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3.3.3

3.3.3 Number of books and chapters in edited volumes/books published and papers published in national/international conference proceedings per teacher during last five years (10)

Academic Year: 2019-20

Shri Shivaji Education Society, Amravati's

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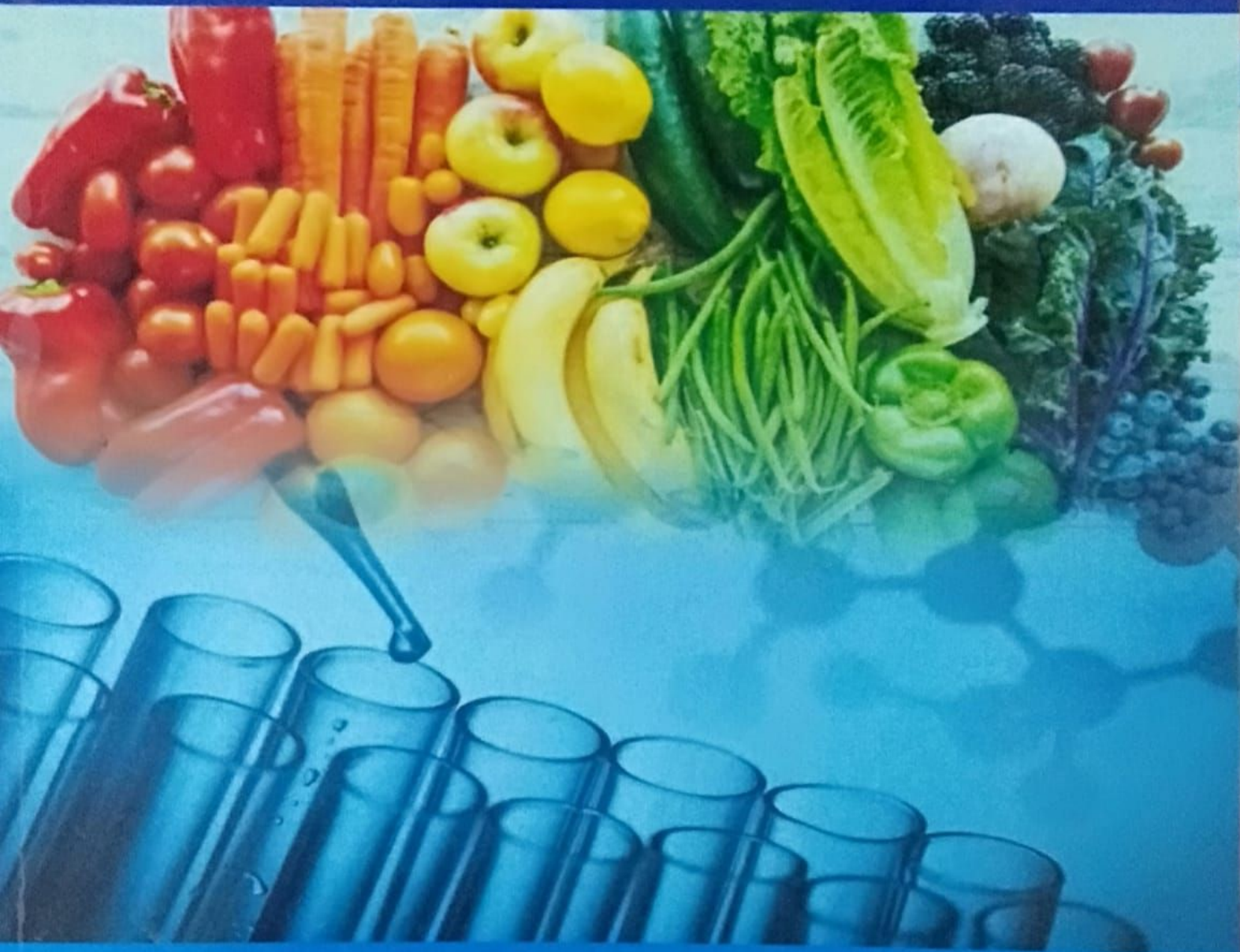
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A Text Book of Biochemistry

**B.Sc. I Semester I
Biomolecules and Nutrition**



Authors

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Mr. Aagosh K. Karhle

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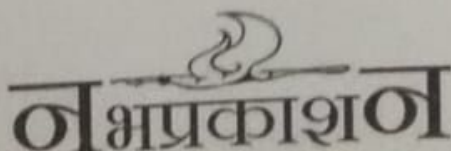
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A Text Book of Biochemistry

**B.Sc. II Semester-III
Intermediary Metabolism**



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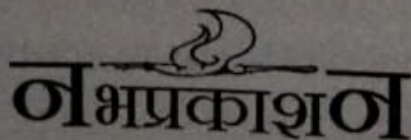
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Preliminary Phytochemical observations of *Tinospora cordifolia* (Willd) Miers.

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Abstract:

As per Ayurveda Tinosporacordifolia (Gulvel) is a considered as one of the most important medicinal plant due its versatile pharmaceutical properties. The primary phytochemical analysis of leaf and stem of T. cordifolia indicates that the plant is rich in chemical composition and showed presence alkaloids, phenolics, flavonoids, cardiac glycosides, terpenoids, steroids, carbohydrate proteins and amino acids. Methanol was found to most suitable solvent to extract all possible phytochemicals from this plant. Further, it was noted that the stem possesses higher concentration of available phytochemicals than leaves. The availability this diverse range of phytochemicals could be correlated with the multi-dimensional medicinal potential of this plant.

Key words: *Tinosporacordifolia* (Willd) Miers., phytochemical, traditional medicine.

Introduction:

Traditional healthcare system in India is well rooted since civilization. Ayurveda is one of the ancient treaties having cited more than two thousand medicinal plants with their uses and administration for different ailments. Traditional herbal healthcare is most reliable and affordable system for nearly 80% peoples in developing countries. The development of this system depends on investigation of active principles in the cited plants for which primary phytochemical observations should be accurate.

Tinosporacordifolia (Willd) Miers., belongs to family Menispermaceae. It is commonly known as Gulvel or Guduchi. The plant is a large glabrous, deciduous climbing shrub with corky, grooved stems, branches sending down slender pendulous fleshy roots, shining or glaucous bark (Fig. 1). Leaves membranous 7-9 nerved 4-11 cm roundish or subdeltoid, cordate with reticulate venation and microscopic glistening glands beneath; petiole 2.5-7cm long and bear yellow flowers and reddish fruits. It is widely used in Ayurveda and folk system of medicine in India since ancient time. Traditionally, it has been used as anti-inflammatory, anti-diabetic, antispasmodic, antioxidant and carminative (Kartikar and Basu, 2005 and Sarangi and Soni (2013).

The present work is focused on screening leaves and stem of *T. cordifolia* for available major phytochemicals and to correlate them with its medicinal properties.

Material and Methods:

The plant material of *Tinosporacordifolia* was collected from Botanical garden of ShriShivaji College of Arts, Commerce and Science, Akola. It was taxonomically identified using flora of Marathwada (Naik, 1998) and a specimen was deposited in the herbarium of Department of Botany. The collected material (leaves and stem) rinse under tap water, cleaned

and then shade dried. The shade dried material was then powdered and kept in air-tight bags till further experimentation.

Extractive values:

Extractive values of *T. cordifolia* leaf and stem with different solvents is determined with the specific standard methods explained Ayurvedic Pharmacopoeia of India (2007). Following methods were employed for preliminary phytochemical analysis:

Qualitative analysis:

Tests for alkaloids: 0.2 g of powder extract was warmed with 02 ml of sulphuric acid for 02 min and then added 2-3 drops of Mayer's reagent, cream to orange red precipitate confirm presence of alkaloids (Ansari, 2006).

Test for Cardiac glycosides: 0.5 g of powder extract was mixed with 02 ml glacial acetic acid containing a drop of ferric chloride solution. This was under-layered with 1ml of concentrated tetra-oxo-sulphate (VI) acid. Observation of brown ring at interface confirms the cardiac glycosides (Harborne, 1973).

Test for terpenoids: 0.5ml of powder extract was mixed with 2 ml of chloroform and then 2 ml of concentrated sulphuric acid was added to form a layer. The appearance of reddish brown ring at interface confirms presence of terpenoid in sample (Harborne, 1973).

Test for reducing sugars: 2ml of powder extract with 5 ml of distilled water and filter it. Filtrate was boiled with 3-4 drops of Fehling's solution A & B for 2 min., appearance of orange red precipitate indicated presence of reducing sugars (Harborne, 1973).

Tests for tannins and phenolics: Test for tannins and phenolics were performed by adding 2-3 drops of ferric chloride to 1ml of extract and the formation of a dark blue or greenish black colour product shows the presence of tannins (Mukherjee, 2002).

Test for flavonoids: 02 ml of powder extract mixed with dilute sodium hydroxide and add about 1ml diluted hydrochloric acid. Yellow solution turns colorless indicate presence of flavonoids in sample (Kokate, 1994).

