

# **Center for Integrated Tribal Studies**

**Pt. Ravishankar Shukla University  
Raipur, Chhattisgarh**

**Part to be included in the proposal  
*for***

## **Institute of Eminence**

**Submitted by**

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Coordinator, CITS  
2017**

## **Center for Integrated Tribal Studies (CITS)**

*“ Article 46 of the Indian Constitution states that, `the state shall promote, with special care, the education and economic interests of the weaker sections of the people, and in particular of Scheduled Castes and Scheduled Tribes, and shall protect them from social injustice and all forms of social exploitation” .*

*Article 26 of the Universal Declaration of Human Rights (1948) recognizes that lifelong and sustained education improves the quality of life.*

*March to achieve sustainable development goals.*

**This is a proposal for enhancement of existing newly established innovative “Centre for Integrated Tribal Studies” (CITS) at Pt. Ravishankar Shukla University, Raipur, Chhattisgarh to become a fully developed and viable research and advisory/consultative center for tribals, which will ultimately help their overall development.**

**The CITS will be a collaborative knowledge center involving faculty and researchers of various departments of University, teaching and research institutes, other innovative centers and community agencies as well as government and public sectors throughout the state of Chhattisgarh.**

### **Preamble**

- **A new innovative center “Centre for Integrated Tribal Studies” (along with six other centers), as proposed in the XII FYP and presented in the RUSA document by the University, came into existence after approved in the meeting of Standing Committee of Academic Council held on 11<sup>th</sup> December, 2015 and Executive Council held on 15<sup>th</sup> December, 2015 and notified by the university vide letter no. 230/Acad./2016 Raipur dated 6.1.2016 and No. 468/Acad/2016 Raipur dated 28.1.2016.**
- **In CITS, the lead and participatory School of Studies are Regional Studies, Anthropology, Sociology, Physical Education and School of Life Sciences. However, it is open to other interested departments too. Other departments or the interested faculty if willing can also join the Center. The Center would also be associated with other institutes working in this field in the State.**

## **Need of Innovative Center**

Tribal's are autochthones people of our country. They are still living in remote area with inadequate communication and transport facility, that is why they are unable to get fruits of democracy in the process of multiculturalism. Despite planned developmental efforts for the tribals by the government of India and respective state governments, there is continue to be non-availability and non- accessibility of basic amenities in tribal areas. Further poor education and malnutrition are the major challenging issues. Thus it is extremely important as well as urgent that the tribal development receives its sustenance from the body of integrated knowledge, which emerged out of indigenous experiences and experiments. The Sustainable Development Goals (SDGs) are grounded in a vision that aims to transform our world. This vision is of great significance to the indigenous peoples too. The SDGs framework provides a historic opportunity to address issues and ensure that indigenous tribal peoples too are not left behind.

**Chhattisgarh, a nascent state of India with numerically dominant tribal population 31.8% and rich natural resources, is in a better position to be more self reliant by appropriate exploitation of huge natural resources in sustainable manner. Since the state has one third populations of tribal people, an institution of this nature is of paramount importance.**

**Hence, there is urgent need to conduct holistic bio-cultural studies of tribes of Chhattisgarh as their likely to loose their identity, biological as well as cultural in response to accelerated rate of development and globalization, about various issues and long standing problems to know the ground realities and suggest appropriate intervention to improve the quality of life and to achieve the Sustainable Development Goals (SDGs).**

## **Vision**

**To create an integrated knowledge base and evolve strategies for the holistic development of tribes along with their genius, through research, academic courses, skill enhancement and advisory services with a regional, national & global perspectives. It will act as a nucleus of inter- and intra disciplinary academic and research activities on tribes of Chhattisgarh by way of creating an enabling environment for sharing research expertise and skills.**

## Mission

The mission of the CITS is to improve quality of life of tribes of Chhattisgarh through education, health and economic development with the help of basic and action oriented research activities. The center will focus on quality education of the tribes using digital platform and promote cutting-edge research in biomedical genomics of current and future medical relevance through the use of genomic knowledge, for therapeutic health care. This will ultimately help to achieve sustainable development goals and high level of accomplishments.

## The Goal

The Goal of CITS is, and will be to contribute knowledge which will help to strengthen and improve links between teaching, research, communication and communities (people) through integrated approach to achieve sustainable development goals thereby achieve food security, nutrition, health & well-being of tribals and income security and other linked development indicators.

## Aims and Objectives

The Center will provide opportunities for advancement of scientific knowledge through basic and applied research, teaching as well as outreach activities. The center seeks to fulfill its objectives in inter-institutional and intra –institutional collaboration in respect of expertise, academic resources and infrastructural facilities

1. To conduct *bench mark surveys* to build up a strong baseline primary data bank about the socio-cultural, education, health and nutrition, demographic, economic, political and cultural profile of the Scheduled Tribes of Chhattisgarh in inter-disciplinary perspective which will help formulation of appropriate policies, programmes and strategies for sustainable development (**49<sup>th</sup> session of the United Nations Commission on Population and Development emphasized reliable, accessible and timely population data are crucial and essential for guiding development planning and assessing progress toward the achievement of the Sustainable Development Goals**)
2. A survey and documentation of the Intangible Cultural Heritage (ICH) (Traditional Knowledge and Folklore) of tribes of Chhattisgarh and Trade Related Intellectual Property Rights (TRIPS) and Access to Benefit Sharing (ABS)
3. Documentation and validation of traditional medical knowledge of Tribes of Chhattisgarh along with biodiversity of the region, prepare and maintain e-herbarium and scientific validation of polyherbal formulations for development of active molecules

4. Assessment of the dietary pattern, nutritional & health status, fermented foods, beverages and various addictive and risk behaviors and their environmental, socio-cultural, genetic and psychological risk factors
5. To study cultural, ecological and biological diversity in association with diseases
6. Assessment of nutritional, physiological and health status, body composition, somatotype and psychological characteristics of tribal players to suggest appropriate intervention for their maximum level of achievement in sports
7. Scaling of tribal innovation and reach out to the grass root people through digital India initiative platforms (SWAYAMPBABHA and e-ACHARYA etc) to enable and disseminate knowledge, skill development and empowerment
8. There is also a need of evaluation approach to improve program implementation and to assess program impact. Center will evaluate social impact assessment of various tribal development projects and provide consultative services to government and its agencies.
9. Organize national, regional and international seminars, conferences, workshops, training programmes for skill enhancement in the thematic areas identified by the center from time to time
10. Center will cater informational needs of stakeholders by developing state-of-the-art documentation center, information exchange system, archives and a series of publications on themes relevant to sustainable development of tribes of Chhattisgarh state.

## **Thrust areas**

**Identified thrust areas are driver of development and supporting implementation of sustainable development goals.**

- 1. Heritage, Culture, living tradition and sustainable development**
- 2. Tribal Medicine**
- 3. Poverty, hunger, nutrition, food security & sustainable livelihood**
- 4. Good health and well being**
- 5. Quality education, skill development and empowerment**
- 6. Scaling of Tribal innovation**

## Ethics

The Centre for Integrated Tribal Studies will further be committed to the values, which promote equality, compassion, respect for human dignity and non-discriminatory practices in the richly diverse ethnic environment. All researches will be conducted after getting approval of Institutional Ethics Committee for Human research.

### Name of Scheduled Tribes of Chhattisgarh

<b>1. Agariya</b>	<b>17. Halba, Halbi</b>	<b>33. Oraon,</b>
<b>2. Andh</b>	<b>18. Kamar</b>	<b>34. Pao</b>
<b>3. Baiga</b>	<b>19. Karku</b>	<b>35. Pardhan</b>
<b>4. Bhaina</b>	<b>20. Kawar,</b>	<b>36. Pardhi,</b>
<b>5. Pando</b>	<b>21. Khairwar, Kondar</b>	<b>37. Parja</b>
<b>6. Bhattra</b>	<b>22. Kharia</b>	<b>38. Sahariya</b>
<b>7. Bhil</b>	<b>23. Kondh,</b>	<b>39. Saonta, Saunta</b>
<b>8. Bhil Mina</b>	<b>24. Kol</b>	<b>40. Saur</b>
<b>9. Bhunjia</b>	<b>25. Kolam</b>	<b>41. Sawara</b>
<b>10. Biar, Biyar</b>	<b>26. Korku,</b>	<b>42. Som</b>
<b>11. Binjhwar</b>	<b>27. Korwa, Kodaku</b>	
<b>12. Birhor</b>	<b>28. Majhi</b>	
<b>13. Damor, Damaria</b>	<b>29. Majhwar</b>	
<b>14. Dhanwar</b>	<b>30. Mawasi</b>	
<b>15. Gadaba, Gadba</b>	<b>31. Munda</b>	
<b>16. Gond, (Maria Muria)</b>	<b>32. Nagesia</b>	

## Gap

Although researches on various dimensions on tribes of Chhattisgarh have been done by the researches of diverse discipline but they are not holistic in nature and sporadic too.

