिम ग्रेड बिन्दु औसत (FGPA) को भी दिया जाता है

संदर्भ ग्रन्थ सूची

1. गुप्ता, एस0पी0 (2017) ''आधुनिक मापन एवं मूल्यांकन'', भारदा पुस्तक भवन, इलाहाबाद,.
2. https://www.quora.com
3. https://www.ugc.ac.in

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महिला स्वास्थ्य एवं कुपोषण समाप्त करने हेतु शासकीय प्रयास : एक समाजशास्त्रीय अध्ययन

कंचन राय
(शोध छात्र), समाज शास्त्र विभाग, शहीद स्मारक राजकीय स्नातकोत्तर महाविद्यालय युसुफपुर, मोहम्दाबाद, गाजीपुर, उत्तर प्रदेश
डॉ. राजेश कुमार
एसोसिएट प्रोफेसर–समाजशास्त्र, शहीद स्मारक राजकीय स्नातकोत्तर महाविद्यालय युसुफपुर, मोहम्दाबाद, गाजीपुर, उत्तर प्रदेश

कुपोषण भारत की गम्भीरतम समस्याओं में से एक है वर्तमान में भारत सरकार द्वारा इस पर ध्यान दिया जा रहा है, कुपोषण के कारण ही देश में बीमारियों का बोझ अधिक है। हालांकि राष्ट्रीय पारिवारिक स्वास्थ्य सर्वेक्षण–4 (NFHS-4) के आंकड़े बताते हैं कि फिरहाल देश में कुपोषण की दर घटी है, लेकिन न्यूनतम आमदनी वर्ग वाले परिवारों में आज भी आधे से अधिक बच्चे (51 प्रतिशत) अविकसित और सामान्य से कम वजन (49 प्रतिशत) के है।

आज भारत में दुनिया के सबसे अधिक अविकसित (4.66) करोड़ और कमजोर (2.55) करोड़ बच्चे मौजूद है भारत सरकार ने राष्ट्रीय पोषण मिशन के तहत बड़े जोर शोर से पोषण अभियान प्रारम्भ की थी। इसका मकसद बच्चों, गर्भवती और स्तनपान कराने वाली महिलाओं के खान–पान में सुधार लाना था।

2019 में आब्जर्बर रिसर्च फाऊडेशन (ORF) ने महिला बाल विकास मंत्रलाय के सहयोग से एक वर्कशाप आयोजित की इसमें केन्द्र और राज्य सरकारों के प्रतिनिधि संयुक्त राष्ट्र की एजेंसिया वर्ल्ड बैंक जैसे बहुआयामी संगठन, महशूह विद्वान और सामाजिक संगठनों के सदस्य शामिल हुए संगठन में शामिल समस्त सदस्यों ने अपने–अपने विचार व्यक्त किए। इस वर्कशाप का मकसद इन लोगों के लिए एक ऐसा मंच उपलब्ध कराना था जहाँ देश के उत्तर भारतीय क्षत्रों में अभियान की बेहतर संभावनाओं की तलाश की जाए। ये रिपोर्ट (ORF) की उसी वर्कशाप के जरिए सामने आए विचारों के आधार पर तैयार की गयी है। रिपोर्ट के अनुसार भारत में मौजूद पोषण से तमाम चुनौतियों को जानने एवं समझने की कोशिश करेंगे। उसके बाद पोषण से जुड़े कार्यक्रमों उनकी सफलता और उपलब्धियों को समझगें यह रिपोर्ट पोषाहार से जुड़े सरकार के प्लैगशिप प्रोग्राम पोषण अभियान के मकसद पर रोशनी डालती है, और उत्तर भारत में इससे जुड़े खास अनुभवों के बारे में खासतौर से बताती है रिपोर्ट का समापन पोषण अभियान की कामयाबी

तय करने वाले सुझावों के साथ किया गया है। जिनमें अलग–अलग राज्यों द्वारा अपनाए गए इनोविश और कोशिशों में और सुधार लाना भी शामिल है।

भारत में कुपोषण की चुनौतियाँ

40 वर्ष पहले के समयों में भारत में बहुत से पोषण कार्यक्रम चलाए गए। इनमें एकीकृत बाल विकास कार्यक्रम (ICDS) बनाना और देशव्यापी मिड–डे मील योजनाओं को लागू किया जाना शामिल है। मगर कुपोषण और कमजोरी देश की विकास प्रक्रिया में बाधा बने हुए हैं, शारीरिक कमजोरी का तो मानव संसाधन विकास गरीबो उन्मूलन और सामाजिक न्याय से जुड़े कार्यक्रमों पर व्यापक दुष्प्रभाव दिखता है, इसकी वजह से पढ़ाई–लिखाई की संभावनाओं पर बुरा असर पड़ा जिसके परिणामस्वरूप आगे चलकर पेशेवर कामयाबी की संभावनाएँ भी कम हुई। भारत में कुपोषण और बच्चों के विकास की कमी म निवेश पर कई गुना रिटर्न मिलने की संभावनाएँ है। आज भी दुनिया की कुपोषित आबादी का सबसे बड़ा हिस्सा भारत में रहता है, और 2019 में हंगर डेन्डेक्स (GHI) में भास 117 देशों में 102वें नंबर पर था।

सर्वे के आंकड़ों पर नजर डाला जाये तो पता चलता है कि शारीरिक विकास की चुनौती का सीधा सम्बन्ध उम्र से दिखता है, ये समस्या 18 से 23 महीने के बीच सबसे ज्यादा होती है, सही समय पर दुँआ स्तनपान उम्र के मुताबिक पूरक भोजन टीकाकरण और विटामिन ए0 सप्लीमेन्ट्स पोषण के लिहाज से बेहद जरूरी है। 157 देशों वाले मानव पूँजी के सूचकांक में भारत का नंबर 115वाँ है। स्वास्थ्य एवं शिक्षा के क्षेत्र में लम्बे समय से निवेश न होने के चलते आर्थिक विकास की रफ्तार धीमी रही। विश्व बैंक के अनुसार बचपन की शारीरिक कमजोरी के चलते वयस्कों के कद में 1 प्रतिशत कमी दर्ज की गयी है, जो आथिक उत्पादन में 1.4 प्रतिशत के नुकसान का कारण बनती है। शारीरिक विकास में कमी आने वाली पीढ़ियों पर थी दूरगामी प्रभाव विकास में कमी आने वाली पीढ़ियों पर थी, दूरगामी प्रभाव डालती है, इससे भी ज्यादा चिंतनीय है कि महिलाओं में खून की कमी (जो 2015–16 मे 53.1 प्रतिशत) थी का नकारात्मक प्रभाव भविष्य में उनके गर्भधारण पर पड़ता है, ऐसी महिलाओं के बच्चें भी खून की भारी कमी के साथ पैदा होते हैं, तो तब हो जाती है, जब इन बच्चों को भोजन पर्याप्त मात्रा में नहीं उपलब्ध हो पाता है।

भारत में शारीरिक विकास और कम वजन की समस्या :

अध्ययन क्षेत्र भारत का ही एक छोटा सा भाग है। जो भारत की समस्या है। वही अध्ययन क्षेत्र की समस्या है। भारत में संसार के सबसे अधिक अविकसित (4.66 करोड़) और कम वजन (2.55 करोड़) वाले बच्चे है। 15–49 साल उम्र की 23 फीसदी महिलाएँ और 20 प्रतिशत पुरुष कम वजन के है, और लगभग इतने ही अनुपात में 21 प्रतिशत महिलाएँ और 19 प्रतिशत पुरुष औरत महिलाएँ औसत से ज्यादा वजन और मोटापे के शिकार है।