Test for saponins: The procedure adopted for the identification of saponins was to take 1 ml of extract which is diluted with 20 ml distilled water and then shaken in a graduated cylinder for 15 minutes. A 1 cm layer of foam indicates the presence of saponins. (Ansari, 2006).

Test for steroids: 2ml powder extract was taken in a test tube and dissolved with chloroform (10 mL), then added equal volume of concentrated sulphuric acid to the test tube by sides. The upper layer in the test tube was turns into red and sulphuric acid layer showed yellow with green fluorescence.

Tests for carbohydrates: To the 0.5 ml of powder extract, 2-3 drops of mixture of Fehling solution A and B (1:1) was added and boiled for few minutes. A brick red colored precipitate of cuprous oxide forms which confirms presence of carbohydrate (Kokate, 1994).

Test for proteins and Amino acid: 0.5 mg of extract was taken and two drops of freshly prepared 0.2% Ninhydrin reagent was added and heated. The appearance of pink or purple colour indicates that the presence of proteins, peptides or amino acids (Harborne, 1973).

Quantitative analysis:

Estimation of Total Alkaloids:

0.5 g of powdered material was weighed into a 250 ml beaker and 200 ml of 10% acetic acid in ethanol was added, covered and allowed to stand for 10 h. This was filtered and the extract was concentrated on a water bath to one quarter of the original volume. Concentrated ammonium hydroxide was added drop wise to the extract until the precipitation was complete. The whole solution was allowed to settle and the precipitated was collected and washed with dilute ammonium hydroxide and then filtered. The residue is alkaloid content, which was dried and weighed.

Estimation of Cardiac Glycosides:

5 g of powder was taken in 100 ml distilled water. To this 10 g conc. H₂SO₄ (prediluted with 10 ml H₂O) was added. It was then reflux for 6-8 h. Cooled and extracted with chloroform (2 x 25ml). The chloroform layer was then washed with distilled water till it is acid free. Transferred to a pre weighed beaker and dried in an oven to a constant weight. Percentage of cardiac glycoside was calculated from the following formula:

$$\% \text{ of Cardiac glycoside} = (B - A) \times 100 \times 2$$

Where,

(B - A) = Weight of sample;

B = Weight of beaker with sample &

A = Weight of empty beaker

Estimation of Total Phenols:

Total phenols were determined by FolinCiocalteu method (Mc Donald et al., 2001). 0.5 gm of the powdered stem was taken in a pestle and mortar and grinded in 20 ml of 80% ethanol. The homogenate was then centrifuged at 10,000 rpm for 20 min. The supernatant was transferred to a beaker and evaporated to dryness. The residue was dissolved in 20 ml of distilled water. 0.2ml of samples were then taken in test tube and volume made up to 3ml with distilled water. 0.5 ml of FolinCiocalteu reagent was then added. After 3 min, 2 ml of 20% Na₂CO₃ solution was added to each tube, mixed thoroughly, placed in boiling water for exactly 1 min, cooled and absorbance was taken at 650 nm against blank. The standard graph was prepared by using different concentration of catechol. The concentration of phenols in samples was then calculated from the standard graph.

Estimation of Total Flavonoids:

Total flavonoids were determined by Aluminium chloride colorimetric technique (Change et al., 2002). 0.5 g powdered sample was weighed and kept in 95% ethanol for 24 hours. It was then filtered and volume was made up to 25 ml with 80% ethanol. 0.5 ml of filtrate was then mixed with 1.5 ml of 95% ethanol, 0.1 ml of 10% AlCl₃, 0.1 ml of potassium acetate and 2.8 ml water. The tubes were then incubated at room temperature for 30 min and absorbance was measured at 415 nm. The flavonoids content of the samples was calculated from the standard graph of quercetin.

Results and Discussion

Table-1 : Extractive value of Tinosporacordifolia leaf and stem.

Solvents	Extractive value (%)	
	Leaf	Stem
Aqueous	26.59%	22.31%
Methanol	18.25%	15.25%

Ethanol	19.33%	16.24%
Chloroform	05.26%	4.68%

Table - 2: Phytochemical analysis of *T. cordifolia* leaf and stem extract

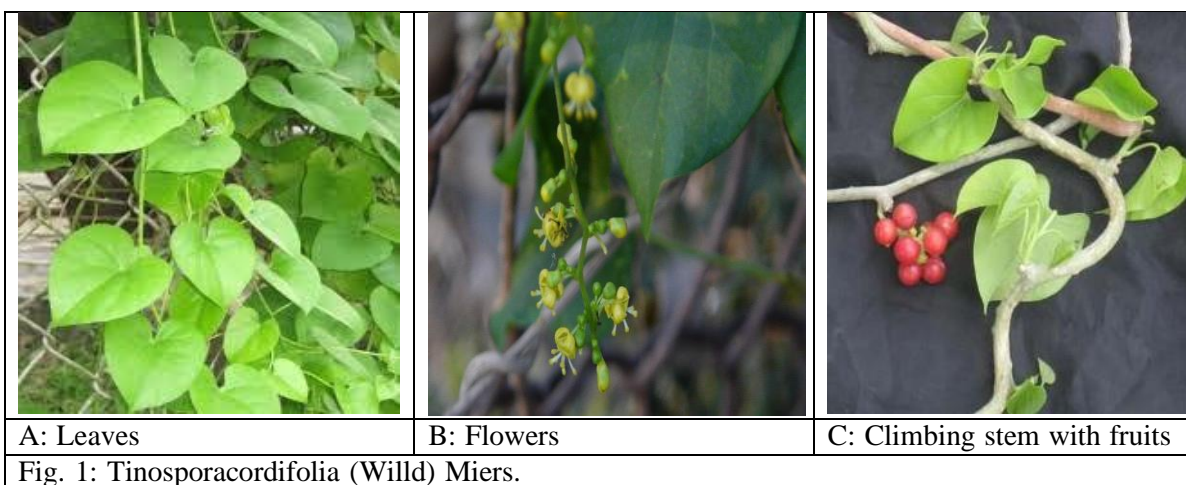
Test	Leaf				Stem			
	AE	ME	EE	CE	AE	Me	EE	CE
Alkaloids	-	-	-	+	-	+	+	+
Cardiac glycosides	+	+	+	-	-	+	+	-
Terpenoids	-	+	-	+	-	+	+	-
Tannins	-	+	-	-	-	+	+	-
Saponnins	+	-	-	+	+	+	+	-
Flavonoids	-	+	+	-	-	+	+	-
Phenolics	+	+	+	-	+	+	+	+
Steroids	-	+	+	-	+	+	+	-
Carbohydrates	+	+	-	+	+	+	-	-
Proteins and amino acids	+	-	-	-	+	+	-	-

AE= Aqueous extract; ME= Methanolic extract; EE= Ethanolic extract; CE= Chloroform extract

Table 3 : Qualitative analysis of stem and leaf powder (% W/W)

Phytochemical	Leaf	Stem
Total Alkaloid	0.85 ± 0.02	2.55 ± 0.22
Total phenolics	1.05 ± 0.22	0.91 ± 0.02
Total Flavonoids	0.09 ± 0.02	0.12 ± 0.01
Total glycosides	0.20 ± 0.01	0.22 ± 0.02

Note: Results are mean of triplicate analysis



The extractive values of leaves of *T. cordifolia* were found to higher than that of stem. The highest extractive values were recorded in distilled water followed by ethanol and least in chloroform (Table-1). The preliminary screening of leaves and stem powder of *T. cordifolia* indicates that, the plant is rich in phytoconstituents. It showed presence of alkaloids, phenolics, flavonoids, cardiac glycosides, tannins, terpenes, saponins and steroids apart from carbohydrates and proteins (Table-2). However, methanol emerges as most suitable solvent to extract maximum number of phytochemicals from this plant materials. Further chloroform has shown positive tests only for alkaloids and phenolics (in stem powder) and alkaloid, terpenoids, saponins and carbohydrate in leaf powder. Overall results including crude quantification of alkaloids, phenolics, flavonoids and cardiac glycosides indicates that stem contain higher level of available phytochemicals than leaves (table-3).

Tinosporacordifolia is traditionally being used as anti-diabetic, anti-spasmodic, anti-inflammatory, anti- stress, antioxidant, anti-cancer and immunity booster (Saha and Ghosh, 2012). Some other important reports demonstrating phytochemicals in leaves and stem of *T. cordifolia* includes that of Pradhan et al., (2013) and Mathavi et al. (2017).

On the basis of medicinal potential cited in traditional literature, *Tinosporacordifolia* is a versatile resource for all forms of life. Present report indicates that extracts have active compounds in the form of alkaloids, glycosides, phenolics, flavonoids and steroids. All these active compounds have immunomodulatory and physiological roles of different types, thereby demonstrating the diverse medicinal versatility of the plant. Further the presence of phenolics and flavonoids directly correlate its importance as antioxidant and anti-cancer agent; the significant level of cardiac glycosides related that the plant possesses heart protective property. However, it further pharmacological studies to actually identify and isolate respective bioactive principles. Further the aspect regarding how the active compounds actually interact with the living systems and affects the structure-function relationships is also equally important.