## Distribution of Tribes of Chhattisgarh according to their population

No.	Population	Name of Tribe	No. of Community
1	>3000000	Gond	1
2	>500000 - < 70000	Kawar, Oraon	2
3	>100000 - < 300000	Halba, Bhattra	2
4	>50000 - < 100000	Binjhar, Bharia, Korwa, Nagesia, Sawar, Khairwar, Majhi, Baiga	8
5	>25000 - < 50000	Agaria, Majhwar, Bhaina, Dhanwar, Kharia	5
6	>5000 - < 20000	Saur, Kamar, Kol, Sonr, Pao, Munda, Kondh, Pardhan, Bhil, Bhunjia, Pardhi, Gadaba	12
7	<5000	Biar, Kolem, Saonta, Korku, Parja, Birhor, Karku, Saharia, Damor, Andh, Bhil Mina, Mawasi	12

**Work done on PVTG of Chhattisgarh in various department of University**

<b>Tribe</b>	<b>Nature of work</b>	<b>Socio-Economic</b>	<b>Demographic</b>	<b>Linguistic</b>	<b>Reproductive Health Development</b>	<b>Genetics</b>	<b>Nutritional &amp; Health status</b>	<b>Ethnography</b>	<b>Education</b>	<b>Total</b>	
<b>Abujhmaria</b>	<b>RP</b>	-	-	-	-	1	1	-	-	-	<b>02</b>
	<b>Ph.D.</b>	1	1	2	-	2	-	1	-	-	<b>07</b>
<b>Baiga</b>	<b>RP</b>	-	-	-	1	1	1	-	-	-	<b>03</b>
	<b>Ph.D.</b>	-	-	-	1	-	-	-	-	-	<b>01</b>
	<b>M.Phil.</b>	1	-	-	1	-	1	-	-	-	<b>03</b>
<b>Birhor</b>	<b>RP</b>	1	-	-	-	1	1	-	-	-	<b>03</b>
	<b>Ph.D.</b>	-	1	-	1	-	-	-	-	-	<b>02</b>
<b>Hill Korwa</b>	<b>RP</b>	-	1	-	-	1	1	-	-	1	<b>04</b>
	<b>Ph.D.</b>	-	2	-	1	-	-	-	-	-	<b>03</b>
<b>Kamar</b>	<b>RP</b>	-	-	-	-	2	1	-	-	-	<b>03</b>
	<b>Ph.D.</b>	1	-	-	-	1	-	1	1	-	<b>04</b>
	<b>M.Phil.</b>	2	-	-	-	-	-	-	-	-	<b>02</b>
<b>Total</b>		<b>06</b>	<b>05</b>	<b>02</b>	<b>05</b>	<b>09</b>	<b>06</b>	<b>02</b>	<b>01</b>	<b>01</b>	<b>37</b>
<b>RP = Research Project</b>											



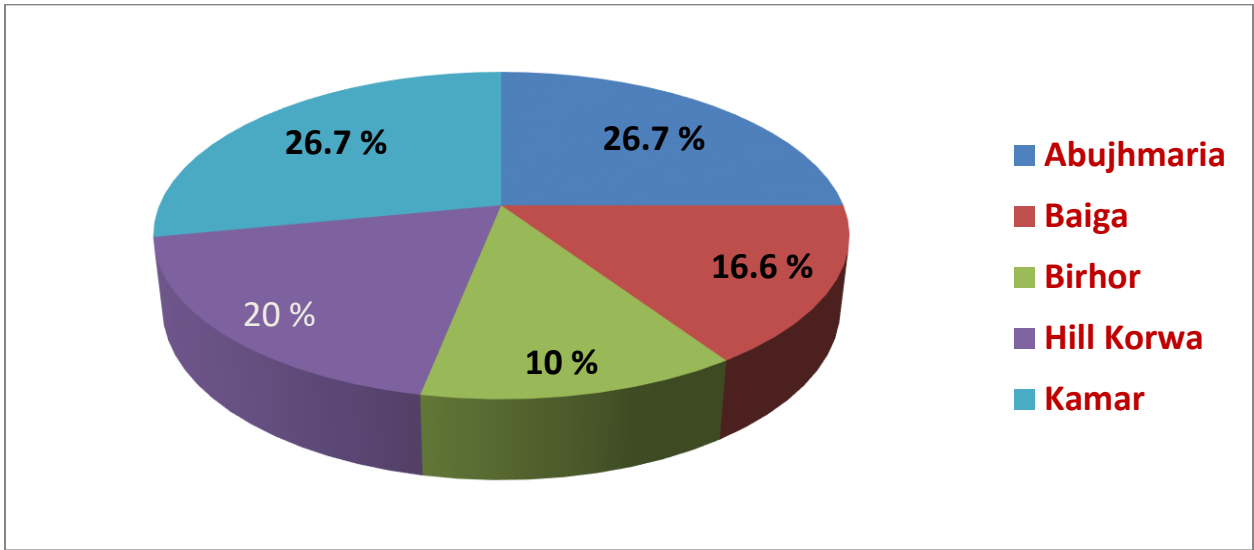
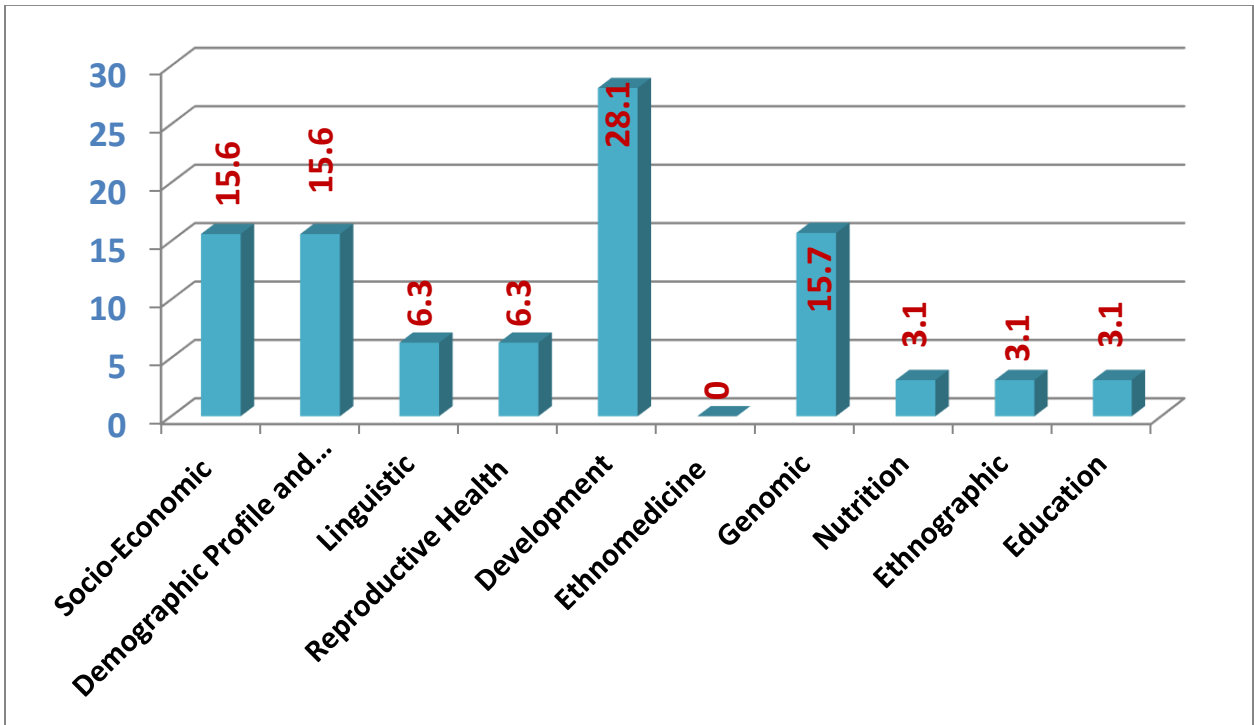