2015–16 के राष्ट्रीय पारिवारिक स्वास्थ्य सर्वेक्षण के अनुसार भारत में थोड़े बहुत सुधार के बावजूद शारीरिक विकास की हालत अभी भी चिंताजनक है। (फिगर) 1980 में भारत में अविकसित बच्चों की संख्या 66.2 प्रतिशत संख्या घटकर लगभग 38.4 प्रतिशत हो गई है। 5 वर्ष के कम के अविकसित बच्चों का आँकड़ा एक दशक पहले 48 प्रतिशत से घटकर 38.4 प्रतिशह हो गया है, अगर पाण्डुचिरी एवं दिल्ली को छोड़ दे तो बाकी सभी राज्यों के शहरी क्षेत्रों के मुकाबले ग्रामीण क्षेत्र में शारीरिक रूप से कमजोर बच्चों की संख्या अधिक ह, गुजरे 10 वर्षों में 5 वर्ष से कम उम्र के कम वजन वाले बच्चों की संख्या बढ़ी है, अगर 2005–06 को ऐसे बच्चों को संख्या कुल बच्चों की आबादी का 19.8 प्रतिशत था जो 2015–16 में बढ़कर 21 प्रतिशत हो गया है। इसी प्रकार वजन की गम्भीर कमी की समस्या से जूझते बच्चों का अनुपात 2005–06 में 6.4 प्रतिशत की तुलना में 2015–16 में बढ़कर 7.5 प्रतिशत हो गया। सर्वे के आंकड़ों को देखने से पता चलता है कि शारीरिक विकास की चुनौती का सीधा सम्बन्ध उम्र से दिखता है, ये समस्या 18–23 महीने के बच्चों के बीच सबसे अधिक होती है, सही समय पर शुरू हुआ स्तन–पान उम्र के मुताबिक पूरक भोजन, टीकाकरण और विटामिन ए सप्लीमेंटस पोषण के लिहाज से बहद जरूरी है। हालांकि आँकड़े यह बताते है कि केवल 41. 6 प्रतिशत बच्चे ही पैदाइश के घंटे भर के भीतर स्तनपान शुरू कर पाते हैं। 54.9 प्रतिशत को ही 6 महीने तक स्तन पान कराया जाता है, और 2 साल के कम उम्र के केवल 9.6 प्रतिशत बच्चे ही सही खान–पान ले पाते हैं, विटामिन एक की समस्या बच्चों के खसरे और डायरिया के मर्ज का खतरा बढ़ा देती है। ये परिणाम चिंताजनक होकर उभरता है। जिसके मुताबिक 40 प्रतिशत बच्चों को न तो पूरे टीके लग पाते हैं, और न ही उन्हें विटामिन एक सप्लीमेंट मिल पाते हैं।

अगर देखा जाय तो भारत जसे विशाल जनसंख्या वाले देश में हर क्षेत्र की कुछ खास जरूरतों के हिसाब से अलग व्यवस्था की आवश्यकता है, न कि सभी जगहों पर एक पैमाना लागू करना। पिछले कई वर्षों से यही तरीका अपनाया जाता रहा है। कई रिसर्चों से पता

चला है कि 2006–16 के बीच 5 साल से कम उम्र के 46 लाख बच्चों को शारीरिक विकास की समस्या को कई प्रकार के उपायों से रोका जा सकता था लेकिन ऐसा नहीं हो पाया। इस रिसर्च के लिए प्रयोग किए गए मॉडल के विश्लेषण से पता चलता है कि बचपन में साफ सफाई और शुद्ध पानी के साथ दिए गए पूरक आहार शारीरिक विकास की समस्या को 86.5 प्रतिशत तक कम कर सकते हैं।

भारत के कम वजन वाले बच्चों का आँकड़ा संसार में सबसे अधिक 2.55 करोड़ है, ये संसार भर में कम वजन वाले बच्चों की कुल संख्या 4.75 करोड़ का लगभग आधा है। वजन की समस्या पर गौर करें तो इसमें न तो शहर और गांवों के बच्चों में कोई खास अन्तर दिखता है, और न ही लड़के लड़कियों के बीच।

भारत के विभिन्न क्षेत्रों में कुपोषित बच्चों की संख्या :

जहाँ तक कम वचन का सवाल है तो एक तिहाई से ज्यादा यानी 35.7 प्रतिशत बच्चे इसी श्रेणी में आते हैं। पिछले दशकों में जो सर्वे 2015 में सामने आया इससे थोड़ी कमी आती देखी जा रही है, जो 2005 में 42.5 प्रतिशत था।

बच्चों और गर्भधारण कर सकने की उम्र वाली महिलाओं में खून की कमी भी एक बड़ी समस्या हैं, हालांकि 2005 से 2015 के बीच भारत में खून की कमी के शिकार बच्चों का अनुपात 11.1 प्रतिशत और गर्भवती महिलाओं में 8.5 प्रतिशत घटा है। महिलाओं में एनीमिया का दायरा 9 प्रतिशत से लेकर 83.2 प्रतिशत तक है। आंकड़े बताते हैं कि 26 राज्यों और केन्द्रशासित प्रदेशों में से 13 में खून की कमी वाले बच्चों की तादात 60 प्रतिशत से अधिक है, वही 14 राज्यों में 50 प्रतिशत से अधिक गर्भवती महिलाओं में खून की कमी देखी गयी है।

शोधार्थिनी के व्यक्तिगत सर्वेक्षण में पाया गया है कि अध्ययन क्षेत्र में 111 कुपोषित बच्चें पाए गए है, वही महिलाएँ एनीमिया से जूझ रही है। माँ और बच्चे को सेहत और पोषण सुधारने के मकसद से बनाई गई तमाम योजनाएँ होने के बावजूद इनका फायदा लेने वालो की संख्या बहुत कम रही है। राष्ट्रीय पारिवारिक स्वास्थ्य सर्वेक्षण–4 (NFHS-4) के आंकड़ों के मुताबिक केवल 51 प्रतिशत गर्भवती महिलाएँ ही बच्चें के पैदाइश से पहले जागरूकता के कार्यक्रमों में शामिल हुई।

पोषण अभियान से मिली शिक्षा :

पिछले एक दशक में विश्व स्वास्थ्य संगठन द्वारा वर्ष 2025 के लिए तप किये गए पोषाहार का लक्ष्य और साथ ही विकास टिकाऊ विकास के लक्ष्य–2 (S.D.G-2) करने की रणनीति तैयार करने पर बहुत गम्भीरता से

काम हुआ है, जिससे 2030 तक देश में हर तरह के कुपोषण की समस्या को पूरी तरह समाप्त किया जा सके। हालांकि भारत में कुपोषण की समस्या घटाने में बहुत सफलता प्राप्त कर ली है, लेकिन वैश्विक स्तर पर तय लक्ष्य हासिल करने के लिए अब भी कुछ किया जाना बाकी है।

भारत की मुख्य पोषण और बाल विकास योजना एकीकृत बाल विकास कार्यक्रम (ICDS) पिछले 45 वर्षों में देश के तमाम क्षेत्रों में लागू की जा चुकी है, वैसे तो इस योजना की शुरूआत 1975 में ही हो गयी थीं और आज यह लगभग हर जिले के प्रत्येक ब्लॉक तक पहुँच चुकी है, इस योजना के तहत कुपोषण से सभी मुख्य वजहों का हल तलाशने की कोशिश की गई है। आँगन बाड़ी केन्द्र जैसे सामुदायिक नेटवर्क के जरिए इस योजना ने बच्चों की सेहत पढ़ाई और पोषण की बेहरी के लिए अलग–अलग कार्यक्रमों को एक साथ लाने की कोशिश की है, इन उपायों मे पूरक पोषाहार योजना विकास और प्रगति की निगरानी पोषण और स्वास्थ्य शिक्षा, टीकाकरण अस्पताल में स्वास्थ्य की जाँच और दूसरों को जाँच के लिए भेजने और स्कूल से पहले की शिक्षा देना शामिल है।