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- Chief & Executive Editor



Anacardiospermum Deccanensis Gen.Et.Sp.Nov. A Report of New Fossil Seed from Deccan Intertrappen Beds of Mohgaonkalan, M.P., India.

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Absract:

The fossil chert were collected from Mohgaonkalan,M.P. India. A well-knownfossiliferous locality belonging to Uppermost Cretaceous Period. The present fossil seed small, oval, dicotyledonous, unitegmic, seed coat is differentiated into testa and tegmen. Embryo is large, well preserved with two cotyledons, testa is clearly seen, tegmen thick walled cells.Mircropylar opening clearly seen. The seed is compared with the seeds of dicotyledonous families having unitegmic seeds and also with already reported fossils.

Keywords :Anacardiaceae, Deccan, Dicotyledonous,Fossil,Seed, Unitegmic, .

Introduction

Deccan Intertrappean beds of Central India, is rich in fossiliferous locality. The reports of fossil seed are less as compared to other parts of plant. They are Deccanospermaarillata, Ramakonaspermuschitaleyensis and Mahabalespermumminutum (Juneja, 1993), Clusiocarpusindicum (Wazalwar, 1990), Clusiocarpusarilltus (Kumar, 1984), Unonaspermumcorneri (Bonde, 1993); Ramakoaspermumsinghpurii(Shaikh and Bhowal, 2003), Mohgaonspermumdeccanii,Flacourtiospermumnambudirii (Kokate,2006) ; Ramakonaspermuschitaleyensis (Shaikh et al, 2009); Sahniospermumtrapii; Junejospermumintertrappea (Pundkar, 2014);Unitegmospermumramanujani (Kokate, 2017).

Material And Method:

The present fossil specimen is embedded in the blackchert. The seed is well preservedand exposed in longitudinal plane.It was studied anatomically by taking serial peel sections afteretching in Hydrofluoric acid.

Description:

The present fossil specimen is 1.5 mm long and 1.26 mmbroad. The cavity of seed is measuring 1.39 mm in length and 1.26mm width. Micropylar region is clearly seen. Embryo is large, wellpreserved with two cotyledons. The seed coat is differentiated into testa and tegmen.(Text Fig.1,9; Plate Fig.7, 10)

Seed coat:

In present fossil unitegmic seed, seed coat is differentiated into two layers, testa and tegmen. The seed coat is differentiated into outer testa and inner tegmen. The thickness of seed coat is measuring about 148 μ (Text Fig. 9; Plate Fig. 8)

Outer layer of seed coat is very thick, it may be testa. This layer followed by thick walled tegmen. The thickness of tegmen layer is about 53 μ . These cells are compactly arranged cuboid in shape, thick walled. At the micropylar region of the seed tegmen is 3-4 celled in thickness.

In present fossil specimen, seed cavity is oval containing and well preserved embryo. It is large and occupies about maximum space of seed cavity. The embryo consist of two cotyledons. The cotyledons measuring about 199 μ in size. In the present fossil specimen the cotyledonary region at the micropylar end is about 139 μ mm in breadth. The cells of cotyledons are of parenchymatous cells. Each cells of cotyledon measures 126 μ in size. In the seed, endosperm tissues is not observed. It might be absorbed during the development of embryo.

Comparison With Fossil Seeds

The present seed can be compared with the earlier described *Clusiocarpus arillatus* (Kumar, 1984) but differs in having aril.

Ramakonasperrum chitaleyensis (Juneja, 1993) is bitegmic and mesotestal seed is also different from present fossil specimen.

Deccansperma arillata (Juneja, 1993) is having arillate and bitegmic seed character differing from present fossil specimen seed.

In *Clusiocarpus indicum* (Wazalwar, 1990) seed is differentiated into testa and tegmen i.e. bitegmic in nature which is not seen in present fossil specimen.

Unonasperrum corneri (Bonde, 1993) is having ruminant seed coat with elongated, ellipsoidal and bitegmic seed take away from present fossil specimen.

Junejospermum intertrappea (Pundkar, 2014) is also unitegmic seed small oval, dicotyledonous, exarillate. Seed coat differentiated into testa and tegmen. Embryo large, well preserved with two cotyledons, testa not clearly seen, tegmen thick walled. Micropyle clearly seen but it is different from present fossil seed in having smaller size.

Unitegmospermum ramanujani (Kokate, 2017) is unitegmic seed, seed coat with testa and tegmen. Cells of tegmen is thick walled, cuboid and at some places lignified which characters are totally different from the present fossil specimen.

Comparision And Discussion:

The present fossil specimen is dicotyledonous, unitegmicseed, therefore it can be compared with dicotyledonous living families having unitegmic seeds. Seeds in dicotyledonous shows wide variations in anatomical structure, (Corner, 1979) which is used for classification of dicotyledons.

Corner (1979) has mentioned out of 350 families of dicotyledonous, only 105 families having unitegmic seeds. We have considered some families having orthotropous ovule which are Burseraceae, Fagaceae, Monimiaceae, Salicaceae, Rafflesiaceae, Rosaceae; Anacardiaceae.

In Burseraceae and Fagaceae, Monimiaceae the seeds are unitegmic but the seed coat consist of Testa and Tegmen. The Testa is slightly multiplicative with outer continuous layer of cells of tangentially elongated or thin walled in nature while the tegmen layer of seed coat in all these families get soon or eventually crushed. So only one integument is involved in the formation of seed coat which is not resembling to present fossil as it is exotegmic in nature, so differs from the above mention families.

In Salicaceae it seems to be the inner integument disappears to form unitegmic seed (Corner, 1976) then present fossil is compared with the seed of Rafflesiaceae differs in not

Having minute seeds measuring 0.5 to 1 mm long and inner layer of tegmenis crushed. In some species testa as a single layer of pulpy cells which is not seen in present fossil.

The present fossil specimen compared with seed of family Rosaceae showing anatropous hypotesta present. Testa with thick sclerotic mesotesta and tegmen lignified which is different from present fossil specimen.

In Anacardiaceae seed are medium to large in size with integuments often crushed and tegmen often persistent. In this family protective function of seed coat is generally carried by endocarp. It differs from present seed in having large size and embryo is also large occupying complete seed cavity.

After the above discussion, it is concluded that the described seed shows close resemblances with the seeds of family Anacardiaceae. (Corner, 1976).

Therefore the present fossil seed can be assigned in the family Anacardiaceae and named as *Anacardiospermum deccanensis*. Generic name is after the name of family Anacardiaceae and specific name is after the Deccan Intertrappean beds.

Diagnosis:

Anacardiospermum gen. nov. Fossil seed small, oval, dicotyledonous, unitegmic, seedcoat differentiated into testa and tegmen. Embryo is large, well preserved with two cotyledons, testa clearly seen, tegmen thick walled, Micropylar opening clearly seen. *Anacardiospermum deccanensis* gen. et. sp. nov. Seed small, oval, unitegmic measuring 1.59 mm long and 1.26 mm broad. Seed cavity measuring about 1.39 mm in length and 1.26 mm in width. Seed coat differentiated into testa and tegmen seed coat measuring 148 μ in thickness. Testa clearly seen followed up by this layer thick walled tegmen layer measuring 53 μ in thickness, compactly arranged cuboid cells. Micropylar region 3-4 celled in thickness. Embryo well preserved with two cotyledons, measuring about 199 μ size., cells of cotyledons measuring 126 μ in size. Endosperm not seen.

Holotype - MOH / SWD/ DICOT/ SEED Department of Botany, Shri. Shivaji College, Akola Locality -Mohgaonkalan, Dist. Chhindwara M.P., India

Horizon - Deccan Intertrappean Beds of Central India.

Age – Upper Cretaceous

Explanation of Plate Fig. 1 to 10

1 to 4 : Serial sections of L.S. Of seed showing Testa, Tegmen and Embryo

x205 : L.S. Of seed showing embryo x406 : L.S. Of seed showing embryo
x40

7 : Cellular details of seed coat x100 8 : Magnified structure of Testa and Tegmen