Figure showing work done on PVTG

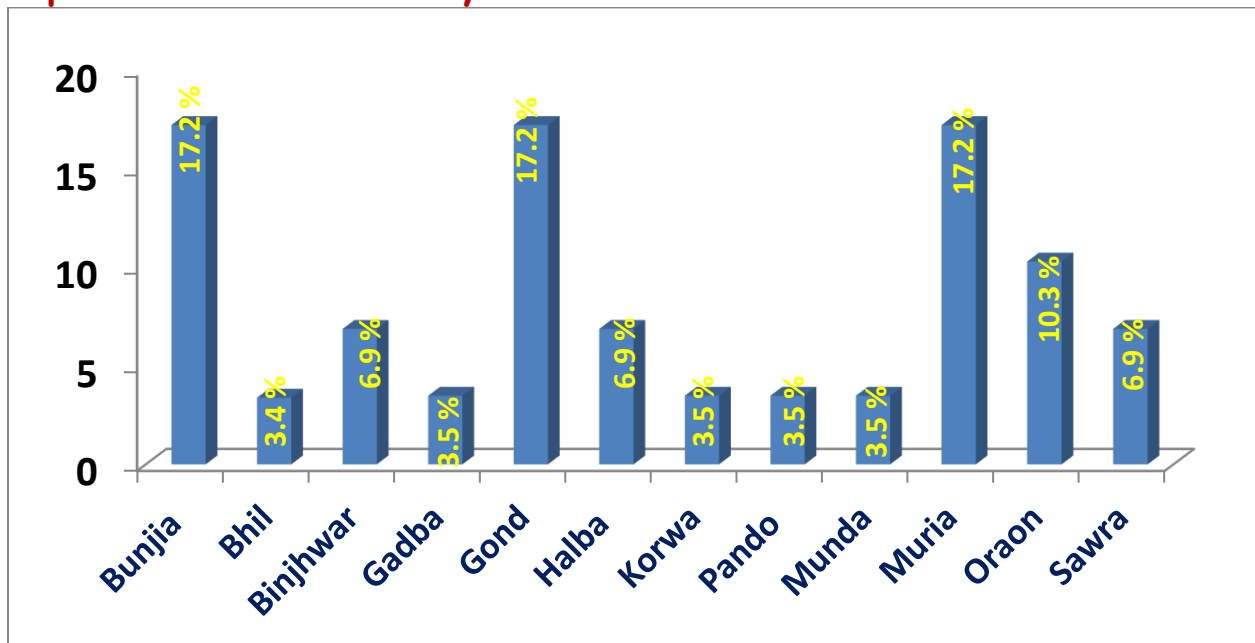


**Work done on other tribal groups of Chhattisgarh in various departments of University**

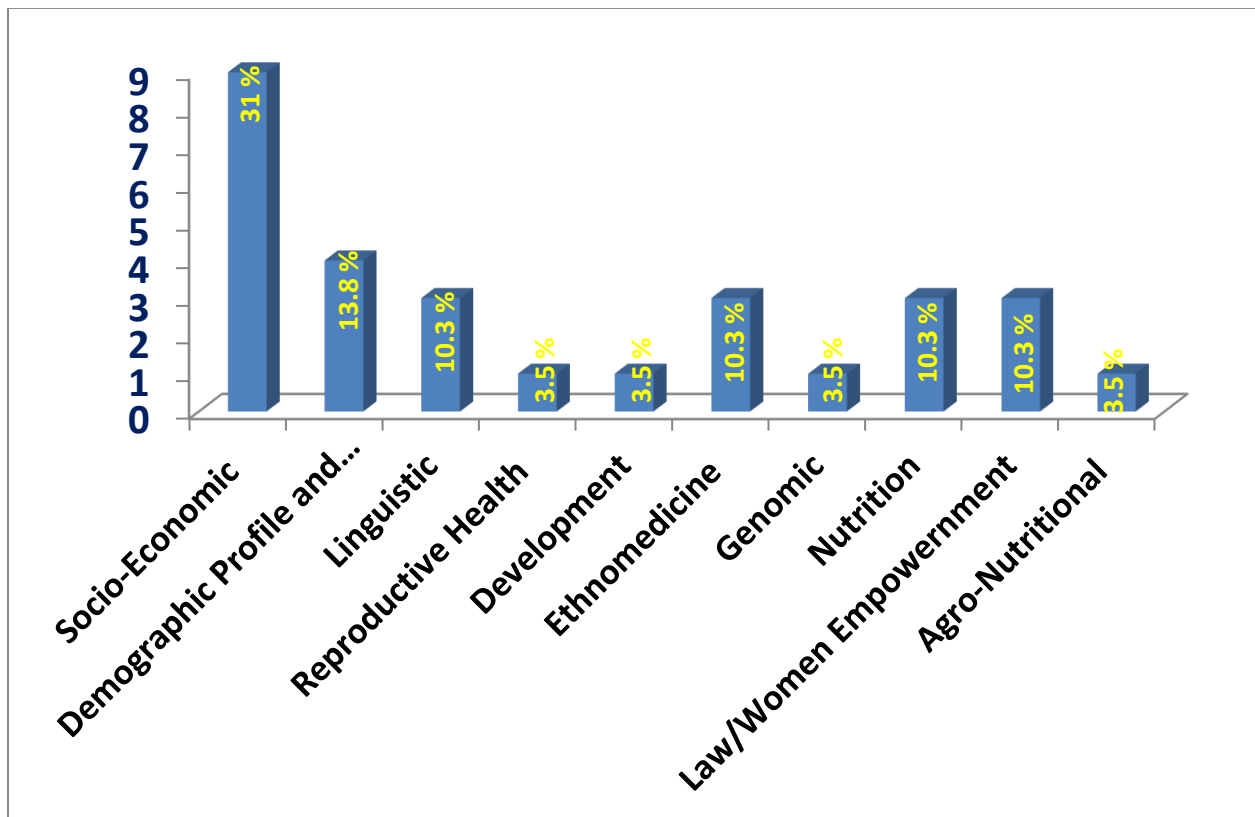
Tribal Group		Socio-Economic	Demographic and Health	Linguistic	Reproductive Health	Development	Ethno -medicine	Genomic	Nutritional	Law/Women Empowerment	Agro-Nutrition	Total
Bhunja	PhD	2	1	-	-	-	-	-	1	1	-	05
Binjhwar	PhD	-	-	-	-	-	1	1	-	-	-	02
Gadba	PhD	-	-	-	-	-	-	-	-	1	-	01
Gond	RP	1	-	-	-	-	-	-	-	-	-	01
	PhD	1	-	-	-	1	-	-	1	-	-	03
	M.Phil.	1	-	-	-	-	-	-	-	-	-	01
Halba	PhD	-	1	-	-	-	-	-	-	-	-	01
	M.Phil.	1	-	-	-	-	-	-	-	-	-	01
Korwa	PhD	-	1	-	-	-	-	-	-	-	-	01
Pando	RP	-	-	-	1	-	-	-	-	-	-	01
Munda	RP	-	-	-	-	-	-	-	-	1	-	01
Muria	PhD	1	-	1	-	-	1	-	-	-	-	03
	M.Phil.	-	-	2	-	-	-	-	-	-	-	02
Oroan	RP	-	-	-	-	-	-	-	-	-	1	01
	PhD	-	-	-	-	-	-	-	1	-	-	01
	M.Phil.	1	-	-	-	-	-	-	-	-	-	01
Sawra	PhD	-	1	-	-	-	1	-	-	-	-	02
<b>Total</b>		<b>09</b>	<b>04</b>	<b>03</b>	<b>01</b>	<b>01</b>	<b>03</b>	<b>01</b>	<b>03</b>	<b>03</b>	<b>01</b>	<b>29</b>

RP= Research Project

## Work done on other tribal groups of Chhattisgarh in various departments of University



## Dimensions of research in other tribal groups



## 1a. Budget requirements for research work (please refer annexure 1 for details)

Title of Research Projects	Activities	Collaboration	Objectives	For 1 <sup>st</sup> five yr	For 2 <sup>nd</sup> five yr	For 3 <sup>rd</sup> five yr	Total
<p><b>Project 1:</b></p> <p><b>Base line survey of Tribes of Chhattisgarh</b></p> <p><i>(Socio-cultural perspective related to aims and objectives no 1 &amp; 2 and thrust area 1)</i></p>	Household survey of tribes of Chhattisgarh	<p><b>Inter-disciplinary research with</b></p> <p>School of Regional Studies &amp; Research, SoS in Anthropology, Indira Gandhi Rashtriya Manav Sangrahalaya, AnSI,</p>	<p><b>Objectives:</b> The prime objective is to conduct bench mark surveys on various scheduled tribes of Chhattisgarh related to collection of their socio-cultural, education, health and nutrition, demographic, economic, political and cultural profile in inter-disciplinary perspective which will help formulation of appropriate policies, programmes and strategies for sustainable development.</p> <p><b>Importance:</b> 49<sup>th</sup> session of the United Nations Commission on Population and Development emphasized reliable, accessible and timely population data are crucial and essential for guiding development planning and assessing progress toward the achievement of the Sustainable Development Goals.</p>	<p>Tribes of southern part of CG namely <b>Muria, Maria, Dorla, Bhatra, Halba, Gadba, Parja</b> will be cover in first five year</p>	<p>Tribes of northern part including <b>Oraon, Korwa, Hill Korwa, Bhaina, Pando, Birhor, Baiga, Khairwar&amp; Kanwar</b> will be cover</p>	<p>Tribes of central part of the state. <b>Kamar, Halba, Dhur Gond, Bhinjhar, Sawra &amp; Bhunjia</b> will be cover in third five year</p>	
<p><b>Project 2:</b></p> <p><b>Documentation of Oral Tradition and Folk Culture in Tribes of</b></p>	<p>Identification of person having intangible knowledge in the form of songs, mythological stories, art etc and Audio-video , documentation of their knowledge, FGD for its validation, socio-demographic profile of</p>	<p><b>Inter-disciplinary research with</b></p> <p>Indira Gandhi Rashtriya Manav Sangrahalaya, School of Regional Studies</p>	<p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>• Collection and documentation of tangible and non-tangible aspects, especially the fast vanishing one, of tribes of Chhattisgarh</li> <li>• Audio-visual documentation will be well preserved in the archival section of the center. Documentary</li> </ul>	<ul style="list-style-type: none"> <li>• In the 1<sup>st</sup> FYP tribes Bastar will be considered.</li> <li>• Audio-visual documentatinn</li> </ul>	<ul style="list-style-type: none"> <li>• Continuous research activity will be conducted in various tribes of the northern part of the state.</li> </ul>	<ul style="list-style-type: none"> <li>• Collection and documentati on of tangible and non-tangible aspects of tribes of</li> </ul>	

