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Interdisciplinary Study of Geography of Vindhyachal Hills and Riverian Fisheries of Vindhyachal Range under Fete the Integrated Teacher Education Programme (ITEP)

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***Abstract* - Geography is the systematic study of Earth and Earth's resources, it may be interrelated with Biology through Environmental Biology. In Madhya Pradesh state, there is the diversity of different geographic condition. The Vindhyachal mountain is also the identification factor of Madhya Pradesh and various rivers are originated in vindhya range. The Various type of fishes are habitated in rivers of vindhya range. These are fresh water fishes. Under ITEP the Geography with environment of various water resources is integrated with the Biology & environment of Fishes and Fisheries.**

Keywords: Vindhyachal, Rivers, Fisheries, NCF, NEP and ITEP.

I. Introduction

Since their earliest presence on Earth, humans have sought to make sense of their surroundings. Survival depended on understanding the behaviour of a volcano, the flood cycles of a river, or the optimum time to cross a mountain pass and human development developed ways to record and pass on such information. As they ventured from their places of origin, by land and by sea, people acquired a broader perspective of Earth's processes and of the patterns and impact of human settlement throughout the world.

In the 21st century a few computer can bring up photo images or map Information's for much of Earth's surface. We take for granted the ability to get directions to almost anywhere we need to without our needing to plot the course on a map.

Modern Science and information gathering have given geographers more insight than ever before, and modern technology allows it to be shared worldwide, but for many people the facts and terms lack a context. An understanding of Geography, both physical and cultural provides that context - ever more necessary and important, as global interactions and shared responsibility for Earth's future connect us all.

Geography integrates methods and knowledge's and encompasses both the physical and the social sciences. It links all these disciplines to determine why things happen in a particular location according to particular spatial patterns.

The Vindhya Range (Vindhyachal) is a complex, discontinuous chain of mountain ridges, hill range, highlands and plateau escarpments in west- central India. Technically, the vindhyas do not form a single mountain range in the geological sense. The exact extent of the Vindhyas is loosely define and historically, the term covered a number of distinct hill systems in central India, including the one that is now known as Satpura Range. Today, the term principally refers to the escarpment and its hilly extensions that runs north of and roughly parallel to the Narmada River in Madhya Pradesh. Depending on the definition, the range extends up to Gujarat in the west, Uttar Pradesh and Bihar in the north, and Chhattisgarh in the east. The average elevation of the vindhyas is also dependent on different sources.

Fishery is an activity leading to harvesting of fish, It may involve capture of wild fish or raising of fish through aquaculture. It is typically defined in terms of the people involved, species or type of fish, area of water or seabed, method of fishing, class of boats, purpose of the activities or a combination of the foregoing features.

Earth's surface possesses number of depressions in which rain collects to form lakes, ponds or reservoirs. In addition there are innumerable channels, streams and rivers which possess a regular all the year round flow of water. The total amount of fresh-water present in lakes and reservoirs is about 280,000 cubic Kms. while water which is available in streams and rivers at any point of time amounts to about 1200 Cubic Kms. These provide excellent habitat for aquatic life to develop. However, collectively, fresh-water systems represent a very small fraction, less than 0.02% of the total amount of water present on our planet. That is why the total contribution of fresh-water to global harvest is about 10-12% only.

Nutrients are generally not scarce in fresh water systems but the productivity is often affected by pollution of aquatic

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environment. Discharge of sewage effluents in fresh water systems creates unhealthy conditions which result is disappearance of desirable fishes and other organisms and abundance of undesirable ones.

The National Education Policy 2020 (NEP 2020) proposes a 4 year multidisciplinary bachelor's degree in an-undergraduate programme with multiple exit options, ranging from a certificate after completing a year in a disciple or field, to a Bachelor's degree with research if the student completes a four year degree programme which includes a rigorous research project in a chosen major area of Study Likewise, the master's program is intended to be flexible in its duration, depending o the prior experience of the students, A doctor of Philosophy (Ph.D.) has a minimum requirement of a Master's degree or a 4-Year Bachelor's degree with research.

The Policy proposes to transform the regulatory landscape in higher education by ensuring that the four tasks of regulation and academic standard each performed by "distinct, independent and empowered bodies" and within one umbrella institution viz. The to-be-established Higher Education commission of India (HECL)- It cites the need to "create" cheeks-and-balances in the system, minimize conflicts of interest, and eliminate concentration of Power" as the reasons behind the delegation of tasks to independent bodies. The proposed four verticals of HECL are: (i) National Higher Education Regulatory Council (NHERC) to regulate higher Education, including teacher education, while candy excluding medical and legal education. (ii) National Accreditation Council (NAC) to supervise the work of accrediting institutions & specify "phased bench makes for all HEIS to achieve set levels of quality, self governance, and autonomy i.e. to act as a meta-accredit body. (iii) Higher Education Grants Council (HEGC), to fund and finance universities and colleges, based on transparent criteria. This will replace the existing University Grant Commission (UGC). (iv) General Education Council (GEC) to create a a framework, the National Higher Education Qualification Framework (NHEQE), for charting "graduate attributes" i.e. expected learning outcomes for higher education programme.

The National Council for Teacher Education will com professional standard setting body (PSSB). O the PSSB will include professional Council such as Veterinary Council of India, Council of Architecture, Indian council of Agricultural Research and National Council for Vocational Educations and Training.

The National Curriculum Framework (NCF) 2023 is a guiding document that outlines the goals, principles, and objectives to transform the education system, it provides a roadmap for curriculum development quality teaching methodologies, and assessment practices. The N.C.F. 2023 aims to promote holistic development by emphasizing not only academic knowledge but also 21st century skills, values and overall growth and development of students. It emphasizes inclusivity and equivity in schools, ensuring that quality education is accessible to all learners, catering to their diverse needs.