x1009 : L.S. Of seed showing attachment of cotyledon to seed coat x40

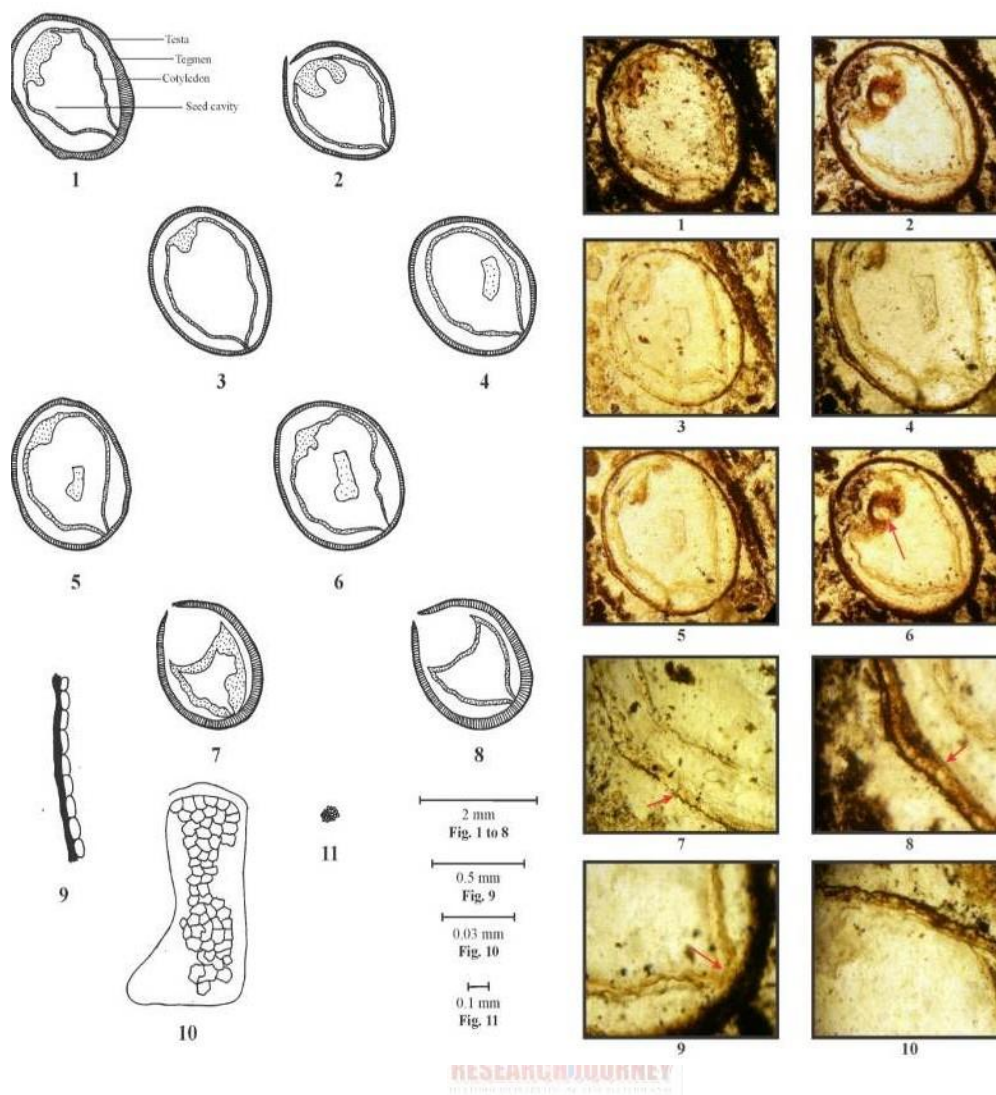
10 : Cells of Tegmen x100

Explanation of Text Fig. 1 to

11

1 to 8 : Diagrammatic sketch of serial sections of seed showing Testa, Tegmen and Embryo.

9 : Cellular details of testa and tegmen. 10 : Magnified structure of cells of emb



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Green Electricity Response of Silver and Magnesium Electrode Pair

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Abstract:

Producing the electricity from tree's or plant's leaf as well as stem is possible. A leaf contains approximately more than trillions of cells. During the process of photosynthesis, each cell of the leaf emits electrons. By the movement of these trillions of electrons, we can produce electricity. In another method, we can get current from leafs by means of flow of electron between two types of different plants using different metal sensors and conductors. If we produce electricity from plants or trees, everyone wants to be planting the trees in ones garden. Government also motivated the process of plantation. As a result, the number of trees in the world will also increase; which can save our earth from global warming too.

Electric energy is playing a major and indispensable role in day-to-day life of human being. Most all the fields are encompassed with electricity and related appliances. There are number of ways by which electricity is being generated. To surmount the demand of electrical energy is ever growing problem and is creating several threats to the environment. To deal with the situation, various types of non-conventional and renewable energy sources are being invented and developed throughout the world.

In the presented research paper, an impact is given to generate DC voltage, from living plants like xerophytes as well as mesophytes. Such kind of energy source is non-conventional as well as renewable type of energy source and is very useful. It is eco-friendly technique of low voltage generation. Though the current research work of electricity generation from living plants is in infancy, but has wide scope in future for the development and evolution of renewable and non-conventional energy resources. The undertaken research work describes the design aspect of low power energy source wherein various plants are used as natural electrolytes along with various electrodes and cells.

Keywords: Green electricity, xerophytes plant, eco-friendly and renewable energy source, Silver and Magnesium electrode pair

Introduction:

Due to an scarcity of electricity, human being is facing the problem of load shading. There are number of ways by which electricity is being generated. The conventional as well as non-conventional methods are being research and developed used by different agencies, boards, institutes & companies. On some extend, every scientific team is contributing its share in the field of electricity generation.

The researchers are trying to use nonconventional method of generation of electricity by using living plants like xerophytic types. After generation of the electricity it will be utilized as a new kind of power source for small electronic circuits, devices & gadgets. This may stand as one of the renewable emerging source of energy. Such type of low voltage can be generated without creating waste materials, and also without polluting any environmental parameters.

If we become able to produce electricity from living plants or trees, everyone wants to be planting the trees in ones surroundings. Governments of many countries are also motivating such a process of plantation of trees and plants. As a result, the number of trees in the globe will also increase, which indirectly will save our planet from the serious issue of global warming. Though, the plant & tree power is improbable to replace the power sources for the most of applications. But this kind of system could provide low cost, continuous, pollution free & more natural option of the electricity or power source. On the primary level, the researchers tried to introduced such kind of low power source from the living plants. In near future, it might be used for different applications. In this paper, Silver and Magnesium materials are considered for preparation of electrodes and cells [1].

Preparation of electrodes and cells:

By using different xerophytic type of plants, various shape and size of the electrodes were tested practically for optimum values of output voltage, current and power [2]. Overall, twelve different materials like Copper, Aluminum, Zinc, Platinum, Iron, Silver, Gold, Carbon, Iron, Magnesium and Stainless Steel were used to design and developed the electrodes and cells. Despite the fact of designing the various kinds of electrodes and cells, following parameters has been taken into deliberation.

- ❖ Maximum electrode area should come in contact with the available sap flow
- ❖ Shape of electrode should be suitable to accommodate it into the plant
- ❖ Sap flow of the plant should reach to both the sides of electrodes [3]
- ❖ Square, rectangular, elliptical and circular shaped electrode has less contact area of sap flow
- ❖ Corrugated shaped electrodes has more contact area of sap flow comparatively and are most suitable for optimum output values
- ❖ Small sized electrodes has less contact area of sap flow which results in less output values
- ❖ Big sized electrodes may damage the leaf or plant which may reduce the remaining life span of the plant or tree

Response of Silver and Magnesium electrode pair:

Assorted xerophytic plants such as Aloe vera, Opuntia dillennii, Euphorbia neriifolia, Cereus hildmannianus, Euphorbia antiquorem, Agave vivipara, Opuntia stricta and Euphorbia lactea were studied practically for output voltage, current and power. In overall, 45 different plants were tested with the help of various types of electrodes. But the only plants with good potential difference (or voltage) and output current are considered in this presented paper. Following five plants viz. Aloe vera, Opuntia dillennii, Euphorbia neriifolia, Cereus hildmannianus and Agave vivipara provided better response for Silver and Magnesium electrode pair [4].

Just as abovementioned, five xerophytic plants were studied using Silver and Magnesium (Ag-Mg) electrode pair. The readings for output voltage and output current are recorded in

following table (1). Also, the measurements of Specific conductivity and pH value of plant extract are noted in the same table.

Table (1): Response of various Xerophytes for Silver and Magnesium electrode pair

S. N.	Name of the Xerophytes used	Specific conductivity in mΩ	pH value of plant extract	Output voltage in Volts	Output current in mA
1)	Aloe vera	3.62	6.4	1.068	0.85
2)	Opuntia dillennii	7.44	6.2	1.641	1.12
3)	Euphorbia neriifolia	5.32	5.7	1.586	0.84
4)	Cereus hildmannianus	5.40	5.3	1.621	0.71
5)	Agave vivipara	4.16	5.1	1.198	0.37

From above table it is found that Opuntia dillennii produces maximum voltage as well as maximum current using Silver-Magnesium electrode pair. Figure (1) below, shows the graphical representation and analysis of output voltage and output current obtained for these plants.