<p><b>Chhattisgarh</b></p> <p><i>(Socio-cultural perspective related to aims and objectives no 2 and thrust area 1)</i></p>	<p>artists, Case studies,</p>	<p>&amp; Research, SoS in Anthropology, AnSI</p>	<p>film on tribal life will be prepared with the help of professional</p> <ul style="list-style-type: none"> <li>• Data archive and audio-visual archive will keep the record of codified documents (Manuscripts and Research documents)</li> </ul> <p><b>Importance:</b> The richest cultural heritage (tangible and intangible) in central Indian panorama is still untouched and not hybridized in the core interior areas. But, due to fast changing scenario in CG in particular and globalization in general, the culture and cultural heritage are at the threshold of being vanished rapidly. Hence there is an immediate need of preserving our cultural heritage and manage them with proper strategy so that we can it further for coming generations.</p>	<ul style="list-style-type: none"> <li>• Documentary film</li> </ul>	<ul style="list-style-type: none"> <li>• Preparation of Archives</li> </ul> <p>Research paper writing,</p>	<p>central part of CG.</p> <p>Documentary film will be prepared and preserved in archives.</p> <p>Research paper writing, Report writing</p>	
<p><b>Project 3:</b></p> <p><b>Documentation and validation of traditional medical knowledge of Tribes of Chhattisgarh along with biodiversity of the region: Issue of economic transformation and sustainable development</b></p> <p><i>(bio-cultural perspective related to aims and objectives no. 3 and thrust area</i></p>	<p>Identification of traditional healer (TH), In-depth interview of TH, recording of genealogy of TH, Collection of herbs used by them, Collection of Formulations, Case study of patients treated by traditional healer, collection of medicinal plants for herbarium . Lab analysis of identified medicinal plants, extraction, chemical characterization, HPLC and HPTLC, structure analysis using facility of NCNR</p>	<p><b>Inter-disciplinary research with</b> NCNR, University Institute of Pharmacy, SoS in Chemistry, Anthropology, Regional Studies, IGKVR, CDRI, IGRMS, AnSI</p>	<p><b>Objective:</b></p> <ul style="list-style-type: none"> <li>• To explore undocumented traditional medical knowledge, wisdom, skills and expertise relating sustainable management of natural resources and link with modern forestry knowledge, development policy and technology</li> <li>• Consolidate the available data on traditional health care practices (curative and preventive) of tribal groups (PTG) of Chhattisgarh.</li> <li>• To study the challenges and opportunities of integrating indigenous knowledge in the process of development and environment governance</li> </ul>	<ul style="list-style-type: none"> <li>• Ethnobotanical survey and documentation of traditional medical knowledge of tribes of CG</li> <li>• Collection of medicinal plants and formulations used to cure various diseases.</li> <li>• Documentation of successful</li> </ul>	<ul style="list-style-type: none"> <li>• Preparation of e-herbarium</li> <li>• Validation of medicinal plants used with standard codified texts.</li> </ul> <p>Research paper writing.</p>	<p>Phyto-Chemical characterization of selected native medicinal plants.</p> <p>Research paper writing and report writing.</p>	

2)			<ul style="list-style-type: none"> <li>● To examine the various cultural factors, which influence health &amp; the disease, &amp; to find out various factors preventing the disease, reasons for disease &amp; illness, treatment &amp; supernatural beliefs related to these;</li> <li>● To validate people's traditional knowledge and practices with standard codified texts for revitalization of local health tradition.</li> <li>● An attempt will be made evaluate them scientifically in terms of efficacy and linking indigenous knowledge of health care with drug discovery in Chhattisgarh</li> <li>● Arbitrate between bioassay researches and tribal healers in the researches on tribal medicine for safe guarding the tribal intellectual property rights.</li> </ul> <p><b>Importance:</b> This local and indigenous-traditional knowledge is a key resource for empowering communities against marginalization, poverty and impoverishment. Intellectual property and the country's laws that govern intellectual property rights (IPR) grant protection to the individuals/communities from whom the creative endeavor or knowledge is derived.</p> <p>An attempt will be made linking indigenous knowledge on health care with drug development in Chhattisgarh that may leverage the economy.</p>	case studies			
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<p><b>Project 4:</b></p> <p><b>Exploration of dynamics of food, hunger, income, poverty, nutrition and health status of various tribal populations of Chhattisgarh state:</b></p> <p><b>Public Health Issues</b></p> <p><i>(Socio-cultural perspective related to aims and objectives no 4 and thrust area 3)</i></p>	<p>Training of staff, Pilot visit of Field area , Qualitative data guidelines, Baseline survey of HH &amp; data collection for food intake, dietary intake. Tabulation &amp; analysis using Software. Research paper writing, Report writing</p>	<p><b>Inter-disciplinary research with</b> School of Regional Studies &amp; Research, Economics, Anthropology, Sociology, IGKV, V, NCNR, NIE, AIIMS, Raipur</p>	<p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>• To explore the ethnic and the environmental sources of variability in health and nutritional status of tribes of Chhattisgarh</li> <li>• To construct both genders and ethnic specific and pooled anthropometric standards for the tribes from this region.</li> <li>• To analyse food which are in the basket of tribals</li> <li>• To understand dynamics of food, income, poverty and food security.</li> </ul> <p><b>Importance:</b> Local and indigenous traditional knowledge is a key resource for empowering communities against marginalization, poverty and impoverishment. Thus focus will be on understanding and leveraging the potential of local food and indigenous resources and knowledge for nutrition, health, food and income security.</p>	<p>Tribes of southern part of CG namely <b>Muria, Maria, Dorla, Bhatra, Halba, Gadba, Parja</b> will be cover in first five year.</p> <p>Research paper writing and report writing.</p>	<p>Tribes of northern part including <b>Oraon, Korwa, Hill Korwa, Bhaina, Pando, Birhor, Baiga, Khairwar &amp; Kanwar,</b> will be cover.</p> <p>Research paper writing and report writing.</p>	<p>Tribes of central part of the state. <b>Kamar, Halba, Dhur Gond, Bhinjhwar, Sawra &amp; Bhunjia</b> will be cover in third five year.</p> <p>Research paper writing and report writing.</p> <p>Establishment of biobank</p>
<p><b>Project-5:</b></p> <p><b>Identification of psycho-social and genetic risk factors of various addictions with special reference to Tobacco &amp; Alcohol</b></p> <p><i>(bio-cultural perspective related to aims and objectives no 5 and thrust area</i></p>	<p>To conduct survey and identify the severity of addiction behaviour using psychological tool.</p> <p>Collection of biological sample of confirmed addictive subjects.</p> <p>Wet lab analysis Genetic and Epigenetic profiling of selected genes.</p>	<p>Inter-disciplinary research with AIIMS, Raipur, NCNR, School of Regional Studies &amp; Research, SoS in Psychology, Center for Cognitive Science, Center for Translation Biology</p>	<p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>• To investigate environmental, cultural, genetic and psychological risk factors that could explain development of various addictive and risk behaviors, such as tobacco, betel nut, alcohol and psychoactive substance use .</li> <li>• To carry out investigations on genetic and epigenetic profiling of selected genes related to addiction (as certain psychological mechanisms are mediators between the genetic makeup and</li> </ul>	<p>Screening of tribes of southern part of CG namely <b>Muria, Maria, Dorla, Bhatra, Halba, Gadba, Parja</b> for addiction behaviour</p> <p>Collection of biological</p>	<p>Screening of tribes of northern part including <b>Oraon, Korwa, Hill Korwa, Bhaina, Pando, Birhor, Baiga, Khairwar &amp; Kanwar</b> for</p>	<p>Screening of tribes of central part of the state. <b>Kamar, Halba, Dhur Gond, Bhinjhwar, Sawra &amp; Bhunjia</b> for addiction behaviour.</p> <p>Collection of</p>

4)			<p>addictive/risk behaviors).</p> <ul style="list-style-type: none"> <li>to explore the role of several psychological, behavioral traits (e.g., impulsivity, aggression, arousability, stress reactivity), cultural understanding and upbringing as possible mediators and pursue analysis of interaction between genetic, behavioral and psychological predictors.</li> <li>To establish biobank including both the biological samples and phenotype characteristics of subjects.</li> </ul> <p><b>Importance:</b> This multidisciplinary investigation unravels the inherent cultural, psychological, genetic and epigenetic factors leading to addiction. The study will provide new biological targets for individually tailored prevention and intervention programs of addiction, as well as a strategy for assessment of risk behaviors.</p>	<p>sample of addicted subjects.</p> <p>Wet lab analysis and psycho-social analysis of sample collected.</p>	<p>addiction behaviour</p> <p>Collection of biological sample of addicted subjects.</p> <p>Wet lab analysis and psycho-social analysis of sample collected.</p> <p>Counselling to addicted subjects.</p> <p>Research paper writing.</p>	<p>biological sample of addicted subjects.</p> <p>Wet lab analysis and psycho-social analysis of sample collected.</p> <p>Counselling to addicted subjects.</p> <p>Research paper &amp; Report writing.</p>
<p><b>Project-6:</b></p> <p><b>Cultural &amp; biological diversity along with screening for various genetic diseases particularly hemoglobinopathies (sickle cell and thalassaemia) and their management</b></p> <p><i>(bio-cultural perspective related to aims and objectives no 5 and thrust area</i></p>	<p>Screening of sickle cell disease and thalassaemia, Collection and analysis of anthropometric data, socio-demographic, psychological data and biological sample. Wet lab analysis of sample using molecular markers, construction of haplotypes. Report writing &amp; publication..</p>	<p><b>Inter-disciplinary research</b> with AIIMS, Raipur, NCNR, SoS in Anthropology, Psychology, Women's study, ISI and Calcutta university</p>	<p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>Screening of haemoglobinopathies in tribes of Chhattisgarh</li> <li>To characterize and estimate frequencies of abnormal haemoglobin variants in some tribal populations of Chhattisgarh</li> <li>To determine the haplotype background of HbS mutation to know the likely origin of the mutation</li> <li>To correlate it with hematological profiles, and clinical outcomes and to find whether certain</li> <li>To provide genetic and</li> </ul>	<p>Screening of tribes of southern part of CG namely <b>Muria, Maria, Dorla, Bhatra, Halba, Gadba, Parja</b></p> <p>Wet lab analysis</p>	<p>Screening of tribes of northern part including <b>Oraon, Korwa, Hill Korwa, Bhaina, Pando, Birhor, Baiga, Khairwar &amp; Kanwar</b></p> <p>Wet lab analysis</p>	<p>Screening of tribes of central part of the state. <b>Kamar, Halba, Dhur Gond, Bhinjhwar, Sawra &amp; Bhunjia</b></p> <p>Wet lab analysis</p>