इस योजना से सबसे अधिक लाभ छः साल से कम उम्र के बच्चे और गर्भवती और स्तनपान कराने वाली महिलाओं को हुआ है, 2006 में कुपोषण के खिलाफ जंग में महिला और बाल विकास मंत्रालय ने एकीकृत बाल–विकास योजना को अपना प्रमुख कार्यक्रम बनाया था। आज देश में आँगनबाड़ी सेवा योजना को 7075 पूरी तरह से संक्रिय परियोजनाओं और 13.7 लाख केन्द्रों के जरिए चलाया जा रहा है।

विश्व स्वास्थ्य संगठन ने 2006 से 2016 के बीच (ICDS) के विस्तार और उसके योगान में समानता पर एक अध्ययन किया था। इसमें पता चला था कि 2006 से 2016 के बीच जिन गर्भवती और स्तनपान कराने वाली महिलाओं और उनके नवजात से 59 महीने के बच्चों ने इस योजना का लाभ लिया था वर्तमान में उनका अनुपात बढ़ा है। ICDS के तहत पूरक आहार के प्रयोग में 9.6 प्रतिशत से लेकर 37.9 प्रतिशत की बढ़ोत्तरी हुई है। स्वास्थ्य एवं पोषण से जुड़ी शिक्षा 3.2 प्रतिशत से बढ़कर 21.0 प्रतिशत हुई है। स्वास्थ्य में सुधार 4.5 प्रतिशत से बढ़कर 28 प्रतिशत हो गया है, और बच्चों पर केन्द्रित सेवाएँ (जैसे टीकाकरण एवं उनके स्वास्थ्य की देखभाल) 10.4 प्रतिशत से बढ़कर 24.2 प्रतिशत हो गई है। देश की इतनी बड़ी आबादी एवं विवशता को देखते हुए ICDS के इतने बड़े स्तर पर विस्तार सराहनीय है। हालाँकि इस रिसर्च में भौगोलिक और सामाजिक व आबादी के पैमानों पर सुविधा उपलब्ध कराने में बड़े अन्तर भी दिखे है।

ऐतिहासिक रूप से सबसे गरीब राज्य जहाँ कुपोषण की समस्या बहुत अधिक है। वहाँ पर ICDS की पहुँच बहुत कम है, प्रति बच्चा

आवंटन की अपर्याप्त है, गरीब राज्यों में सर्विस डिलिवरी सिस्टम की खामियों के चलते सबसे कम आमदनी वाला क्षेत्र इसके लाभ है, अछूते है। उससे भी बड़ी समस्या यह है कि ICDS को कुपोषण के तमाम कारणों के निदान के लिहाज से बनाया गया था। मुख्य रूप से खाद्य सुरक्षा और स्वास्थ्य सेवाएँ मगर जमीनी तौर पर इसको त्याग करने की वास्तविकता में बड़ा फर्क हैं ये कार्यक्रम मुख्य रूप से कुपोषित बच्चों और महिलाओं को पूरक आहार उपलब्ध कराने पर केन्द्रीत है। लेकिन इस विषय में स्वास्थ्य सेवा और अभिभावकों की काउंसलिंग को शामिल करन के अहम काम की अनदेखी होती है। वास्तव में भारत जैसे विशाल एवं विविक्षता वाले देश में हर क्षेत्र की मुख्य जरूरतों के हिसाब से अलग व्यवस्था करने की आवश्यकता है। न कि सब जगह एक ही पैमाने पर बने कार्यक्रम को लागू करना।

ICDS के व्यापक दायरे में कई योजनाएँ जैसे कि आंगनबाड़ी सेवाएँ किशोर लड़कियों के लिए योजनाएँ और प्रधानमंत्री मातृवंदना योजनाएँ (PMMVY) शुरू की गई है। इसके अलावा स्वास्थ्य एवं परिवार कल्याण मंत्रालय में बच्चों में कुपोषण की भीषण समस्या से निपटने के लिए पोषण पुर्नवास केन्द्र भी स्थापित किए है। कुपोषण के पीड़ियों से चले आ रहे चक्र को तोड़ना है। इसकी लंबे समय से अनदेखी होती रही है। नई नीतियों और कार्यक्रमों से इसमें बदलाव लाने का प्रयास किया जा रहा है, पीढ़ीगत प्रभाव का अर्थ को परिस्थितियाँ मजबूरियाँ और माहोल है। जिनका प्रभाव दूसरी पीढ़ी की सेहत और शारीरिक विकास पर दिखाई देता है।

राष्ट्रीय खाद्य सुरक्षा कानून 2013 के तहत आने वाली प्रधानमंत्री मातृ वंदना योजना में गर्भवती और स्तनपान कराने वाली महिलाओं को आंशिक मजदूरी दी जाती है, ये योजना 2016 में प्रारम्भ की गई थी। इसके तहत गर्भवती महिलाओं की सुरक्षित डिलिवरी कराने और स्तनपान कराने वाली को अच्छा पोषण देने के लिए कुछ शर्तों के साथ पाँच हजार रूपये दिए जाते हैं। प्रारम्भ में तो ये योजना केवल देश के 52 जिलों में शुरू की गई थी लेकिन बाद में इसे पूरे देश में लागू कर दिया गया। आज देश के 650 जिलों में इस योजना का लाभ उठाने वाली महिलाओं की संख्या 51.7 लाख तक पहुँच गई है। वही जननी सुरक्षा योजना के तहत अस्पतालों में डिलिवरी कराने वाली महिलाओं को मिलने वाले अतिरिक्त लाभ के साथ मदद की रकम बढ़कर 600 रूपये हो जाती है। हाँलाकि इन योजनाओं के चलते जागरूकता बढ़ी है, लेकिन शर्तों की बाध्यता के चलते योजना का लाभ लेने वालों की संख्या अभी भी सीमित ही है, इस योजना का लाभ 19 वर्ष से उपर की गर्भवती और स्तनपान कराने वाली महिलाओं को उनके पहले बच्चे के जन्म तक

इसके योग्य मानी गई किशोर उम्र की माताएँ या फिर वो गरीब महिलाएँ जिनके एक से अधिक बच्चे है, वो रस योजना के दायरे से बाहर रहीं इसके चलते कुपोषण का पीड़ियों से चला आ रहा दुष्चक्र बरकरार है।

माँ और बच्चे की सेहत और पोषण सुधारने के मकसद से बनाई गयी तमाम योजनाएँ होने के बावजूद इनका लाभ लेने वालों की संख्या बहुत कम रही है। राष्ट्रीय पारिवारिक स्वास्थ्य सर्वेक्षण – 4 (NFHS-4) के आंकड़ों के मुताबिक केवल 51 प्रतिशत गर्भवती महिलाएँ ही बच्चे की पैदाइश से पहले जागरूकता और चार कार्यक्रमों में शामिल हुई। वही केवल 30 प्रतिशत महिलाओं में आयरन एवं फालिड एसिड फूड सप्लीमेंट लिए, परक पोषण अभियान के तहत मिलने वाला राशन लेने वाले बच्चों की संख्या 14 से 75 तक रही है, वही इस योजना का लाभ लेने वाली गर्भवती महिलाओं की संख्या 51 प्रतिशत रही है, हालाँकि पिछले कुछ दशकों में शौचालय की सुविधा में खासा सुधार आया है, फिर भी 50 प्रतिशत से भी कम परिवार इनका प्रयोग करते हैं, मातृत्व लाभ योजनाओं का फायदा लेने के लिए सभी राज्यों का नाम दर्ज कराने वाली महिलाओं की संख्या 50 प्रतिशत ही है, बच्चों की 79 प्रतिशत डिलिवरी अस्पताल या क्लिनिक में होने के बावजूद केवल 42 प्रतिशत महिलाएँ ही तुरंत अपने बच्चों को दूध पिलाना शुरू करती है, और बच्चे को सिर्फ एक बार स्तन पान कराने वाली महिलाओं की संख्या 55 प्रतिशत है। बच्चों को ऊपर से खाने के साथ–साथ दुध पिलाने वाली महिलाओं की संख्या पिछले एक दशक में 52.6 से घटकर 45.7 हो गई आज भी केवल 9.6 प्रतिशत बच्चों को ही तय मानक के तहत खाना मिल पा रहा है।