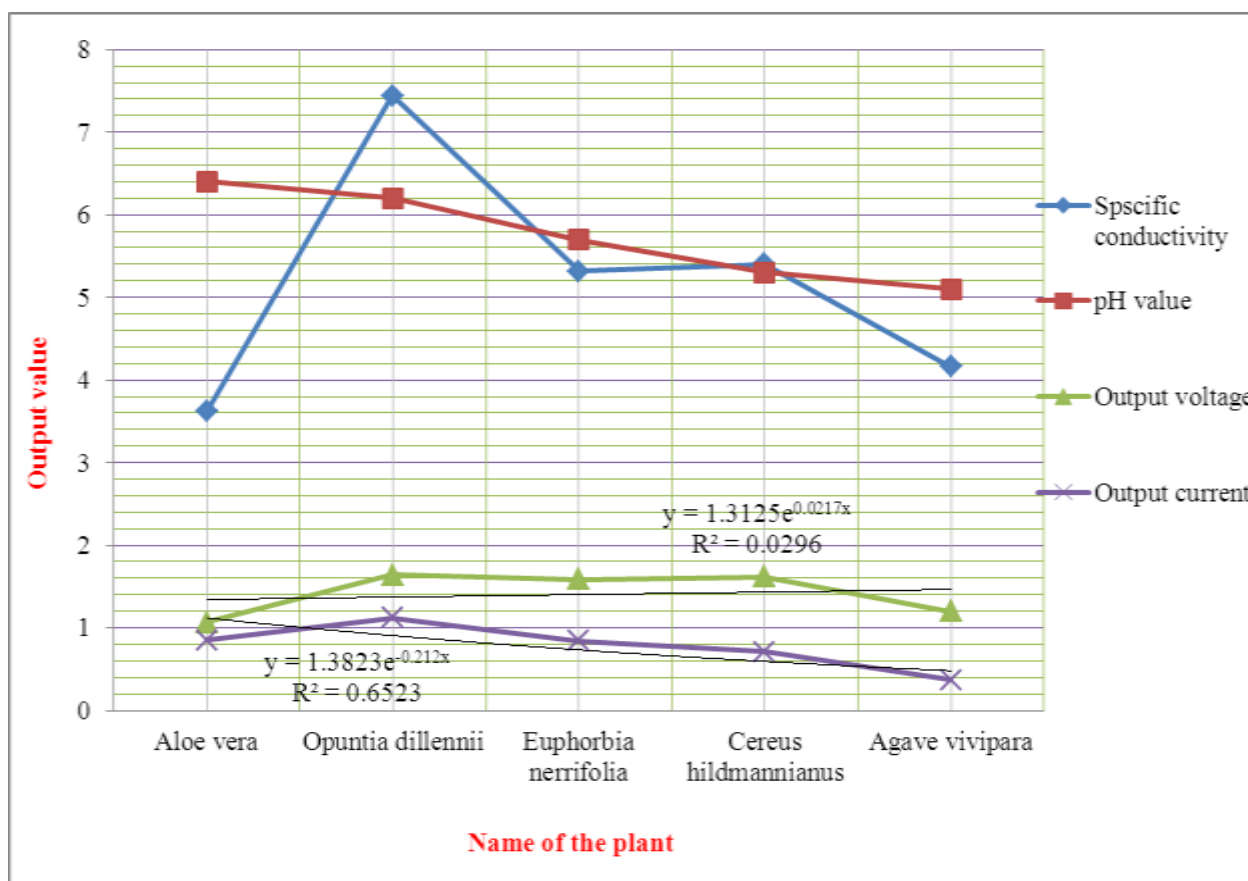


Figure (1): Correlation of output voltage, output current, specific conductivity and pH value for Ag-Mg electrode pair

As shown in above figure (1), the trendlines along with the equations and R-squared values are drawn for output voltage and output current of different plants. It is observed that maximum output voltage as well as current is generated for Opuntia dillennii plant and there is decline in both sides of exponential curve for other plants. The equation of line $y = 1.312 * e$

$0.021x$ with R-squared value, $R^2 = 0.029$ of exponential curve for output voltage shows that the overall decline rate is slight positive with respect to output current. The decline rate for document set of output current is low with equation $y = 1.382 * e^{-0.21x}$ with R-squared value, $R^2 = 0.652$, as compared to output voltage generated.

Conclusion:

After due analysis, it was found that the simultaneous reduction and oxidation (i.e. redox) reaction/process takes place at both the electrodes. When such type of Silver-Magnesium electrode pairs are used, that gives us typical voltage, current and power for operation of miniature electronics circuits and gadgets. It was found that Silver-Magnesium electrode pair produces more voltage as well as current values for *Opuntia dillennii* whereas it produces less voltage and current values for *Agave vivipara*. Such types of electrodes and cells are of low cost, reusable, less corrosive, pollution free and also eco-friendly for the environment [8]. As a result, such type of voltage source becomes renewable, non-conventional, cheap and an emerging low power source of electricity.

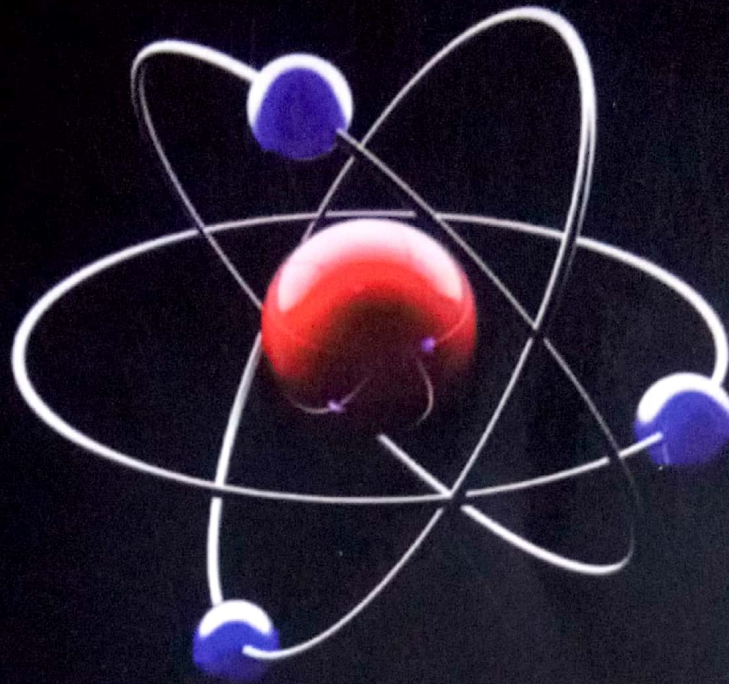
The presented and undertaken research work is in infancy, but more research will open up new ways of using trees, plants and vegetative power [1,9]. So that dependency of human being on conventional and non-renewable energies may be reduced on some extent. Let's hope that our imagination may cross boundaries and we might be plugging into the surrounding trees and plants to charge our iPods, cell phones and other gadgets using such type of green electricity.

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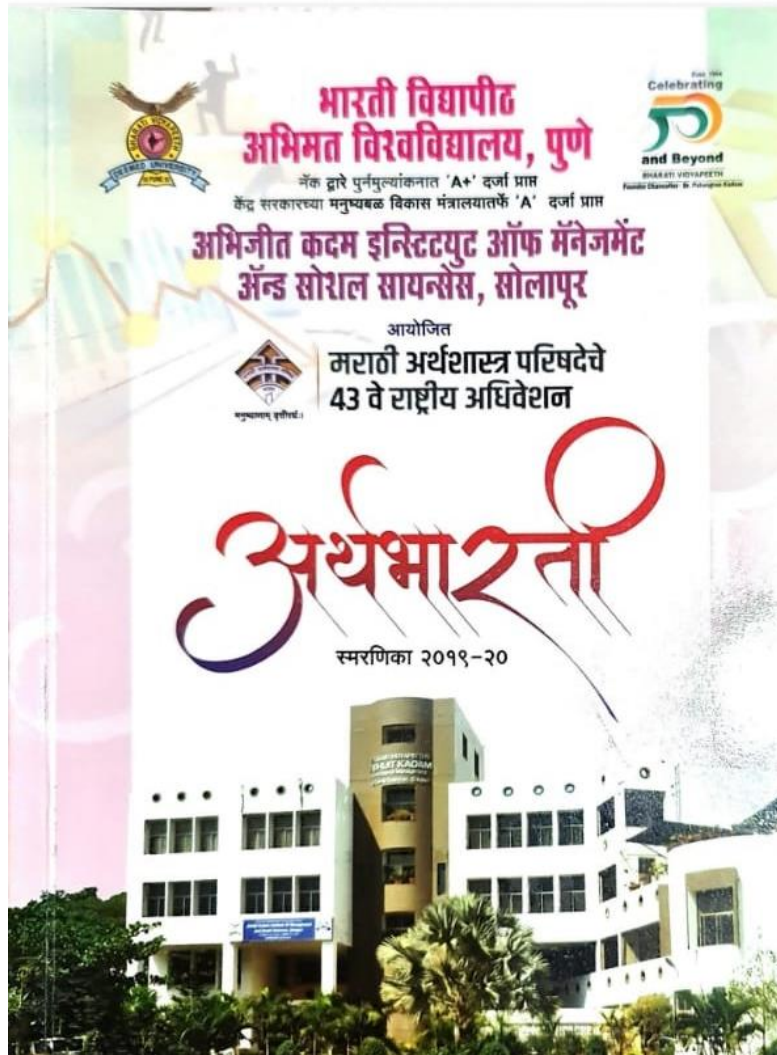
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गोषवारा

सुखी हे छत्रपती शिवाजी महाराजांच्या राज्यकारभाराचे धोरण होते. शिवकालात प्रत्यक्ष शेतात राबणारा रयत हाच खरा शिवकालीन शेतीचा आधार होता व त्यांचा व्यवसाय हा समाजातील महत्वाचा मानला जात होता त्यांचे उत्पन्न हेच राज्याचे उत्पन्न होते तसेच शेतकऱ्यांच्या युवा पिढीतून सैन्य मिळत असे म्हणून शिवाजी महाराजांनी शेतकऱ्यांसाठी अनेक योजना राबवल्या होत्या. त्यासाठी शिवाजी महाराजांनी जमिनीची योग्य प्रकारे मोजमाप करून त्या त्या मातीप्रमाणे जमीनीचे प्रकार करत वर्गवारी करून त्यावर पीक पाहणी करण्याची व्यवस्था केली होती आणि त्यावरच सारा आकारला जात असे छत्रपती शिवाजी महाराजांनी शेतकऱ्यां संदर्भात अनेक योजना काही राबविल्या त्या पत्रांमधून आपल्याला समजते त्यातील काही सोई सवलती गावचा गाव फिरून तेथील शेतकरी जेवढे आहेत ते गोळा करावे कोणकडे मनुष्यबळ आहे बँल आहेत यांची कोणाकडे कशी व्यवस्था आहे याची विचारपूस करावी.