4)			<p>psychological counseling to the patients.</p> <ul style="list-style-type: none"> <li>• Creation of genomic databank.</li> </ul>				
<p><b>Project-7:</b></p> <p><b>Predictors of Cardiovascular and Pulmonary risk in high polluted environment</b></p> <p><i>(bio-cultural perspective related to aims and objectives no 5 and thrust area 4)</i></p>	<p>Screening of pulmonary patients with help of doctors &amp; AIIMS.</p> <p>Collection and analysis of anthropometric, socio-demographic, psychological data and biological sample. Wet lab analysis of sample using molecular markers.</p> <p>Genotyping of sample. Analysis of data. Paper writing and report writing.</p>	<p><b>Inter-disciplinary research with</b> AIIMS, NCNR, SoS in Anthropology, Center for Cognitive Science, Center for Translation Biology</p>	<ul style="list-style-type: none"> <li>• To study the socio-demographic profile and lifestyle variables of the COPD and Asthma patients and control population with the help of questionnaire-cum-schedule and also record their anthropometric data.</li> <li>• To record the pulmonary function test of the COPD and Asthma patients and determine the severity of the disease.</li> <li>• To record the resting electrocardiogram (ECG) of the subjects.</li> <li>• To study the genetic polymorphism of selected candidate genes (CYP1A1, GSTT1, TNF-<math>\alpha</math> genes etc) in relation to COPD and Asthma patients compared to control population; and analyze the statistical correlation of genetic alterations of the above genes, lung function analysis with disease severity.</li> <li>• To find out correlation (if any) between the time and frequency domain indices of short term HRV analysis computed from the ECG with the blood analysis parameters against the severity of the disease process as compared to normal healthy subjects.</li> </ul>	<p>Screening of tribes of southern part of CG namely <b>Muria, Maria, Dorla, Bhatra, Halba, Gadba, Parja .</b></p> <p>Screening using questionnaire-cum-schedule, anthropometry, PFT, ECG.</p> <p>Collection of biological sample of confirmed COPD &amp; Asthma patients and related socio-cultural information.</p> <p>Wet lab analysis of the collected sample</p>	<p>Screening of tribes of northern part including <b>Oraon, Korwa, Hill Korwa, Bhaina, Pando, Birhor, Baiga, Khairwar &amp; Kanwar</b></p> <p>Molecular analysis of data</p> <p>Genetic and psychological counseling to the patients.</p> <p>Creation of genomic databank</p>	<p>Screening of tribes of central part of the state. <b>Kamar, Halba, Dhur Gond, Bhinjhwar, Sawra &amp; Bhunjia</b></p> <p>Molecular analysis of data</p> <p>Genetic and psychological counseling to the patients.</p>	
<p><b>Project-8:</b></p> <p><b>Kinanthropometric, Psycho-motor and Skill related Assessment of</b></p>	<p>Identification of tribal archers, Anthropometric measurements of archer, psychological and psychomotor tests using various psychological tools,</p>	<p><b>Inter-disciplinary research with</b> NCNR, SoS in Physical Education,</p>	<p><b>Objective:</b></p> <ul style="list-style-type: none"> <li>• To assess kinanthropometric measurements of tribal archers.</li> <li>• To assess psycho-motor abilities of tribal archers.</li> <li>• To assess skill ability of tribal</li> </ul>	<p>--</p>	<p>Identification of tribal archers from sports complex.</p>	<p>Analysis of data with the help of software.</p> <p>Publication</p>	

<p><b>Tribal Archers of Chhattisgarh</b></p> <p><i>(Socio-cultural perspective related to aims and objective no 6 and thrust area 5)</i></p>	<p>tabulation &amp; analysis of anthropometric data, assessment of nutritional status, body composition and somatotype. Publication and report writing.</p>	<p>Women's Study, Psychology, Center for Cognitive Science, Center for Translation Biology</p>	<p>archers.</p> <ul style="list-style-type: none"> <li>• To compare kinanthrometric measurements, psycho-motor and skill ability of tribal and non tribal archers.</li> </ul> <p><b>Importance:</b> The expected outcome will provide insight into the belief that archers from tribal areas possess natural physical and psycho-motor qualities. If so, then talented tribal archers may be picked at earlier age so they can be trained to excel at the highest level.</p>		<p>Collect data on kinanthropometric measurements, psycho-motor ability test of tribal archers.</p>	<p>and report Writing.</p>	
<p><b>Project-9:</b></p> <p><b>Social Impact Assessment of Development Projects</b></p> <p><i>(Socio-cultural perspective related to aims and objectives no 8)</i></p>	<p>Social impact assessment of displacement in Achanakmar and impact assessment of various Policies related to Tribal Development</p>	<p><b>Inter-disciplinary research</b> with NIE, School of Regional Studies &amp; Research)</p>	<p><b>Objective:</b></p> <ul style="list-style-type: none"> <li>• To study impact of displacement livelihood restoration and Quality of life of Baiga families in rehabilitated colony in achanakmar.</li> <li>• To extend of violation Forest Right Act, PESA and Forest Conservation Act in association with displacement of Baiga families.</li> <li>• To suggest recommendation to poly maker and development actors.</li> </ul> <p><b>Importance:</b> In recent decades, the execution of development projects has continued at a faster pace. This process has unsurprisingly been conterminous with increased public and political sensitivities to issues related to socio-cultural and economic impacts of such projects. Under such situation the need to prospectively evaluate</p>	<p>Qualitative and quantitative survey of Baiga resettlement colonies of Achanakmar covering various units.</p>	<p>CITS will provide consultative services and advise to the government and its agencies.</p>	<p>CITS will provide consultative services and advise to the government and its agencies.</p>	

			types of social and cultural changes likely to follow the implementation of development projects has been felt more urgently so that the findings of such inquires could be harnessed to policy and planned decision making in a manner that attempts to anticipate, minimize and mitigate adverse impacts.				
<p><b>Project-10:</b></p> <p><b>Scaling of Tribal Innovations</b></p> <p><i>(Socio-cultural perspective related to aims and objectives no 7)</i></p>	<p>Hon’ble Prime Minister has launched ‘Skilling India’ as a multi-skill development programme on mission mode for job creation and entrepreneurship for all socio-economic classes. CITS would like to contribute in this mission &amp; will organize vocational training program for skill development of tribal of the state.</p>	<p>Inter-disciplinary research with NIE, School of Regional Studies &amp; Research and other sectors of government)</p>	<p><b>Objective:</b> To develop the skills, time to time CITS will conduct need based training programmes as well as consultative and advisory services to help members of tribal communities build internal competitiveness, enhance capacity and sharpen competencies.</p> <p><b>Importance:</b> It will catalyze excellence, innovation; employability and self sustainability thereby march towards achieving sustainable development goals. Links would be builds between innovator and entrepreneurs. Local innovation database will be maintained by the center.</p>	<p>Time to time need based vocational training for skill development</p>	<p>To reach out to the grass root people through digital India initiative platforms (SWAYAMP RABHA and e-ACHARYA etc) to enable and disseminate knowledge, skill development and empowerment</p>	<p>Skiill development training</p>	
<b>Grand Total INR</b>				<b>3614.95</b>	<b>2034.29</b>	<b>2044.63</b>	<b>7693.87</b>

**Total cost of the proposal:**

1<sup>st</sup> Five Year Plan (2018-2022): **36.14Crores** 2<sup>nd</sup> Five Year Plan (2022-2027): **20.34Crores**  
3<sup>rd</sup> Five Year Plan (2027-2032): **20.44Crores Grand Total: Rs.76.93Crores approximately**

## Detailed Research Plan for 15 years

**Note:** All research programmes will continue on tribes of southern region of the state (Muria, Maria, Dorla, Bhatra, Halba, Gadba, Parja tribes) in 1<sup>st</sup> five year, northern region of the state in 2<sup>nd</sup> five year plan (Oraon, Korwa, Hill Korwa, Bhaina, Pando, Birhor, Baiga, Khairwar & Kanwar tribes) and central part of the state (Kamar, Halba, Dhur Gond, BhinjhwarSawra & Bhunjia tribes) in 3<sup>rd</sup> five year plan to cover maximum number tribes of the state.