भारत के लिए चुनौती कुपोषण के पीढ़ीगत चक्र तोड़ने की :

देश से कुपोषण की समस्या जड़ से समाप्त करने के लिए नए सिरे से हो रहे प्रयास तीन अहम बातों पर आधारित है। बर्ताव में बदलाव संक्रमण रोकने का प्रबंधन और पीढ़ी दर पीढ़ी चलने वाले कुपोषण के चक्र को तोड़ना है। हालाँकि बहुत से कार्यक्रम शुरू किए गए मगर इनकी कामयाबी बच्चों, माँ और परिवार पर टीकी है। इसलिए कुपोषण की समस्या और भविष्य पर इसके बुरे प्रभाव को समझना अव्यक्त जरूरी है। दूसरा है संक्रमण रोकने का ठोस प्रयास पीने के साफ और सुरक्षित पानी की कमी के चलते होने वाले संक्रमण को रोकने पर केन्द्रीत है, इसके साथ नियमित टीकाकार की कमी भी एक सोचनीय तथ्य है।

लम्बे समय से कुपोषण की मार झेल रहे राज्यों और केन्द्रशासित प्रदेशों का मूल्यांकन बताता है कि उनके बीच पोषण के स्तर में बहुत अन्तर है। ये फर्क साबित करता है कि हर क्षेत्र के खास हालात के मुताबिक योजनाएँ बनाई जाएं न कि एक राष्ट्रीय नीति से सबको देखा

जाए। 2014 में सरकार ने गर्भवतो महिलाओं और दो साल तक के सभी बच्चों के टीकाकार के मकसद से मिशन इन्द्रधनुष की शुरूआत की थी। इस मिशन की शुरूआत से पहले पूर्ण टीकाकरण केवल एक प्रतिशत तक सीमित था लेकिन इस अभियान के दो चरण पूरे होने के बाद पूर्ण टीकाकरण का स्तर 6.7 प्रतिशत पहच गया। इस टीकाकरण का कवरेज और बढ़ाने के लिए हाल ही में इन्द्रधनुष 2.0 को अधिक जोर शोर के साथ शुरू किया गया है, इसका लक्ष्य 27 राज्यों के 272 जिलों में ब्लाक स्तर पर पूर्ण टीकाकरण करना था इनमें उन आदिवासी समुदायों तक पहुँच बनाने पर विशेष प्रयास था जिन तक पहुँच पाना मुश्किल हाता है।

तीसरा और आखिरी स्तम्भ कुपोषण की पीढ़ियों से चले आ रहे चक्र को तोड़ना है। जिसकी लंबे समय से ध्यान नहीं दिया जा रहा है। नई नीतियों एवं कार्यक्रमों से इसमें बदलाव लाने की कोशिश की जा रही है। पीढ़ीगत प्रभाव का मतलब वो परिस्थितियाँ, मजबूरियाँ और माहौल है, जिनका प्रभाव पीढ़ी की सेहत और शारीरिक विकास पर दिखाई देता है, हालॉकि वजन में कमी के मामले राष्ट्रीय परिवार स्वास्थ्य सर्वेक्षण–3 के 43 प्रशिक्षित के मुकाबले NFHS-4 में घटकर 36 प्रतिशत तक आ गए है, लेकिन ये दर भी बहुत अधिक नहीं है।

24.3 करोड़ से अधिक किशोर उम्र आबादी होने के चलते एक तरफ जहाँ भारत के सामने जनसंख्या की अनूठी चुनौतिया है, वहीं उसके सामने कई संभावनाओं के दरवाजे खुले हैं। हालाँकि इस बड़ी किशोर उम्र आबादी से भविष्य में आर्थिक लाभ लिया जा सकता है, लेकिन तमाम अध्ययन से इशारा करते हैं कि किशोर उम्र आबादी की सेहत और विकास से जुड़ी कई और चुनौतियाँ भी है। इनमें पोषण आहार की कमी बेरोजगारी के विकल्पों, सामाजिक भागीदारी स्वास्थ्य सेवाओं से वंचित रहना और घर के भीतर और बाहर पुरूषों और महिलाओं के बीच भेदभाव शामिल है। किशोर उम्र लोगों पर निवेश का न सिर्फ लागत से ज्यादा मुनाफा मिलता है। बल्कि इससे मौजूदा और आने वाली पीढ़ियों की सेहत और बेहतरी का तिगुना लाभ भी होता है।

स्तन पान, कुपोषण और संक्रमण की कड़ी :

देश में पोषण की समस्या की एक मुख्य कारण जल्द शादी एवं जल्द बच्चा पैदा करना भी है, इसका बुरा प्रभाव आने वाली पीढ़ियों के स्वास्थ्य, पढ़ाई एवं रोजगार पर भी पड़ता है, हालाँकि भारत ने 18 वर्ष के कम उम्र के बच्चों की शादी कम करने में काफी कामयाबी हासिल की है और इस तरक्की का सेहरा सामाजिक आर्थिक विकास के सिर पर बंधता है, वर्ष 2000 से देश में बाल विवाह के मामलों में 51 प्रतिशत की कमी दर्ज की गई है। वही 1990 की तुलना में बाल विवाह 63 प्रतिशत

कम हो गए है, जिसका श्रेय शिक्षा के प्रसार और महिला सशक्तीकरण को मिलना चाहिए। इसमें यौन और बच्चों की जाँच से जुड़ी स्वास्थ्य सेवा में सुधारने में भी काफी योगदान दिया है। राष्ट्रीय परिवार स्वास्थ्य सर्वेक्षण के मुताबिक 2016 में 27 प्रतिशत बाल विवाह हो रहे थे, इससे कई और समस्याएँ पैदा होती है। जैसे कि कम उम्र में माँ बनना ज्यादे बच्चे पैदा करना फिर इनसे बच्चे पैदा होने के वक्त जटिलताएँ आती है। नवजात बच्चे का वजन कम होता है यहाँ तक कि माँ और बच्चे की मौत दर बढ़ जाती है, मौजूदा सबूत इशारा करते हैं कि अगर उन इलाकों पर ध्यान दिया जाय। जहाँ कम उम्र में शादियाँ और जल्दी बच्चे पैदा करने का चलन है तो लड़कियों के बेहद कम उम्र में माँ बनने की चुनौती और उससे जुड़े कुपोषण से काफी हद तक निपटा जा सकता है।

इस प्रकार कुपोषण की समस्या से निजात पाने के लिए हो रही तमाम प्रयासों और योजनाओं से जो एक अहम सबक मिला है वो य है कि इसके लिए हर एक इंसान की जरूरत के मुताबिक छोटे–छोटे स्तर के निवेश किये जायं जिससे उन्हें सीधा लाभ मिले। लम्बे समय से कुपोषण की मार झेल रहे राज्यों, केन्द्रशासित प्रदेशों का मूल्यांकन बताता है कि उनके बीच पोषण के स्तर में बहुत अंतर है, ये फर्क साबित करता है कि हर इलाके के खास हालात के मुताबिक योजनाएं बनाई जाएं न कि एक राष्ट्रीय नीति से सबको देखा जाए।

भारतीय राज्यों के प्रदर्शन पर एक नजर :

NHFS-4 के आंकड़ों के मुताबिक शहरों की तुलना में ग्रामीण इलाकों में शारीरिक रूप से कमजोर बच्चे अधिका है इसका कारण शायद गांवों में परिवारों की सामाजिक और आर्थिक स्तर कमजोर होना है। 12वीं या उससे अधिक पढ़ाई करने वाली माताओं के बच्चों के मुकाबले उन महिलाओं के बच्चे दुगुना ज्यादे कमजोर पाए गए जिन्होंने स्कूल का मुँह देखा ही नहीं। पीढ़ी दर पीढ़ी चलने वाले कुपोषण के चक्र को तोड़ने के लिए माताओं (गर्भवती हो या प्रसूता) और बच्चों के लिए ठोस कदम उठाने की जरूरत है। इसके जरिए ही खासतौर से ग्रामीण इलाकों के बच्चों के कम विकास और कुपोषण की समस्या से निपटा जा सकता है।