शिवरायांच्या प्रशासनामुळे शेतकऱ्यांचे जीवन सुखी समृद्ध होते. शेतकऱ्यास रयत, कुणबी, कुळवाडी, अशा अनेक नावांनी संबोधले आहे. प्रत्यक्ष शेतावर कष्ट करणारा राबणारा शेतकरी हाच शिवकालीन शेतीचा आधार होता. पण त्याचा व्यवसाय हा समाजातील प्रमुख व महत्वाचा मानला जात होता. कारण त्याचे उत्पन्न हेच राज्याचे उत्पन्न होते. म्हणून सरकार सुध्दा शेतीच्या प्रश्नाविषयी जागृक होते. पाणीपुरवठ्याच्या दृष्टिने जमिनीचे बागायत व जीरायत असे दोन प्रकार केले जात. छोट्या छोट्या ओढ्या नाल्यावर किंवा नद्यावर लहान लहान बंधारे घालून त्यातील नाणी पाटांनी शेतीस पुरवले जाई. अशा जमिनीस पाटस्थल असे म्हणत. काही ठिकाणी विहीरीच्या पाण्यावर काही जमिण पीकवली जात असे. अशा जमिनीस मोटस्थलजमीण असे म्हणत. काही जमिणी छोट्या छोट्या ओढ्यांना बांधारा घालून जमिनीच्या उंचीचा फायदा घेवून पाणी पुरवले जात असे. अशा जमिनीस फुग्याखालील जमीण म्हटले जात असे. जिवनावश्यक धान्याचा तुटवडा पडत नसे, खाऊन पीऊन शेतकरी सुखी होता.

यावरून छत्रपती शिवरायांच्या मनात रयतेविषयी ममता आत्मीयता दिसून येते. म्हणून छत्रपती शिवराय १७ व्या शतकातील आदर्श राजे होते हे मान्य करावे लागेल. इ.स. १९२० मध्ये महाराष्ट्रातील शेती विषयी अहवाल तयार करणारा इग्रज अधिकारी मेजर जर्व्हिस अहवालात म्हणतो 'शिवाजी राज्यांचे राज्य जनतेच्या सहकार्यामुळेच विकास पावले, गोधळ, लढाया आणि द्रोह करण्याच्या सार्वत्रिक वृत्तिचा हा काळ असूनही शिवाजींच्या धोरणांमुळे महसुल व्यवस्था आणि जणता यांची स्थिती सुधारली या लोककल्याणकारी धोरणांमुळे छत्रपती शिवाजी महाराजांना 'रयतेचा राजा ही उपाधी प्राप्त झाली.

2018-19

ऐतिहासिक परिपेक्ष में
भारतीय महिला

Indian Women in Historical Perspective



डॉ. सूर्यकांत कापशीकर



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डॉ. सोपान सिताबराव वतारे
संगित विभाग, श्री शिवाजी महा. अकोट

इतिहास साक्षी है उन गतिविधीयोका जिनके महान योगदान से स्वतंत्रता की लड़ाई के साथ - साथ संगीत - साहित्य, राजनिती खेल आदी क्षेत्र में महिलाओं ने अपना नाम रौशन किया। ऐसीही एक महान महिला संगीत विदूशी डॉ. प्रभा अत्रे का संगीत कला में योगदान भारतीय संगीत में विभिन्न कलाकारों ने समय - समय पर अपना महत्वपूर्ण योगदान प्रदान किया है। इसी क्रम में उत्तर भारतीय शास्त्रीय संगीत कलाकार पद्भूषण डॉ. प्रभा अत्रे अन्वेशक एवं सिध्द कलाकारों की परम्परा में अपना विशिष्ट स्थान रखती है। आपके कार्यक्रमों ने लोकप्रियता के अनेक कीर्तिमान स्थापित किए हैं। यह प्रतिभाशाली विविधांगी कलाकार गत लगभग ६० वर्षों से शास्त्रीय संगीत के मंच पर शोभायमान रही है और अपनी गान प्रवणता से जन - जन के हृदय को जीतती तथा अल्हादित करती चली आ रही है।

वर्तमान में किराना घराने की आप वरिष्ठ महिला गायिका है जो इस घराने का प्रतिनिधत्व कर रही है। इस संदर्भ में देश की लब्ध प्रतिष्ठित गायिका डॉ. प्रभा अत्रे सामाजिक सांगीतिक कार्यकर्ता एवं प्रचारक के रूप में निरन्तर सक्रिय रही है। आपने कलाकार के रूप में ही नहीं वरन् एक आयोजिका, लेखिका, गुरु एवं सामाजिक कार्यकर्ता के विविध रूपों में भी संगीत के विकासात्मक दृष्टिकोण को ध्यान में रखते हुए, देश में ही नहीं वरन् विदेशों में भी संगीत की लोकप्रियता बढ़ाकर सामाजिक सांगीतिक कार्यकर्ता के रूप में अपनी अहम् भूमिका निभाई है। उन्होंने शास्त्रीय, उपशास्त्रीय एवं भजनों के अंतर्गत लगभग ४५० बंदिशों की, रचनाएं की तथा इन बंदिशों को 'स्वरांगिनी' एवं 'स्वरंजनी' पुस्तक के रूप में संगीत समाज को प्रदान किया है एवं इन समस्त बंदिशों को सी.डी. में प्रस्तुत कर संगीत प्रेमियों एवं कलाकारों को नवीन सामग्री प्रदान की प्रभाजी ने न केवल भारत में अपितु विदेशों में भी विविध कार्यक्रमों, प्रशिक्षणों एवं व्याख्यानों द्वारा संगीत का प्रचार - प्रसार करने में अपना योगदान प्रदान किया है। आपने कॅनडा, अमेरिका, नेदरलैण्ड, स्विट्जरलैण्ड आदि देशों में कई स्थानों पर कार्यक्रम, कार्यशालाएं, व्याख्यान प्रदर्शन कर संगीत के प्रचार - प्रसार में अपना योगदान प्रदान किया है।

आप भारत में ही नहीं अपितु विदेशों में भी संगीत प्रेमियों को संगीत शिक्षा प्रदान करती रही है। अब तक आपने देश - विदेश के लगभग २५० शिष्यगणों को शिक्षा प्रदान की है और करती आ रही है। प्रभा जी ने भारतीय संस्था संस्कार भारती के माध्यम से भी कई व्याख्यान, सेमिनार, कार्यशालाएं, कार्यक्रमों एवं प्रशिक्षण द्वारा भारतीय संस्कृति में संगीत को बढ़ावा देने, तथा

उसे सुरक्षित रखने का कार्य किया। आपने कुछ सामाजिक, शैक्षिक तथा सांस्कृतिक संस्थाओं में संगठन सदस्य के रूप में भी कार्य किया। भारतीय शास्त्रीय संगीत, अन्य कलाओं के संरक्षण एवं उनके विकासात्मक दृष्टिकोण हेतु सन् २००२ में डॉ. प्रभा अत्रे फाउण्डेशन की स्थापना की। लेकिन फाउण्डेशन की स्थापना के पूर्व सन् १९६५ से ही कई कार्यक्रम आयोजित किए हैं।

आप लगभग पन्द्रह वर्षों से कई भारतीय एवं अन्तराष्ट्रीय संगठनों से भी जुडी हुई हैं। भारतीय शास्त्रीय संगीत को साधारण जनता में लोकप्रिय बनाने के लिए आपने मन्दिरों एवं आश्रमों में भी निरन्तर कार्यक्रम प्रस्तुत करती रही हैं तथा विशिष्ट कारणों से वे कई कार्यक्रमों में बिना मानधन के भी प्रस्तुति देती हैं। प्रभा जी विदेशों में भी अनेक विश्वविद्यालयों में मानद अध्यापिका (अपेपजपदह चतवमैवत) के रूप में अध्यापन कार्य करती हैं। आपने आकाशवाणी, दूरदर्शन कार्यक्रम, व्याख्यान प्रदर्शन कार्य एवं उत्कृष्ट कार्यक्रमों द्वारा लोकप्रियता एवं प्रशंसा अर्जित की है तथा इस तरह से आपने भारतीय सांगीतिक कला व संस्कृति को विदेशों में भी लोकप्रिय बनाया है।