### **Project1: Base line survey of Tribes of Chhattisgarh**

*(Socio-cultural perspective related to aims and objectives no 1 & 2 and thrust area 1)*  
(Inter-disciplinary research with School of Regional Studies & Research, SoS in Anthropology, Indira Gandhi Rashtriya Manav Sangrahalaya, AnSI)

#### **Introduction**

49<sup>th</sup> session of the United Nations Commission on Population and Development emphasized reliable, accessible and timely population data are crucial and essential for guiding development planning and assessing progress toward the achievement of the Sustainable Development Goals.

#### **Objectives**

Hence the prime objective is to conduct *bench mark surveys* on various scheduled tribes of Chhattisgarh related to collection of their socio-cultural, education, health and nutrition, demographic, economic, political and cultural profile in inter-disciplinary perspective which will help formulation of appropriate policies, programmes and strategies for sustainable development.

### **Project 2: Documentation of Oral Tradition and Folk Culture in Tribes of Chhattisgarh**

*(Socio-cultural perspective related to aims and objectives no 2 and thrust area 1)*  
(Inter-disciplinary research with Indira Gandhi Rashtriya Manav Sangrahalaya, School of Regional Studies & Research, SoS in Anthropology, AnSI)

#### **Introduction**

Chhattisgarh, nascent state of India took birth on November 1, 2000. Chhattisgarh located in the midst of India, is popular for world famous tribal heartland of Bastar and rich culture heritage. Every third citizen of the state is a tribal. The tribal constitute 31.8 percent of total population of the State. The rich tribal culture of the state has been embedded with folk, dance, intricate work of artisans like wood work, bell metal work, wrought iron work, terra cotta work, sculpture, painting, folk songs, folk tales, material culture etc. All these cultural components have shaped the rich tribal cultural heritage of the state. The richest cultural heritage (tangent and intangent) in central Indian panorama is still untouched and not hybridized in the core interior areas. But, due to fast changing scenario in CG in particular and globalization in general, the culture and cultural heritage are at the threshold of being vanished rapidly. Hence there is an immediate need of preserving our cultural heritage and manage them with proper strategy so that we can it further for coming generations.

## Objectives

- Collection and documentation of tangible and non-tangible aspects, especially the fast vanishing one, of tribes of Chhattisgarh
- Continuous research activity will be conducted in various tribes of the state as per the scope the center.
- Audio-visual documentation will be well preserved in the archival section of the center. Documentary film on tribal life will be prepared with the help of professional
- Data archive and audio-visual archive will keep the record of codified documents (Manuscripts and Research documents) and

### **Project 3: Documentation and validation of traditional medical knowledge of Tribes of Chhattisgarh along with biodiversity of the region: Issue of economic transformation and sustainable development**

*(bio-cultural perspective related to aims and objectives no. 3 and thrust area 2)*

(Inter-disciplinary research with NCNR, , University Institute of Pharmacy, SoS in Chemistry, SoS in Anthropology, School of Regional Studies , & Research and IGKVR, CDRI IGRMS, AnSI

## Introduction

India has some of the richest, oldest and diverse cultural traditions associated with use of medicinal plants since centuries, and this is still a living tradition in the Chhattisgarh state. The biodiversity of medicinal plants is associated with a very rich cultural diversity related to traditional systems of medicine. Traditional medicine is a diverse stream, which is ecosystem and ethnic community specific. It is an oral tradition purely empirical in nature that exists in tribal communities throughout the length and breadth of India. This local and indigenous-traditional knowledge is a key resource for empowering communities against marginalization, poverty and impoverishment. Intellectual property and the country's laws that govern intellectual property rights (IPR) grant protection to the individuals/communities from whom the creative endeavor or knowledge is derived. The knowledge and use of these herbs are transferred by peers from one generation to another. They maintain utmost secrecy and follow ethics, which are inter-woven in their socio-cultural matrix, about the medicinal plants and knowledge about their use. They believe that if they do not maintain secrecy about it and take money from the patient, the medicinal value of the herbs will fade away. An attempt will be made linking indigenous knowledge on health care with drug development in Chhattisgarh.

## Objectives

- To explore undocumented traditional medical knowledge, wisdom, skills and expertise relating sustainable management of natural resources and link with modern forestry knowledge, development policy and technology
- Consolidate the available data on traditional health care practices (curative and preventive) of tribal groups (PTG) of Chhattisgarh.
- To study the challenges and opportunities of integrating indigenous knowledge in the process of development and environment governance
- To examine the various cultural factors, which influence health & the disease, & to find out various factors preventing the disease, reasons for disease & illness, treatment & supernatural beliefs related to these;

- To validate people's traditional knowledge and practices with standard codified texts for revitalization of local health tradition.
- An attempt will be made evaluate them scientifically in terms of efficacy and linking indigenous knowledge of health care with drug discovery in Chhattisgarh
- Arbitrate between bioassay researches and tribal healers in the researches on tribal medicine for safe guarding the tribal intellectual property rights.

**Project 4: Exploration of dynamics of food, hunger, income, poverty, nutrition and health status of various tribal populations of Chhattisgarh state: Public Health Issues**

*(Socio-cultural perspective related to aims and objectives no 4 and thrust area 3)*

(Inter-disciplinary research with School of Regional Studies & Research, SoS in Economics, SoS in Anthropology, SoS in Sociology, Indira Gandhi Krishi Vishwavidyalaya, NCNR, NIE, AIIMS)

### **Introduction**

The food, agriculture and tribal and rural development sectors have a symbiotic relationship with development more generally, providing livelihoods for poor people in rural areas. Dynamics of malnutrition, hunger, income, poverty and development indicators need to address in an integrated approach. There is scanty information on nutrition and health status of various tribal populations of Chhattisgarh state of India. Therefore, there is an urgent need to develop a database of nutrition and health status of various ethnic groups of the C.G. Considering this scenario, the proposed research plan is unique in its nature and will provide pioneering findings that will have direct public health implications. Results of this study will enable the government and non-governmental organizations to formulate effective health promotion policies related to it, so as to improve the general health & nutritional status and address the public health issue of tribes in the region.

### **Objectives**

- To explore the ethnic and the environmental sources of variability in health and nutritional status of tribes of Chhattisgarh
- To construct both genders and ethnic specific and pooled anthropometric standards for the tribes from this region.
- Local and indigenous-traditional knowledge is a key resource for empowering communities against marginalization, poverty and impoverishment. Thus focus will be on understanding and leveraging the potential of local food and indigenous resources and knowledge for nutrition, health, food and income security.

## **Project:5 Identification of psycho-social and genetic risk factors of various addictions with special reference to Tobacco & Alcohol**

*(bio-cultural perspective related to aims and objectives no 5 and thrust area 4)*

**(Inter-disciplinary research with AIIMS, Raipur, NCNR, School of Regional Studies & Research, SoS in Psychology, Center for Cognitive Science, Center for Translation Biology)**

### **Introduction**

In general, the four D's that is drink, debt, dirt, and disease have become considered to destiny of tribals & they are caught in the web of a complex system which is an outcome of modernization, industrialization and urbanization.

Addictive behaviors are causes of preventable mortality and morbidity, however, little is known about major risk factors and effective prevention, due to extremely high intercultural and individual variation in substance dependence and risk behaviors. Different kinds of substance use that lead to addiction are culturally rooted, such as betel nut chewed, the consumption of traditionally made rice beer and mastication of locally treated variety of tobacco leaf; its consumption being highest in tribes of Chhattisgarh.

Despite the intense scientific interest in factors leading to addictive behavior, our current knowledge lacks an integrative empirical approach to uncover the roots of addiction and other risk behaviors.

### **Objectives**

In the proposed interdisciplinary study will aim-

- to investigate environmental, cultural, genetic and psychological risk factors that could explain development of various addictive and risk behaviors, such as tobacco, betel nut, alcohol and psychoactive substance use .
- to carry out investigations on genetic and epigenetic profiling of selected genes related to addiction (as certain psychological mechanisms are mediators between the genetic makeup and addictive/risk behaviors).
- to explore the role of several psychological, behavioral traits (e.g., impulsivity, aggression, arousability, stress reactivity), cultural understanding and upbringing as possible mediators and pursue analysis of interaction between genetic, behavioral and psychological predictors.
- to establish biobank including both the biological samples and phenotype characteristics of subjects.

This multidisciplinary investigation unravels the inherent cultural, psychological, genetic and epigenetic factors leading to addiction. The study will provide new biological targets for individually tailored prevention and intervention programs of addiction, as well as a strategy for assessment of risk behaviors.

## **Project 6: Cultural & biological diversity along with screening for various genetic diseases particularly Haemoglobinopathies (sickle cell and thalassaemia) and their management**

*(bio-cultural perspective related to aims and objectives no 5 and thrust area 4)*

*(Inter-disciplinary research with AIIMS, Raipur, NCNR, SoS in Anthropology, SoS in Psychology, ISI and Calcutta university)*

### **Introduction**

Haemoglobinopathies are genetic disorders of haemoglobin among them sickle cell anemia and thalassaemia are prevalent in Chhattisgarh. Looking to the magnitude of the problem, state government has passed sickle cell Bill in the state assembly. Thus this is a priority area of research. A detail study on genome will be done, that will help in prevention and better management of diseases.