देश के राज्यों और केन्द्रशासित प्रदेशों में कुपोषण का ट्रेण्ड :

धार्मिक स्तर पर अगर बात की जाय तो सिक्खों, इसाइयों और अन्य दूसरे धर्मों के मुकाबले हिन्दू और मुसलमान बच्चों के बीच शारीरिक कमजोरी की समस्या अधिक है, वही आदिवासी व दलित समुदायों के

बीच भी कुपोषण और शारीरिक विकास की कमी की चुनौती का स्तर लगभग वैसा ही है।

जहाँ तक कम शारीरिक के क्षेत्र भौगोलिक अंतर की बात है, तो वे विहार 48 प्रतिशत, उत्तर प्रदेश 46 प्रतिशत और झारखण्ड 45 प्रतिशत के सबसे अधिक है। इस स्थिति में केरल और गोवा की स्थिति सबसे अच्छी (20 प्रतिशत) है, हालाँकि पुष्टाहार का स्तर सभी राज्यों में सुधरा है, लेकिन राज्यों के बीच इसका फर्क बहुत अधिक है। सबसे अहम् सुधार छत्तीसगढ़ में देखा गया है। जहाँ पिछले एक दशक में कुपोषण करीब 13 प्रतिशत घटा है इस मामले में तमिलनाडु में सबसे कम सुधार दज किया गया है।

पोषण अभियान तीन साल के लिए तैयार किया गया एक सम्पूर्ण अभियान है, इसमें देश के 26 राज्य और केन्द्रशसित प्रदेश शामिल है, इसकी रणनीति जर्मनी स्तर तक कुपोषण की समस्या के समाधान का मौका उपलब्ध करती है, ये बहुत से मंत्रालयों के बीच तालमेल से बना एक महत्वाकांक्षी प्रोजक्ट है, जिसके तहत 2022 तक कुपोषण मुक्त भारत का लक्ष्य हासिल करने की कोशिश की जा रही है।

माँ और नवजात व छोटे बच्चों के पोषण को लेकर (NFHS-4) के आंकड़ों एक समीक्षा इण्टरनेशनल फूड और पालिसी रिसर्च इंस्टीट्यूट (IFPRI) ने की है इसके मुताबिक भारत के 237 जिलों में शारीरिक कमजोरी के लिए 40 प्रतिशत तक है, लेकिन अलग–अलग क्षेत्रों में ये अन्तर और भी अधिक है।

इस पैमाने पर सबसे अच्छा काम करने वाले देश के जिलों में केवल 12.4 प्रतिशत बच्चों का शारीरिक विकास ही कम हुआ है। वही दूसरी ओर एक जिला ऐसा भी है जहाँ कम शारीरिक विकास वाले बच्चों की संख्या 65.1 प्रतिशत तक है, देश के लगभग 40 प्रतिशत जिलों में बच्चों के बीच शारीरिक कमजोरी का स्तर भी 40 प्रतिशत तक है, इसी के साथ देखें तो एक जिला ऐसा भी जहाँ केवल 1.8 प्रतिशत बच्चों में ही कम वजन की समस्या है, वही कम से कम 7 जिले ऐसे है, जहाँ कम वजन वाले बच्चों की संख्या 40 प्रतिशत से भी अधिक है। इस प्रकार पूरे देश के आंकड़े देखें तो कमजोर और अविकसित बच्चों की संख्या 21 प्रतिशत है।

पोषण अभियान से बड़े लक्ष्यों को पाने की कोशिश :

2017 में महिला और बाल विकास मंत्रालय ने भागीदारी बढ़ाने और कार्यक्रमों की गुणवत्ता और संख्या बढ़ाने के मकसद से राष्ट्रीय पोषण अभियान की शुरूआत की थी पोषण अभियान का मुख्य लक्ष्य नवजात से छः वर्ष के बच्चों किशोर उम्र लड़कियों गर्भवती एवं बच्चों को दुध पिलाने

वाली महिलाओं में पोषण का स्तर बढ़ाना था। पोषण अभियान तीन वर्ष के लिए तैयार किया गया। इसमें देश के 26 राज्य और केन्द्रशासित प्रदेश शामिल है, इसकी रणनीति जमीनी स्तर तक कुपोषण की समस्या के समाधान का अवसर उपलब्ध कराती है, ये बहुत से मंत्रालयों के बीच तालमेल से बना एक महत्वाकांक्षी योजना है, जिसके तहत 2022 तक कुपोषण मुक्त भारत का लक्ष्य हासिल करने की कोशिश की जा रही है। ये मिशन बहुत सी योजनाओं, परियोजनाओं का मेल है, इसके अन्तर्गत प्रधानमंत्री मातृ बन्दना योजना आंगनबाडो सेवाएं महिला और बाल विकास मंत्रालय के किशोर उम्र लड़कियों वाले कार्यक्रम स्वास्थ्य एवं परिवार कल्याण मंत्रालय का राष्ट्रीय स्वास्थ्य मिशन पेयजल और स्वच्छता मंत्रालय का स्वच्छ भारत मिशन उपभोक्ता मांलय की जन वितरण प्रणाली (PDS) पंचायती राज मंत्रालय से पीने का पानी आर शौचालय ग्रामीण विकास मंत्रालय की मशहूर रोजगार गारण्टी योजना मनरेगा खाद्य आपूर्ति और तमाम संबंधित मंत्रालयों के जरिए शहरी और स्थानीय निकाय थी इससे जुड़े है।

उदाहरण स्वरूप उत्तर प्रदेश के शाहजहांपुर जिले में सूचना शिक्षा और संचार का एक मिला जुला प्रयोग देखने को मिला। वहाँ भीड़ भरी जगहों जैसे रेलवे स्टेशन पर अधिकारियों ने दीवारों पर चित्रों के जरिए पोषण माँ और बच्चों की शुरूआती 1000 दिनों की देखभाल और साफ–सफाई यानी टॉयलेट की जरूरत पर जोर देने वाले संदेश लिखे थे। अभियान का मकसद बच्चे के जन्म से पहले और बाद के दौरान 1000 दिनों में माताओं को ऐसा आहार देना है। जिससे कुपोषण की समस्या में कमी आए पोषण अभियान को लागू करना तभी संभव है, जब समाज के कमजोर वर्गों के लिए मौजूद सेवाओं का विकास और विस्तार हो तकनीक यानी (ICDS कम्प्यूटर एप्लीकेशन साफ्टवेयर) योजना और उसे लागू करने में तालमेल व्यवहारगत बदलाव लाने वाला संवाद और क्षमता का निर्माण हो।

पोषण अभियान का लक्ष्य उन तीनों स्तम्बों के बीच तालमेल के लिए मंच उपलब्ध कराना है। जन आन्दोलन के बारे में साथ ये अभियान हर नागरिक को कुपोषण से मुक्त कराने के खिलाफ जंग को आगे बढ़ा रहा है, इस वक्त देश को 3.6 करोड़ गतिविधियों के साथ 2.51 अरब लोग इस अभियान का हिस्सा बन चुके हैं सबसे ज्यादा जोर उन गतिविधियों पर दिया जा रहा है, जो सम्पूर्ण पोषण खून की कमी साफ सफाई स्तन पान समुचित विकास की निगरानी और टीकाकरण पर केन्द्रीत है।

एनीमिया मुक्त भारत की रणनीति :