The N.C.F. 2023 recognizes the importance of professional development and aims to help teachers facilitate the development of critical thinking and problem-solving skills in students, preparing them for the future. Overall, the N.C.F. serves as a comprehensive framework to guide education policies, curriculum design, and teaching practices, creating on effective and relevant education system.

II. Vindhya Range

It is broken a range of hills forming the southern escarpment of the central. upland of India From Gujarat state on the west, it extends about 675 miles (1,086 km) across Madhya Pradesh state to abut on the Gange (Ganga) river Valley near Varanasi, Uttar Pradesh, The Mountains form the southern edge of the Malwa Plateau and then divide into two branches: the Kaimur Range, running north of the Son River into Western Bihar state, and the Southern branch, running between the upper reaches of the Son and Narmada rivers to meet the Satpura Range in the Maikala Range (or Amarkantak Plateau).

The vindhya Range at an elevation from 1,500 to 3,500 feet (450 to 1,100 meters), gives rise to the main southern tributaries of the Ganges- Yamuna system, including the Chambal, Betwa, Ken and Tons rivers, because of their horizontal sandstone structure, the mountains tend to be flat-topped and plateau like

III. Riverine Fisheries in Vindhya Range

West Coast River System: The West Coast River Narmada and Tapti, both of which flow in westernly direction of the country and drain the narrow belt of peninsular-India west of the western ghat. Further in the north, the system forms basins of Narmada and Tapti and the drainage of Gujarat. For is one of the most important fishery of the rives Narmada and Tapti both.

Important characteristic features of west coast river system.

S.No.	Parameter	Narmada	Tapti
1.	Origin	In Amarkantak hills of M.P. at an elevation of 1,057 m above sea level.	In mount Vindhya of Satpura range an elevation of 670-1000 m

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			above the sea level.
2.	Length of river	1,280 km	720 km.
3.	States covered	M.P. and Gujarat	Maharashtra, M.P. and Gujarat.
4.	Rainfall (annual)	15″-115"	As Narmada
5.	Drainage	Gulf of Cambay in Gujarat	Arabian sea at Dumas near Surat in Gujara
6.	Catchment area	94, 235 sq. km of Narmada and 6330 sq. km of 48,000 sq. km. of its all tributaries	48,000 sq.km.
7.	Number of tributaries	16 in M.P. and 2 in Gujarat	Mainly rainfed
8.	Fishery	1. Carp group (60.4%) *Tor* tor, Labeo *fimbriatus*, L. *calbasu*, L. *bata*, L. *gonius*, Cirrhinus reba, *Cirrhinus mrigala*, Puntius *sarana*, *Catla catla*. 2. Cat fish group (34.1%) *Rita pavimentata*, *Mystus seenghala*, *M. aor*, *M. cavasius*, *Wallago attu*, Clupisoma *garua*, *Ompak bimaculatus*. 3. Miscellaneous fishes (5.5%) *Channa* spp., *Mastacembalus* spp., *Notopterus notopterus.*	*Tor*-tor, Mystus *seenghala*, *M.* aor, Wallage and Labeo *calbasu* L. *fimbriatus*, *Puntius Cirrhinus mrigala*, C. reba, *Chupisorna Channa* spp. *Mastocembalus armatus*.
9.	Fishing gears	Cast nets, gill nets, and long lines.	Cast nets, gill nets a and long lines and Mahajal.

The Narmada River originates in the Amarkantak hills and runs for about 1,200 km before joining the Gulf of cambay. There are several tributaries, 16 in M-P. and two in Gujarat.

The river Tapti originates from the Satpura range (Vindhya Mountain) and flows through M.P., Maharashtra and Gujarat joining the Gulf of Combay (Arabian Sea) near Surat.

IV. Discussion and Recommendations

Geography is the study of Earth Surface, on the Earth, there is various kinds of environmental conditions, hence the geography is also the part of environmental studies. The Biology is also the environmental Science and study area of the parts of environmental Biology. The geography and biology may be interrelated with each other through environmental studies. The Fish and Fishery Science (Fisheries) is the part of the Biology (Zoology - Life sciences). The Fisheries also may be interrelated with the Geography (Environmental Studies). The present Education Policy emphasizes the integrated study and skill development. The present Education Policy emphasizes the integrated study and skill development. Based on the new policy of Education the new National curricula Framework 2023 (NCF-2023) recognize the Integrated Teacher Education Programme (four year integrated Teachers Training course Content cum Methodology). In this reference the teachers and learners may go above the Limits of disciplines (subjects).

The Rapid advances in Science and Technology have put the Scientists and Technologist on their heels to cope up with the simultaneous changes that have occurred during the past decades. Various types of revisions, rectifications as well as modification ever all together ideas that developed in numerous fields of specializations have required to be incorporated with the advanced level concepts in order to keep pace with the recent researches advanced in the concerning fields of the study. The innovative technique has but the researches on consistent think and "rethink" level to entertain higher concepts related to biology.

Based on the present study the following recommendations can be advanced since the incorporation of units of Geography of Vindhya Range and significant roles in bringing about.

1. Awareness towards health and hygiene through cleanliness of the water resources in the Vindhya region, drainage it.
2. Awareness about the protection of flora and fauna of vindhya Hill range, and rivers.
3. Awareness about the rare and endangered species from Vindhya Hills and water resources.

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4. Combined study of Geography and Fisheries as well as Life Science under ITEP is recommended by Indian Education System.

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