### **Objectives**

- Screening of haemoglobinopathies in tribes of Chhattisgarh
- To characterize and estimate frequencies of abnormal haemoglobin variants in some tribal populations of Chhattisgarh
- To determine the haplotype background of HbS mutation to know the likely origin of the mutation
- To correlate it with hematological profiles, clinical outcomes and to find whether certain specific hematologic parameters could be crucial discriminates of HbSs & Hbss
- To provide genetic and psychological counseling to the patients

The long-term objective is to understand the nature and patterns of epistatic interactions at the molecular level among genes in the human genome and to estimate relative contributions of the various interacting epistatic loci to variability of clinical outcomes in individuals carrying HbS gene. It will also help to provide genetic counseling and awareness regarding sickle cell disease with the help of state government agencies.

## **Project:7 Predictors of Cardiovascular and Pulmonary risk in high polluted environment**

*(bio-cultural perspective related to aims and objectives no 5 and thrust area 4)*

*(Inter-disciplinary research with AIIMS, NCNR, SoS in Anthropology, AIIMS, Center for Cognitive Science, Center for Translation Biology)*

### **Introduction**

Over recent years, in the public health domain, the PM concentration has become a topic of considerable importance, since epidemiological studies have shown that exposure of PM with aerodynamic diameter of less than 10 (PM<sub>10</sub>) and 2.5 μm (PM<sub>2.5</sub>) induces the increase of lung cancer, morbidity and cardiopulmonary mortality (Pozzi et al. 2005; Chakra et al. 2007; Wang et al. 2008). Air pollution has been consistently increasing in developing countries attributable to industrialization and traffic congestion thereby raised the gaseous and particulate matter component concentrations of urban ambient air, which is associated with increasing respiratory morbidity. Raipur (21°14'N and 81°38'E,



297 m above sea level), the capital of nascent Chhattisgarh state, is an industrially important city with a population of 1.2 million. It is situated between two industrial complexes at a distance of ~ 30 km the Bhilai Steel Plant and Jamul Cement Factory, Century Cement Plant, Larson & Toubro Cement Plant, Monnet Sponge Iron and Power Plant, Woolworth Textile Plant, etc. Apart from this, a large number of fertilizer plants, oil extraction plants, agro-forest plants, and electrical goods manufacturing plants are also set with in the circumference of 30 km. These huge coal burning industries on western complex of Raipur produce a large amount of fly ash and PM, which affect the local environment as well as surroundings by the aerial dispersion processes (Deshmukh et al 2012). Other industry manufacturing electrical goods, iron, steel, aluminium and copper are located on its eastern complex. Air analysis of the area reported that the frequencies of PM<sub>10</sub> (PM<sub>2.5</sub>-10+PM<sub>2.5</sub>) concentrations exceeding 150 microgram per meter cube at Raipur were 100% in all cases, i.e. in all seasons (Nirmalkar et al. 2013). Similarly, the frequencies of PM<sub>2.5</sub> concentrations exceeding 65 microgram per meter cube in the same seasons were also 100% (Nirmalkar et al, 2013; Verma et al, 2011). Their study signifies that the industrial emission in Raipur was high in all seasons and played an important role to contribute the PM<sub>2.5</sub> particle loading in the atmosphere. Epidemiological studies have suggested a statistical association between health effects and ambient PM<sub>2.5</sub> and PM<sub>1</sub> particle concentration, especially the submicron fraction that can penetrate into the alveolar region of the lungs (Singh et al. 2012; Balakrishna et al. 2012). The magnitude of PM air pollution in this region has a significant impact on the surrounding region that implies a higher risk for human health as PM<sub>1</sub> and PM<sub>2.5</sub> penetrate deeper into the respiratory tract. In addition, owing to major tobacco production zone, environmental tobacco smoke exposure (active and passive) is very common that has serious ill respiratory effects on human health.

There is a National Highway, namely, Great Eastern Road that adjoins Kolkata and Mumbai, with frequent heavy vehicular traffic volume of nearly 25,000 vehicles per day. Ghosh (2014) analysed road dust fall nearby National Highway and its impact on human health collected from 10 major sampling sites namely Srsakala, Somani, Ganyari, Karsa, Khursipar, Jarway, Umda, Dream city, Kukda and Kumhari of Bhilai-3, 27 kilometers west of the capital Raipur (10 kms from AIIMS, Tatibandh, Raipur), on the main Howrah–Mumbai rail line, and National Highway. Results have shown that lead and zinc concentration is high compared to prescribed limits in all receptors and the metal concentrations in road dust fall was higher in order Pb>Zn>Cu>Fe>Hg. Dust particles are deposited in a human body, plants, surface water and soil, they have potential causes to harm either locally or subsequently elsewhere in environment. Several peoples of this area are suffering from dust and heavy metals born diseases mainly respiratory problem, asthma and chronic lung diseases, etc. Keeping above mentioned facts in mind and research gap in this area, the proposed research project has been designed with the following objectives:

## **Objectives**

Based on the above background, the goal of the proposed study is to find association of genetic makeup of human beings (polymorphisms in the genes related with detoxification and oxidative stress) with susceptibility to COPD and Asthma induced by tobacco smoking and other environmental pollutants, taking into account the level of various risk factors.

- To study the socio-demographic profile and lifestyle variables of the COPD and Asthma patients and control population with the help of questionnaire-cum-schedule and also record their anthropometric data.
- To record the pulmonary function test of the COPD and Asthma patients and determine the severity of the disease.
- To record the resting electrocardiogram (ECG) of the subjects.
- To study the genetic polymorphism of selected candidate genes (CYP1A1, GSTT1, TNF- $\alpha$  genes etc) in relation to COPD and Asthma patients compared to control population; and analyze the statistical correlation of genetic alterations of the above genes, lung function analysis with disease severity.
- To find out correlation (if any) between the time and frequency domain indices of short term HRV analysis computed from the ECG with the blood analysis parameters against the severity of the disease process as compared to normal healthy subjects.

At present there is not a single regional/ state representative study has been reported on predictors of cardiovascular and pulmonary risk in relation to environmental pollution in Chhattisgarh. Some of the populations may be genetically predisposed to the disease due to genetic alteration in candidate genes (CYP1A1, GSTT1, TNF- $\alpha$  genes); with reference to COPD and Asthma.

Keeping the above facts in mind, the proposed study aimed to gather the first hand information on it that would help in understanding the magnitude of the problem.

Results of the study will be useful in the planning to reduce burden of disease due to pollution in Chhattisgarh.

### **Project 8: Kinanthropometric, Psycho-motor and Skill related Assessment of Tribal Archers of Chhattisgarh**

*(Socio-cultural perspective related to aims and objective no 6 and thrust area 5)*

*(Inter-disciplinary research with NCNR, SoS in Physical Education, Women's Study,*

*SoS in Psychology, Center for Cognitive Science, Center for Translation Biology)*

#### **Introduction**

Majority of tribesmen used to bow and arrow since their childhood, so they know the basic know-how of archery since childhood. Despite this, the performance of these tribesmen is not world class barring few instances. This is surprising because it is believed that tribal possess ideal body composition and psycho-motor abilities to excel in sport like archery. Hence this project is proposed in which kinanthropometric, psycho-motor and skill related assessment of tribal archers will be conducted. This will highlight the above mentioned aspects of tribal archers

In sports like archery, eye hand coordination, eye body coordination is important for sports performance. It has also been known that anthropometric variables also have role to play as far as performance of archers in concerned. Hence it is proposed to analyse whether tribals are naturally gifted archers in terms of kinanthropometric, psycho-motor and skills associated with modern archery.

#### **Objectives**

In the proposed interdisciplinary study will aim-

- To assess kinanthropometric measurements of tribal archers.
- To assess psycho-motor abilities of tribal archers.
- To assess skill ability of tribal archers.
- To compare kinanthrometric measurements, psycho-motor and skill ability of

- tribal and non tribal archers.

The expected outcome will provide insight into the belief that archers from tribal areas possess natural physical and psycho-motor qualities. If so, then talented tribal archers may be picked at earlier age so they can be trained to excel at the highest level.

## **Project:9 Social Impact Assessment of Development Projects**

*(Socio-cultural perspective related to aims and objectives no 8)*

**(Inter-disciplinary research with NIE, NCNR, School of Regional Studies & Research)**

In recent decades, the execution of development projects has continued at a faster pace. This process has unsurprisingly been conterminous with increased public and political sensitivities to issues related to socio-cultural and economic impacts of such projects. Under such situation the need to prospectively evaluate types of social and cultural changes likely to follow the implementation of development projects has been felt more urgently so that the findings of such inquires could be harnessed to policy and planned decision making in a manner that attempts to anticipate, minimize and mitigate adverse impacts.

CITS will provide consultative services and advise to the government and its agencies.