स्वास्थ्य एवं परिवार कल्याण मंत्रालय द्वारा शुरू किए गए आयुष्मान भारत कार्यक्रम के तहत चल रहे स्कूल स्वास्थ्य कार्यक्रम का मकसद स्कूल बच्चों को सेहत और पोषण में जागरूक करना है। इसमें स्वास्थ्य, रहन–सहन, मासिक धर्म के दौरान साफ–सफाई और पीने के साफ पानी की अहमियत बताना शामिल है। आपसी विचार विमर्श पर आधारित इस पहले में अध्यापकों को स्वास्थ्य और अच्छे जीवन का पैगाम देने वालों के रूप में आगे बढ़ाया जाता है। जिससे वे छात्रा के बीच उनकी उम्र के मुताबिक सेहत के मसले पर चर्चा करें। ये कार्यक्रम राष्ट्रीय और राज्य स्तर पर मंत्रालयों और दूसरी संस्थाओं के बीच ताल–मेल बैठाना का काम भी करता है, जिससे इस कार्यक्रम की पहुँच व्यापक पैमाने पर एवं चहुमुखी हो।

आब्जर्वर रिसर्च फाउंडेशन में नवम्बर 2019 में पोषण अभियान में जो अवर क्षेत्र की कार्यशाला आयोजित की उसने अलग–अलग क्षेत्रों एवं राज्यों में चलाए जा रहे कार्यक्रमों और योजनाओं पर गंभीर विश्लेषण का एक मंच उपलब्ध कराया। इसका मकसद यही था कि राज्यों की अच्छी योजनाओं और हल की राष्ट्रीय स्तर पर व्यापक रूप से लागू करके मंजिल तक जल्द से जल्द पहुँचाने के रास्ते खुलें।

एक बहुत कामयाब तरीका सामुदायिक स्तर पर परियोजना चलाने का रहा पहले के उदाहरणों से सबक मिलती है, कि किस तरह निचले स्तर पर बेहतर रणनीति और सामुदायिक प्रोत्साहन से चमत्कारी बदलाव आए हैं। उपर से कोई अभियान थोपने के बजाय आम लोगों को अभियान से निजी तौर पर जोड़ने और उन्हें अपनाने से उसका दूरगामी प्रभाव होता है।

जैसा कि शाहजहाँपुर जिले में देखने को मिला है, जिससे जागरूकता बढ़ाने में मदद मिली। बल्कि लोगों ने समझा कि हाँ ऐ उनके लिए है, और अपनी सेहत से जुड़े मसले हल करने हैं, दूसरे राज्यों ने भी ऐसी ही भागीदारी से सीखने एव कदम उठाने के कार्यक्रम शुरू किए जैसे विहार में जीविका स्वयं सहायता समूह ओडिशा में शक्ति मध्य प्रदेश में आंगनबाड़ी और झारखण्ड में आशा वर्कर जन आदोलन की रणनीति के तहत जुड़ी इन प्रयासों से पोषण और कुपोषण की समस्या को लेकर वो जागरूकता पैदा हुई कि इसके खिलाफ समाज को मिलजुलकर लड़ना है। माताओं, गर्भवती महिलाओं और उनके परिवार में इस तरह के खान–पान और रहन–सहन को बढ़ाने के लिए ''चैम्पियन की मां'' जैसे मंचों की उपयोगिता भी समझी है, इस तरह से राजस्थान में ये कार्यक्रम लोगों को सीख देने से ज्यादा उनमें उम्मीदे जगाने की

कोशिश में तब्दील हो गया है और इससे महिलाओं की भागीदारी बढ़ाने में भी मदद मिली है।

उत्तरायण में तो अपने यहाँ एक अभियान शुरू किया जिसमें गम्भीर रूप से कुपोषित एक बच्चे को आप गोद ले सकते हैं। गोद लेने का फायदा यह हुआ कि बच्चे को शुरूआती दौर में ही एक परिवार या संस्था मिल गई। जो उसकी सेहत से लेकर पढ़ाई तक का बोझ उठा लेती है। इस प्रयोग के मकसद राजनेताआ से लेकर कारोबारियों, निजी संस्थाओं और समाज के बीच जिम्मेदारी का वो भाव पैदा करना है, जिससे कुपोषण मुक्त भारत साकार हो सके।

वही ओडिशा में महिला और बाल विकास में सामुदायिक स्तर पर निगरानी के काम को संस्थागत ही बना दिया। इसके लिए गांव के स्तर पर जांच कमेटियां और मदर कमेटिया खड़ी की गई। इन कमेटियों को बनाकर एक साथ तो लक्ष्य साधने की कोशिश की गई। जनता ही भागीदारी बढ़ाना और ISDS के जरिए दी जा रही सुविधाओं पर नजर रखना।

मदर कमेटियां जहाँ ये सुनिश्चित करती है कि आंगनबाड़ी केन्द्रो में घर का बना बेहतर खाना मिल वहीं जांच कमेटिया ये देखती है कि दिए जा रहे भोजन की मात्रा और क्वालिटी तय पैमाने के मुताबिक है या नहीं इस ढांचे ने उन स्वयं सहायता समूहों की जवाबदेही भी बढ़ाई है जो खाना पकाने या राशन वितरण काम में लगी है। वही महिलाओं और परिवारों में भोजन के सुरक्षित होने को लेकर भरोसा बढ़ा है।

पंचशील नाम की स्टडी से स्वास्थ्य शिक्षा इंजिनियरिंग और पर्यावरण पर ध्यान देने वाले एक ऐसे एकीकृत और इंटरएक्टिव सामाजिक, सांस्कृतिक कार्यक्रम के प्रभाव का विश्लेषण किया गया जिससे बच्चों का पोषण बढ़ाया जा सकता है। इसने यह भी पता लगाया कि आंगनबाड़ी जैसे केन्द्रों के जरिए चलने वाले पोषण के कार्यक्रमों को समाज किस हद तक स्वीकार करता है, इसके लिए राजस्थान के बांसवाड़ा जिले में एक पारंपरिक समाजिक भागीदारी कार्यक्रम शुरू किया गया। इससे नवजात एवं छोटे बच्चों के आहार के मान्य तौर तरीकों और उसकी खामियों को समझने में मदद मिली। इस अध्ययन से समुदाय के स्तर पर कार्यक्रम चलाने की अहमियत तो समझ में आयी है और ये भी पता चला कि लोगों की भागीदारी कैसे एक कामयाब परियोजना को जन्म दे सकती है।

फड के प्रयोग में अन्तर बेहर गंभीर चिंता का विषय है। खास तौर पर जब देश के 22 राज्यों के 267 जिलों में 5 वर्ष के कम उम्र के बच्चों में शारीरिक कमजोरी राष्ट्रीय औसत से बहुत अधिक है। चूंकि कनेक्टिविटी पोषण अभियान की एक बड़ी चुनौती रही है, ऐसे में पहुँच

बढ़ाने वाली योजनाओं की जरूरत है। मसलन चंढीगढ़ ने एक पोषण हेल्पलाइन शुरू की है। ये हेल्पलाइन दूर दराज के इलाकों तक आंगनबाड़ी कार्यकर्त्ताओं की पहुँच बनाने में मदद करती है और आंगनबाड़ी कार्यकर्त्ताओं, स्वास्थ्य सहायिकाओं और मिडवाइफ को घर बुलान की बुकिंग का मौका देती है।

राजस्थान के उदयपुर में तो एक अनोखा ही प्रयोग हुआ है, राजपुष्ट कार्यक्रम के तहत वहाँ बच्चों के पोषण का स्तर बढ़ाने के लिए महिलाओं को नकद सहायता दी जाती है। उन्हें इससे होने वाले सामाजिक और जमीनी बदलाव की जानकारी भी दी जाती है। इस कार्यक्रम का लक्ष्य केवल बच्चे गर्भवती और स्तनपान कराने वाली महिलाऐ ही नहीं बल्कि उनके पति और परिवार समेत पूरा समाज है, इसका फायदा ये होता है कि इससे खान–पान के तौर तरीकों, स्वास्थ्य के प्रति जागरूकता और पोषण को लेकर बर्ताव में सुधार दिखता है।