इस प्रकार प्रभा जी ने एक कलाकार होने के अतिरिक्त लेखिका, आयोजिका, गुरु एवं सांगीतिक, सामाजिक कार्यकर्ता आदि विविध पहलुओं द्वारा भी भारतीय सांगीतिक संस्कृति की धरोहर को सुरक्षित एवं लोकप्रिय बनाने में महत्वपूर्ण भूमिका निभाई है। संगीत में इस अमूल्य योगदान के लिए आपको शतशः नमन।

संदर्भ सुची

- १) संगीत कला विहार मासिक अंक : फेब्रुवारी २०१२
- २) संगीत पत्रीका



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Bharatiya Mahavidyalaya, Amravati
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Article 370 : Reality and Future

9 September 2019

**Editor
Dr.Prashant Vighe**

**In Collaboration with
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**BHARTIYA MAHAVIDYALAYA
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**NATIONAL CONFERENCE ON
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9 September 2019**

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संपर्क :

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भारतीय राज्यघटनेतील अनुच्छेद 35 (अ)

प्रा. डॉ. जीवन एच. पवार

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सारंश :

जम्मू कश्मिरमध्ये केंद्र सरकारने अचानक काही घटकामध्ये बदल करण्याचा निर्णय घेतला. त्यामध्ये कलम अनुच्छेद 35 (अ) 370 हटविण्याचा होय. स्वतंत्र भारताच्या पहिल्या पंतप्रधानांनी जम्मू कश्मिर ला स्वतंत्र संविधान व विशेष अधिकार प्राप्त करून दिले. यासंबंधी विचार विमर्श आपण पुढील लेखात करणार आहोत.

प्रस्तावना :

दिडशे वर्षांच्या प्रदिर्घ ब्रिटिश राजवटीतून भारताला 15 ऑगस्ट 1947 ला स्वतंत्र मिळाले. पण जाता जाता ब्रिटिश राज्यकर्त्यांनी भारत व पाकिस्तान या दोन देशामधील कश्मिर संबंधीचा निर्णय न देता त्यांच्यात सतत वाद होणारी परिस्थिती निर्माण करून ब्रिटिश मायदेशी परतले.

जेव्हा स्वतंत्र भारताची राज्यघटना तयार झाली या घटनेमध्ये विविध प्रकारच्या तरतुदी करण्यात आल्या. त्यामधील अनुच्छेद 35 (अ) आहे.

देशाची राज्यघटना तयार करतांना विविध देशांच्या संविधानाचा अभ्यास करून आपल्या भारत देशाची राज्यघटना तयार करण्यात आली. उदा: ऑस्ट्रेलियाचे मार्गदर्शक तत्वे, इंग्लंडमधून सांसदीय शासन पध्दती, व अमेरिकेची संघराज्य पध्दती होय.

भारतीय राज्यघटनेमधील अनुच्छेद 35 (अ) हा कश्मिरला विशेष स्थान देण्यासाठी तयार करण्यात आला होता.

भारताने संघराज्यपध्दतीचा स्विकार केल्यामुळे देशामध्ये स्वातंत्र्य प्राप्तीनंतर विविध संस्थांचे भारतात विलगीकरण करण्यात आले. उदा: हैद्राबाद, जुनागड होय. पण जम्मू कश्मिरच्या संदर्भात तेथील तात्कालीन राजा हरिसिंग यांनी कश्मिरचा भारत व पाकिस्तान या समावेश न करता कश्मिरला स्वतंत्र पण कालांतराणे पाकिस्तानने राजा हरिसिंग यांच्यावर आक्रमण केले त्यावेळी राजा हरिसिंग पाकिस्तानच्या आक्रमणाला तोंड देवू शकले नाही. अशा परिस्थितीत त्यांनी भारताची मदत घेतली. व कश्मिर भारतात सामील केले.

उद्दिष्ट्ये :

- 1) राज्यघटनेमधील अनुच्छेद 35 (अ) चा अभ्यास करणे.
- 2) अनुच्छेद 35 (अ)मधील तरतुदी तपासणे.
- 3) अनुच्छेद 35 (अ)हे कश्मिर जनतेला किती फायदयाचे आहे ते पाहणे.
- 4) अनुच्छेद 35 (अ) मुळे भारतीय एकत्म धोरणांची पूर्ती होते काय ते अभ्यासणे.
- 5) अनुच्छेद 35 (अ)मुळे कश्मिरचा विकास झाला का ते तपासणे.

शोध पध्दती : प्रस्तुत शोध निबंधातील माहीती हि दुय्यम समंकावर आधारीत आहे. यासाठी संबंधीत ग्रंथ पुस्तके आणि नियतकालीकाचा उपयोग करण्यात आलेला आहे.

1) अनुच्छेद 35 (अ) कधी अस्तित्वात आले. : तत्कालिन पंतप्रधान पंडीत नेहरू आणि शेख अब्दुल्ला यांच्यात दिल्लीत 1942 मध्ये झालेल्या करारानुसार राज्यघटनेतील काही तरतुदी राष्ट्रपतीच्या आदेशाने 1954 मध्ये करण्यात आल्या त्यावेळी कलम 35 (अ) राज्यघटनेतमध्ये समाविष्ट करण्यात आले. जम्मू कश्मिर या राज्याला स्वतांची राज्यघटना असून ती 1956 मध्ये तयार करण्यात आली. त्यामध्ये महाराज हरिसिंग यांच्या काळातील कायमस्वरूपी नागरिकांची व्याख्या परत आणण्यात आली. त्यानुसार 1911 पुर्वी राज्यात जन्मलेले किंवा स्थायीक झालेल्या सर्व नांगरीकांना किंवा संबधीत तारखेपुर्वी दहा वर्षाहुन अधिक काळ कायदेशीर मार्गाने स्थावर मालमत्ता धारण कलेले नागरिक यांचा समावेश आहे. याशिवाय जम्मू कश्मिर मधून स्थानांतर कलेले सर्व नागरिक यामध्ये पाकीस्तानात स्थालांतरीत झालेले नागरिक येतील हा राज्याचा विशय असे

स्थालांतरीताच्या पुढच्या दोन पिढ्यांचाही समावेश आहे.

2) एतिहासीक पार्श्वभूमी : जेव्हा जम्मू कश्मिर संस्थान असताना तेथील डोग्रा शासक महाराज राज हरिसिंग यांनी सन 1927 आणि सन 1932 मध्ये राज्यात राज्याचे विशय आणि त्यांचे अधिकार निश्चित करणारा कायदा लागू केला होता. त्याअंतर्गत राज्यात स्थलांतरीत झालेल्या नागरिकांचे नियमनही होत होते. महाराज हरिसिंग यांनी करारावर स्वाक्षरी केल्यानंतर जम्मू आणि कश्मिर ऑक्टोबर 1947 मध्ये भारतात समाविष्ट झाले. त्यानंतर कश्मिरमधील लोकप्रिय नेते शेख अब्दुल्ला यांच्याकडे सत्ता आली. त्यांनी केंद्र सरकारशी चर्चा करून राज्यघटनेत कलम 370 समाविष्ट करण्यात आले. या कलमानुसार संरक्षण, परराष्ट्र व्यवहार आणि दळणवळण हे विशय केंद्राकडे ठेवून जम्मू कश्मिरला विशेष दर्जा देण्यात आला.

3) कलम 35 (अ) नुसार विशेषाधिकार : कलम 35 (अ) नुसार जम्मू कश्मिरच्या जनतेला विशेषाधिकार देण्यात आले. याचा उल्लेख जम्मू आणि कश्मिरच्या संविधानात कलम 147 व कलम 140 मध्ये आहे.

1) राज्यसरकारमध्ये नोकरी

2) राज्यातील अचल असलेल्या संपत्तीवर जम्मू व कश्मिर मधील वास्तव्यास असलेल्या लोकांना ती संपत्ती विकत घेण्याचा अधिकार.

3) राज्यामध्ये हिंदू व मुस्लिम जनतेलाच जम्मू व कश्मिर मध्ये वास्तव्यास करण्याचा अधिकार.

4) राज्यसरकारद्वारा मिळणारी शिष्यावृत्ती किंवा इतर कोणतीही मदत अन्य भारतीय नागरिकांच्या आधारावर मिळत नव्हती.

4) बाहेरच्या नागरिकांना बंदी : जम्मू आणि कश्मिरमध्ये कायमस्वरूपी नागरिक नसलेल्या व्यक्तींना राज्यात स्थावर मालमत्ता धारण करता येणार नाही. सरकारी नोकरी, शिष्यावृत्ती, सरकारी मदत त्यांना मिळणार नाही. अशी तरतूद संविधानाच्या अनुच्छेद 35 (अ) मध्ये आहे. जम्मू कश्मिरचे कायमस्वरूपी नागरिकत्व असलेल्या पुरुशांशी लग्न केल्यास संबंधित व्यक्तीचे राज्याचे नागरिकत्व अपात्र ठरते. मात्र ऑक्टोबर 2002 मध्ये जम्मू आणि कश्मिरच्या उच्च न्यायालयाने कश्मिर बाहेरील व्यक्तीशी विवाह केलेल्या महिलेचे नागरिकत्व अपात्र ठरणार नाही. असा निकाल दिला होता मात्र अशा महिलेच्या मुलांना वंशपरंपरागत अधिकार नसतील असेही उच्च न्यायालयाने म्हटले होते.

5) कलम 35 (अ) चर्चेत : वि. द. सिटीझन या स्वयंसेवी संस्थेने 2014 मध्ये कलम 35(अ) या कलमाला आव्हान देणारी याचीका दाखल केली होती. कलम 368 अंतर्गत सुधारणाद्वारे हे कलम राज्यघटनेत समाविष्ट करण्यात आले नसल्याचे सांगून याचीका कर्त्यांनी त्याला विरोध केला आहे. संसदेसमोर हे कलम मांडण्यात आले नाही. तसेच हे कलम तातडीने लागू करण्यात आल्याचा दावा संस्थेने केला आहे. गेल्या महिन्यात सुप्रीम कोर्टात दुस-या एका प्रकरणात दोन कश्मिरी महिलांनी आपले मत मांडले होते. कलम 35 (अ) आधारीत राज्याच्या कायदयामुळे आमच्या मुलांचे नागरिकत्व हिरावले गेले असल्याचे त्या मुस्लिम महिलांनी कोर्टात सांगितले होते.

6) कलम 35 (अ) रद्द . कलम 35(अ) रद्द झाल्यास जम्मू आणि कश्मिरची स्वयत्तता लोप पावेल अशी भिती राजकीय पक्ष आणि फुटीरतावादी संघटनांना वाटली होती. कलम 35(अ) रद्द झाल्यास मुस्लीम बहुसंख्य असलेल्या या राज्यात सामाजिक बदल होतील. कश्मिरचा करार सर्वांच्या स्वायत्तेवर आधारित आधारीत असल्याचे राज्यातील राजकीय पक्षाचे म्हणणे आहे. कलम 35 (अ) रद्द झाल्यास कश्मिर राज्यात हिंदू धर्मीयांचे लोंढे येतील अशी शक्यता फुटीरतावादी संघटनांनी व्यक्त करतांना जम्मू आणि कश्मिरमध्ये गेल्या 70 वर्षात सामाजिक स्थितीत फरक पडलेला नाही. राज्यातील जम्मू भागात हिंदू बहुसंख्य आहेत. तर लडाखमध्ये बौध्द धर्मीय मोठ्या संख्येने आहेत. त्यांना त्यांच्या प्रदेशात संपत्ती खरेदी करण्याचा तसेच स्थायीक होण्याचा अधिकार आहे.

7) कश्मिरी नेत्यांचा विरोध जर कलम 35(अ) रद्द करण्यात आले तर देशात राहणा-या अधिकाधिक हिंदूना कश्मिरचे नागरिक होण्याचा मार्ग खुला होईल. आणि त्यामुळे राज्याचे सामाजिक आणि राजकीय चित्र बदलून जाईल. असा कश्मिरी नेत्यांचा युक्तीवाद आहे.

तत्कालीन जम्मू कश्मिरचे राज्यपाल एन. उन. वोहरा यांनी सर्वांच्य न्यायालयात पुर्वीच एक याचीका दाखल करून कलम 35 (अ) रद्द करण्यासंदर्भातील सुनावणीला स्थगिती देण्यात यावी. अशी मागणी केली होती.

तसेच फुटीरतावादी संघटनेचे नेते मिरवेस उमर फारूख यांनी एकदा सांगितले होते की, पध्दतशिररित्या कश्मिरच्या लोकसंख्येचा चेहरा मोहरा बदलण्याचा या प्रयत्नाला आम्ही कधीच यशस्वी होवू देणार नाही.

माजी मुख्यमंत्री मेहबुबा मुक्ती यांनी एकदा टाइम्स ऑफ इंडियाशी बोलतांना असे मत व्यक्त केले होते की, जर कश्मिरच्या

नगरिकांच्या विशेष अधिकाराशी छेडछाड करण्यात आली तर कश्मिरमध्ये तिरंगा हाती घेणारा एकही व्यक्ती उरणार नाही. नॅशनल कॉन्फरन्सचे नेते ओमर अब्दुला यांच्या मते कलम 35 (अ) हा संघर्ष कश्मिरमध्ये भारताच्या बाजूने असलेला मतप्रवाह संपुष्टात आणू शकतो. तर कश्मिर 'रोडर' या स्थानिक वृत्तपत्राने एका संपादकीय मध्ये असे म्हटले होते की, कश्मिरमध्ये अशी एक भावना नेहमीच राहिली आहे की, राजधानी नवी दिल्लीतून कश्मिरच्या स्वायत्तेत धोका निर्माण करण्याचा प्रयत्न वारंवार केला जातो.

निश्कर्ष :

- 1) अनुच्छेद 35 (अ) रद्द झाल्यामुळे संघराज्य संकल्पनेला न्याय मिळाला.
- 2) भारतीय सर्व नागरिक एका कायदयाअंतर्गत येतील.
- 3) विशिष्ट प्रदेश हा विशिष्ट धर्मापुरताच मर्यादित असेल या विचारसारणीला आळा बसेल.
- 4) सामाजिक, राजकीय, आर्थिक परिवर्तन होवून तेथील समाजजीवन सुधारेल.
- 5) देशात राहणा-या सर्व लोकांना कश्मिरमध्ये प्रवेश मिळाल्यामुळे मुक्त व्यवहारातून लोकांना कामकाज मिळेल.
- 6) देशात राहणा-या अनेक युवकांचा दहशतवादाकडे जाण्याचा मार्ग काही प्रमाणात थांबेल.

संदर्भ ग्रंथ :

- 1) भारतीय राज्यघटना डॉ. बा. भा. पाटील(प्रशांत पब्लिकेशन, जळगाव)
- 2) भारतीय घटनात्मक तरतूदी प्रा. रा. ज. लोटे (प्रकाशक मनोहर पिंपळपूरे, नागपूर)
- 3) भारतीय संविधान आणि डॉ. श्रीराम येरणकर (श्री. साईनाथ प्रकाशन, अकोला)
स्थानिक स्वराज्य शासन.

विकीपिडीया :

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- 2) <https://hi.m.wikipedia.org.wiki>

जम्मू काश्मीर समस्या : एक ऐतिहासिक अध्ययन

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सन् 1947 रोजी भारत व पाकिस्तान हे दोन सार्वभौम राष्ट्र निर्माण झाली. या दोन राष्ट्रांच्या निर्मितीमध्येच जम्मू आणि काश्मीर समस्येचे मर्म दडलेले आहे. पाकिस्तानची निर्मिती ही अचानक झालेली नसून ती एक दीर्घकालीन प्रक्रिया, मुस्लीम समाजातील असंतोषाचा उद्रेक आणि इंग्रजांच्या कुटनीतीला आलेल्या यशाचा परिणाम आहे. वर्तमान भारत-पाकिस्तान संबंध आणि जम्मू काश्मीर समस्यांचा आढावा घेत असतांना त्याची ऐतिहासिक मीमांसा खोलवर रुजलेली दिसून येते. त्यामुळे यांचे ऐतिहासिक दृष्टीने अध्ययन करणे अत्यंत महत्त्वाचे आहे. याबाबत अनेक घटनांची मालिका दिसून येते. सदर शोधनिबंधामध्ये वर्तमान भारत-पाकिस्तान संबंधाचे तसेच जम्मू काश्मीर समस्येचे ऐतिहासिक अध्ययन करण्याचा प्रयत्न केलेला आहे.

पाकिस्तान हा भारताचा महत्त्वाचा शेजारी देश आहे. त्यामुळे या राष्ट्रांचे परस्परांशी असलेले संबंध अनेक दृष्टीने महत्त्वाचे आहेत. दोन शेजारी राष्ट्र एकमेकांशी सहकार्याने व मैत्रीने राहिले तर दोन्हीचा विकास होतो. अन्यथा दोन्हीही देशांचे अधःपतन होते. विकासाला खिळ बसते. यामुळे या दोन्ही देशांतील द्विपक्ष संबंधाचा विचार करणे आवश्यक आहे. यासाठी पाकिस्तानच्या निर्मितीचा पूर्वेतिहास जाणून घेणे अत्यंत महत्त्वाचे ठरते. वर्तमान काळातील अनेक प्रश्नांची मुळे इतिहासात खोलवर रुजलेली असतात. दोन परस्पर देशांच्या संबंधांचा इतिहासावर फार मोठा प्रभाव पडलेला असतो. एक विचारवंत म्हणतो की, "कालचे राजकारण हा आजचा इतिहास असतो आणि आजचे राजकारण हा उद्याचा इतिहास असतो." तेव्हा दोन्ही देशांच्या भूतकाळातील संबंधाचा परिणाम त्यांच्या वर्तमान काळातील परिस्थितीवर होत असतो. पाकिस्तान हा

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By Dr. A. M. Raut & Dr. A. S. Raut

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