ओडिशा में ममता कार्यक्रम के अन्तर्गत गर्भवती और स्तनपान कराने वाली महिलाओं को नकद मदद दी जाती है। जिससे उनके पोषण एवं स्वास्थ्य दोनों में सुधार आए। ये प्रधानमंत्री मातृवंचदना योजना ही एक विस्तारित रूप है। जिसमें दूसरे बच्चे को जन्म देने वाली मां और स्तन पान कराने वाली महिलाओं को भी इसका लाभ मिलता है, ममता योजना की ये खूबी प्रधानमंत्री मातृवंदना योजना में मौजूद नहीं है, यही नहीं आदिवासी महिलाओं को और खास तौर पर वंचित महिलाओं को ये नकद लाभ समस्त बच्चों के लिए मिलता है, जिससे वो सब एक स्वस्थ्य जीवन का लाभ ले सकें।

राजस्थान में चल रहे उड़ान प्रोजेक्ट का मकसद जल्द शादी और गर्भधारण को रोकना है। इस परियोजना के तहत सरकार के सारे मुख्य विभागों को एक साथ लाकर किशोर उम्र लड़कियों और लड़कों के जिन्दगी में प्रभावकारी बदलाव लाने की कोशिश को मजबूती दी जा रही है। इस कार्यक्रम के चार लक्ष्य है कम उम्र से विवाह, गर्भधारण और बच्चा पालने के दबाव से लड़कियों को बचाने के लिए उन्हें शिक्षित करना RLSL के तहत एक सामाजिक नेटवर्क खड़ा करना। जिसके जरिए यौन संबंधों और गर्भधरण से जुड़ी जानकारो दी जाए तकनीक का प्रयोग करके किशोर उम्र लड़के एवं लड़कियों को सही जानकारी देना और सामाजिक पैमाने पर ऐसे बदलाव जिससे बच्चियों का स्कूल जाना 18 वर्ष की उम्र से पहले शादी और 20 वर्ष से पहले बच्चे का जन्म से रोकना, गर्भ निरोधक का इस्तेमाल और अंत में शादी शुदा किशोरियों के पहले बच्चे के जन्म में देरी पर जोर, बच्चों के जन्म में अंतर और पैदाइश के वक्त बच्चे के वजन का खास ध्यान रखना।?

कुपोषण से लड़ने का एक और अहम पहलू पोषाहार की गुणवत्ता उनकी उपलब्धता और कही सुनी बातों भ्रम सामाजिक बुराईयों और नियमों में सुधार लाना है। अब जबकि कुपोषण से लड़ने के लिए राज्य सरकारें पौष्टिक खाद्य और सप्लीमेंट के लिए IFS टैबलेट दे रही है उसे लेकर समाज में बहुत से भ्रम फैले हैं। ऐसी सोच से भी पोषण से जुड़क कार्यक्रमों पर बुरा असर पड़ता है। वर्तमान मे ओडिशा एवं राजस्थान में इसको लेकर तमाम भ्रांतिया फैलाई जा रही है कि आयरन टैबलेट लेने से बच्चों की शारीरिक बनावट पर बुरा असर पड़ रहा है। ओडिशा में सरकार ने ऐसे भ्रमों को दूर करने के लिए पोषाहार के नाम पर बादाम लड्डू बांटना शुरू किया। हरियाणा में आंगनबाड़ी केन्द्रों पर लोहे के बर्तनों में खाना बनता भी है, और परोसा भी जाता है। आंगनबाड़ी कार्यकर्ता तो घर की रसोई में भी लोहे के बर्तनों में इस्तेमाल को बढ़ावा देती है, इससे लोगों के खाने में पोषक तत्व बढ़े है और खून की कमी वाली समस्या काफी हद तक दूर हुई है। पोषण अधिनियम में सुधार लाने के लिए तकनीक पर आधारित इनोविशन की काफी संभावना है, ICDC के कामन एप्लीकेशन साफ्टवेयर (CAS) ने आँगनबाड़ी केन्द्रों से वजन, कद, पूरक पोषाहार और घर के दौरे से जुड़े आंकड़े इकट्ठे करने के मामले में शानदार परिणाम आए है।

कुल मिलाकर कहा जा सकता है कि ओआर एक कार्यक्रम में भागीदार बनने वाले उत्तर भारतीय राज्यों में एक आम राय ये हैं कि एक प्रभावकारी पोषण अभियान को चलाने के लिए सही देख–भाल और निर्देशन की आवश्यकता है, पंजाब में एक पहल का नाम है। आओ चलिए आंगनबाड़ी इसके तहत आंगनबाड़ी केन्द्रों का नियमित दौरा होता है, सरकारी कर्मचारियों को निर्देश है कि वो केन्द्रों का दौरा करने कमचारियों से बात करने के साथ उन लोगों से भी बात करें जिनके लिए ये योजना चलाई जा रही है, इससे पता चलेगा कि जमीनी स्तर पर अभियान के आगे चुनौतियों और इसके जरूरते क्या है।

निष्कर्ष एवं सुझाव :

स्वास्थ्य विशेषज्ञ यह मानते हैं कि कुपोषण जिन्दगी के शुरूआती दो वर्षों के दौरान अपनी जड़े जमाता है, उस समय तक दिमाग अपनी कुल क्षमता का करीब 85 प्रतिशत तक विकसित हो जाता है, अगर कुपोषण पर सही समय पर काबू नहीं पाया जाता है तो वो बच्चे के शारोरिक और दिमाक के विकास को इतना नुकसान पहुँचाता है जिसकी भरपायी नहीं हो सकती। गर्भधारण से लेकर अगले 1000 दिनों या बच्चे के दूसरे जन्म दिन तक पुरा समय कुपोषण से बचाव का अहम समय होता है। इस दौरान पोषण पीढ़ी गत चक्र को तोड़ने में मददगार होता है। वरना

कुपोषित बच्चियाँ आगे चलकर कुपोषित मां बनती है, जो कमजोर बच्चों को जन्म देती है।

पोषण अभियान की कोशिश यही है कि वो स्थायी विकास के लक्ष्य के तहत वर्ष 2030 तक हर तरीके के कुपोषण समाप्त कर ले इसमें 2025 तक साल के बच्चों में शारीरिक कमजोरी और वजन की समस्या को खत्म करने का अर्न्तराष्ट्रीय लक्ष्य हासिल करना भी शामिल हैं।

बीते एक दशक के दौरान शारीरिक कमजोरी की दर में आयी गिरावट के लिहाज से देखे तो ये लक्ष्य बहुत मुश्किल है, 2006 में शारीरिक कमजोरी की दर 48 प्रतिशत थी जो 2016 में घटकर 38.4 प्रतिशत तक पहुँची यानी हर साल केवल एक प्रतिशत की कमी हुई। इसके लिए अलग–अलग मंत्रालयों के बीच फौरन तालमेल बढ़ाने की जरूरत है। गर्भधारण से लेकर बच्चे के 5 साल का होने तक स्वास्थ्य और पोषण कार्यक्रम के बीच बेहतर तालमेल हो और कार्यक्रम के दौरान होने वालो प्रगति की पूरी निगरानी हो। इस प्रकार रिपोर्ट ने जो निम्नलिखित सुझाव दिए है वे इस प्रकार है–

1. कार्यक्रम को प्रभावी बनाना और उसकी पहुँच बढ़ाना :

वर्तमान में कुपोषण की समस्या पर पर्याप्त ध्यानकेन्द्रीत हो चुका है, और कम से कम सरकार स्तर पर तो इसे नीतिगत प्राथमिकता मिल रही है, मार्च 2019 तक केन्द्र सरकार ने पोषण अभियान के तहत राज्यों को 31. 42 अरब रूपये का फंड जारी किया था लेकिन राज्यों ने इसमें से केवल 5.69 अरब रूपये ही खर्च किए कर्नाटक एवं गोवा जैसे राज्यों ने तो इस फंड का एक रूपया तक नहीं खर्च किया। फंड के प्रयोग में ये अंतर बेहद गंभीर और चिंता का विषय है। खास तौर पर तब और जब देश के 22 राज्यों में 267 जिलों में 5 वर्ष से कम उम्र के बच्चों में शारीरिक कमजोरी राष्ट्रीय औसत से बहुत अधिक है। इसके चलते कार्यक्रम के तहत जरूरी खर्च न किए जाने के कारणों की जांच पड़ताल करने पर भी एक अध्ययन किया गया है। इस कार्यक्रम को जमीनी स्तर पर आधारित रिसर्च एवं योजना की जरूरत है। जिससे जरूरत के हिसाब से संसाधनों के प्रयोग की व्यवस्था बनाई जा सके।

2. पोषण अभियान का विस्तार करके उसमें मनोवैज्ञानिक प्रभाव को शामिल करना :

हालांकि योजना पोषण का सबसे आवश्यक माध्यम है, लेकिन कुपोषण समाप्त करने के लिए सिर्फ भोजन पर आधारित नहीं रहा जा सकता बल्कि एक व्यापक समाधान की आवश्यकता है, जिन बच्चों को पर्याप्त समाधान की आवश्यकता है, जिन बच्चों को पर्याप्त मात्रा में भोजन मिल

रहा है, उनमें भी कुपोषण के लक्षण दिखाई दे सकते हैं, परिणामस्वरूप पोषण के वार्षिक लक्ष्य प्राप्त करने के लिए एक चहुमुंखी नजरिए की जरूरत है, ऐसे में गर्भवती और स्तनपान करा रही महिलाओं की मनोवैज्ञानिक मदद के लिए उन्हें सलाह देने की आवश्यकता है। स्तर पान क लिए साथ–साथ अतिरिक्त आहार के मामले में तो और बेहतर काऊसलिंग की जरूरत है हमारे कार्यक्रम ज्यादातर ताजा पके भोजन और घर ले जाए जाने वाले पूरक आहार तक ही सीमित है। लेकिन कम वजन के बच्चों को पैदाहश की दर जस की तस है, उसमें कमी लाने के लिए नवजात व छोट बच्चों के लिए बेहतर और पोस पोषण कार्यक्रम की आवश्यकता है। पोषण कार्यक्रम को मौजूदा दायरा AAA यानी आंगनबाड़ी कर्ताओां, नर्स मिडवाइफ और आशावर्कर तक सीमित है। इसे बढ़ाकर इसको खेतों में काम करने वाली और बच्चों के माता–पिता को भी जोड़ा जाना चाहिए। गांवों में खाद्य सुरक्षा के लिहाज से किसानों का योगदान बहुत अहम् है, वही माता–पिता तो मुख्य कड़ी है।

3. तालमेल मजबूत करना :

पोषण अभियान को सफल बनाने के लिए अलग–अलग विभाग को साथ लाने की आवश्यकता है, इसमें यह बात स्वीकार की गई है कि अभियान को प्रभावी बनाने और बर्बादी से बचाने के लिए केन्द्र राज्यों और अलग–अलग विभागों, गैर सरकारी संगठनों और अन्य समूहों के बीच बेहतर तालमेल की आवश्यकता है, हालांकि अब तक फैसले लेने और उन्हें लागू करने में लापरवाही रही है, देश एवं अलग–अलग क्षेत्रों में कुपाषण के मौजूदा हालात को देखते हुए इसे तीन प्रतिशत वार्षिक की तर से घटाने का महत्वाकांक्षी लक्ष्य रखना होगा फिर इस लक्ष्य को प्राप्त करने के लिए उसके फार्मूले पर चलने की जरूरत होगी वो तीन नीति, निर्यात और नेतृत्व है।

4. आंकड़ों एवं तकनीकियों का प्रयोग :

पोषण अभियान को सुधार लाने के लिए तकनीक पर आधारित इनोवेशन की काफी संभावना है, ICDC के कॉमन एप्लीकेशन साफ्टवेयर ने आंगनबाड़ी केन्द्रों से वजन कद पूरक पोषाहार और घर के दौरों से जुड़े आंकड़े एकत्रित करने के मामले में शानदान परिणाम आए हैं, इस समय 5 लाख 30 हजार आंगनबाड़ी केन्द्र (ICDS - CAS) सिस्टम से जुड़े हुए है। बाकी के 13.7 लाख केन्द्रों को भी 2020 तक जोड़ने की योजना थी लेकिन कोविड–19 के कारण लक्ष्य हासिल नहीं किया जा सका। इस तरीके से जमा किए गए आंकड़े योजना की निगरानी और उसके मूल्याकन की व्यवस्था को मजबूत बनाने के लिए बहुत अहम होगे। इससे

ये सुनिश्चित हो सकेगा कि प्रत्येक बच्चे गर्भवती या स्तनपान करने वाली महिलाओं और माताओं का अधिकतम ध्यान रखा जा सके, निहादानी की इस व्यवस्था की दिन और समय के साथ ली गई तस्वीरों के जरिए जियो टैगिंग भी की जा सकेगी इससे जमीनी कार्यकर्ताओं और सुपरवाइजरों की कुशलता भी बढ़ेगी। भविष्य में बड़े पैमाने पर आंकड़ों का विश्लेषण और आर्टिफिशियल इंटिलिजेंस प्रयोग से और भी नए प्रयोग प्रारम्भ किए जा सकते हैं।

5. क्षमता निर्माण को संस्थागत बनाना :

आंगनबाड़ी कार्यकर्ती को नियमित रूप से प्रशिक्षण देने से पोषण अभियान की उपयोगिता को काफी हद तक बढ़ाया जा सकता है, इसके अलावा बेहतर निगरानी तार्किक और काम का समान वितरण और संसाधनों को सुधार करके भी बेहतर बनाया जा सकता है। वैसे तो कुछ मामलों में तो काफी सुधार हुआ है। लेकिन अभी भी कार्यक्रम के कई कड़ियों को मजबूत करने के लिए इसके निरपेक्षता से मूल्यांकन की आवश्यकता है, आंगनबाड़ी केन्द्रों को बेहतर और प्रभावी तरीके से चलाने के लिए वहाँ बुनियादी सुविधाओं जैसे कि बिजली बच्चों के विकास की निगरानी करने वाले उपकरण और जरूरी आपूर्ति की व्यवस्था।

6. सामुदायिक केन्द्रों को मजबूत करना :

विकास कार्यक्रमों की कामयाबी की पहली शर्त है पंचशील की अवधारणा ये सिद्धान्त केन्द्र और राज्य सरकारों को साथ लाता है। उनके क्रमिक संस्थाओं और विश्वविद्यालयों, निजी क्षेत्र को अर्न्तराष्ट्रीय द्विपक्षीय, बहुपक्षीय एजेंसियों और सामाजिक समूहों को एक साथ लाता है। तमाम प्रयासों के बाजवूद पोषण अभियान से सामुदायिक भागीदारी बहुत कमजोर हो रही है, कोई योजना तभी ज्यादा प्रभावी हो सकती है। जब उसको समाज के उस ताने–बाने के साथ जोड़ा जाए। जो समाज की विविधता और उनके आपसी मेल–जोल के मुताबिक हो इससे पोषया कार्यक्रमों की उपयोगिता पर प्रभाव पड़ता है। किसी भी कार्यक्रम को कुशलता एव सफलतापूर्वक चलाने और पोषण संबंधी असमानताओं की जड़ तक पहुँचने के लिए परिवारों, अदररूनी समीकरण और सामाजिक भेदभाव पर भी गौर करने की जरूरत है।

अध्ययन क्षेत्र में कासिमाबाद तहसील जिला गाजीपुर में भी महिलाओं के स्वास्थ्य सम्बन्धी उपर्युक्त समस्याएं व्याप्त है। लेकिन निदाकरण नहीं हो पा रहा है। इसका प्रमुख कारण सरकार की अनदेखी एवं सरकारी याजनाओं का सुचारू रूप से लागू न हो पाना है।

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