**Proposed fifteen year strategic Plan (for each five years): (Please refer annexure 2 for details)**

	<b>Particulars</b>	<b>1<sup>st</sup> Five Year</b>	<b>2<sup>nd</sup> Five Year</b>	<b>3<sup>rd</sup> Five Year</b>												
<p><b>Faculties</b> (Number = 6)</p> <p><b>Research scientist-2</b> in the category of Associate Professor) @131400/-for 1<sup>st</sup> yr @135300/- for 2<sup>nd</sup> yr @139400/-for 3<sup>rd</sup> yr @143600/- for 4<sup>th</sup> yr @147900/-for 5<sup>th</sup> year</p> <p><b>Research scientist-4</b> in the category of Assistant Professor) @57700/-for 1<sup>st</sup> yr @59400/- for 2<sup>nd</sup> yr @61200/-for 3<sup>rd</sup> yr @63000/- for 4<sup>th</sup> yr @64900/-for 5<sup>th</sup> year</p>	Faculty with specialization	6	-	-												
	<table border="1"> <thead> <tr> <th><b>Course/ Specialization:</b></th> <th><b>Student Intake/yr</b></th> <th><b>Number of Faculty</b></th> <th><b>Remark</b></th> </tr> </thead> <tbody> <tr> <td>Tribal Culture in the context of Cultural relativism (Diploma)</td> <td>15</td> <td rowspan="3">6</td> <td rowspan="3">For 1<sup>st</sup> five year</td> </tr> <tr> <td>Diploma in Ecological Management and Tribal sustainable Development (Diploma)</td> <td>15</td> </tr> <tr> <td>Scaling of Tribal Innovations</td> <td>-</td> </tr> </tbody> </table>				<b>Course/ Specialization:</b>	<b>Student Intake/yr</b>	<b>Number of Faculty</b>	<b>Remark</b>	Tribal Culture in the context of Cultural relativism (Diploma)	15	6	For 1 <sup>st</sup> five year	Diploma in Ecological Management and Tribal sustainable Development (Diploma)	15	Scaling of Tribal Innovations	-
	<b>Course/ Specialization:</b>				<b>Student Intake/yr</b>	<b>Number of Faculty</b>	<b>Remark</b>									
	Tribal Culture in the context of Cultural relativism (Diploma)				15	6	For 1 <sup>st</sup> five year									
Diploma in Ecological Management and Tribal sustainable Development (Diploma)	15															
Scaling of Tribal Innovations	-															

## BUDGET SUMMARY FOR FIFTEEN YEAR PLAN

ITEM		BUDGET (INR in Lakh)			
A	Recurring	1 <sup>st</sup> five year	2 <sup>nd</sup> five year	3 <sup>rd</sup> five year	Total
1	Salaries/Wages	843.95	1330.29	1814.63	3988.87
2	Consumables	50	30	20	100
3	Travel	50	50	25	125
4	Contingencies	60	40	20	120
5	Other costs	111	84	65	260
<b>B</b>	<b>Non-Recurring</b>				
1	Infra-Structure	1500*	300**	100***	1900
2	Equipment	1000	200	0	1200
	<b>Total INR</b>	<b>3614.95</b>	<b>2034.29</b>	<b>2044.63</b>	<b>7693.87</b>
<p>*Construction area 50 m x 50 m = 2500 m<sup>2</sup> @ INR 30000/-per meter<sup>2</sup> includes cost of electrification, work charge, contingency and escalation of total cost.  **Utility items including chair, table, almirah, glass door cabinet etc.  ***Well equipped Work station for vocational training.</p>					

**Please refer annexure 1**

**Annexure-1****BUDGET FOR SALARIES/WAGES OF MANPOWER FOR FIRST FIVE YEAR**

<b>S.No.</b>	<b>Name of the Post</b>	<b>No. required</b>	<b>Monthly emulation in INR</b>	<b>1<sup>st</sup> year In Lakh</b>	<b>2<sup>nd</sup> year In Lakh</b>	<b>3<sup>rd</sup> year In Lakh</b>	<b>4<sup>th</sup> year In Lakh</b>	<b>5<sup>th</sup> year In Lakh</b>	<b>Total Rs. In Lakh</b>
1	<b>Research scientist</b> in the category of (Associate Professor)	<b>02</b>	@131400/- for 1 <sup>st</sup> yr @135300/- for 2 <sup>nd</sup> yr @139400/- for 3 <sup>rd</sup> yr @143600/- for 4 <sup>th</sup> yr @147900/- for 5 <sup>th</sup> year	31.54	32.47	33.46	34.46	35.5	<b>167.43</b>
2	<b>Research scientist</b> in the category of (Assistant Professor)	<b>04</b>	@57700/- for 1 <sup>st</sup> yr @59400/- for 2 <sup>nd</sup> yr @61200/- for 3 <sup>rd</sup> yr @63000/- for 4 <sup>th</sup> yr @64900/- for 5 <sup>th</sup> year	27.70	28.52	29.38	30.24	31.15	<b>146.98</b>
3	<b>PDF</b>	<b>02</b>	@38800/- for 1 <sup>st</sup> & 2 <sup>nd</sup> yr @46500/- for 3 <sup>rd</sup> , 4 <sup>th</sup> & 5 <sup>th</sup> yr	9.31	9.31	11.16	11.16	11.16	<b>52.1</b>

4	<b>JRF</b>	<b>02</b>	@25000/- for 1 <sup>st</sup> & 2 <sup>nd</sup> yr @28000/- for 3 <sup>rd</sup> , 4 <sup>th</sup> & 5 <sup>th</sup> yr	9.00	9.00	10.08	10.08	10.08	<b>48.24</b>
5	<b>Project Fellow</b>	<b>03</b>	@21000/- for 1 <sup>st</sup> to 5 <sup>th</sup> yr	7.56	7.56	7.56	7.56	7.56	<b>37.8</b>
6	<b>Office Assistant/Accountant/ Computer Operator</b>	<b>01</b>	@15000/- for 1 <sup>st</sup> to 5 <sup>th</sup> yr	1.80	1.80	1.80	1.80	1.80	<b>9.0</b>
7	<b>Technical Assistant</b>	<b>02</b>	@12000/- for 1 <sup>st</sup> to 5 <sup>th</sup> yr	2.88	2.88	2.88	2.88	2.88	<b>14.4</b>
8	<b>Field Assistant</b>	<b>08</b>	@8000/- for 1 <sup>st</sup> to 5 <sup>th</sup> yr	7.68	7.68	7.68	7.68	7.68	<b>38.4</b>
9	<b>Driver</b>	<b>01</b>	@8000/- for 1 <sup>st</sup> to 5 <sup>th</sup> yr	0.96	0.96	0.96	0.96	0.96	<b>4.80</b>
10	<b>Peon</b>	<b>01</b>	@8000/- for 1 <sup>st</sup> to 5 <sup>th</sup> yr	0.96	0.96	0.96	0.96	0.96	<b>4.80</b>
11	<b>Visiting Scientists from India/Abroad Collaborating Institute</b>		<b>As per UGC norms</b>	40.0	40.0	80	80	80	<b>320.0</b>
	<b>Total INR</b>			<b>139.39</b>	<b>141.14</b>	<b>185.92</b>	<b>187.78</b>	<b>189.73</b>	<b>843.95</b>

**Justification:** As this center is established recent past, except coordinator no other manpower is available. To make center viable, it is necessary to recruit above manpower. Center will cover whole tribal communities under its gambit with a view to portrait a complete picture of tribes with a bio-cultural research perspective, hence two Research Scientists in the category of Associate Professor (one to look after researches in social aspects and another one in biological aspects). Among the Research Scientists in the category of Assistant Professor, two will be engage in laboratory work whereas two will be engage in field based studies of tribes of C.G. They will also be engaged to conduct vocational training time to time. 50% PDF, JRF, Project fellow and Technical Assistant will be engage in research plan proposed under tribal health area & remaining will be work in various other aspects as proposed in research plan. As we need to cover 44 tribal groups within 15 years, which is a huge task, therefore staffs claimed are justified. Field Assistants will assist to manage sample collection and transportation of biological sample immediately. They will also assist in managing instruments in the field. Work will go on simultaneously in northern, central and southern tribal pockets, hence staff claimed is needed.

One Driver to take staff in to remote field area is essential. We have to move along with some equipment and a team will go for conducting survey and data collection. Field work will be conducted in very sensitive area too, hence vehicle and Driver is needed. Peon and Office Staff/ Computer Operator are the minimum office staff to run in properly.

Visiting Scientists from India & Abroad from collaborating institute will be invited to utilize their expertise. In addition, experts will be invited for conducting workshop and vocational training programs for their skill development



## BUDGET FOR SALARIES/WAGES OF MANPOWER SECOND FIVE YEAR

S.No.	Name of the Post	No. required	Monthly emulation in INR	1 <sup>st</sup> year In Lakh	2 <sup>nd</sup> year In Lakh	3 <sup>rd</sup> year In Lakh	4 <sup>th</sup> year In Lakh	5 <sup>th</sup> year In Lakh	Total Rs. In Lakh
1	<b>PDF</b>	<b>02</b>	@38800/- for 1 <sup>st</sup> & 2 <sup>nd</sup> yr @46500/- for 3 <sup>rd</sup> , 4 <sup>th</sup> & 5 <sup>th</sup> yr	9.31	9.31	11.16	11.16	11.16	<b>52.1</b>
2	<b>JRF</b>	<b>02</b>	@25000/- for 1 <sup>st</sup> & 2 <sup>nd</sup> yr @28000/- for 3 <sup>rd</sup> , 4 <sup>th</sup> & 5 <sup>th</sup> yr	9.00	9.00	10.08	10.08	10.08	<b>48.24</b>
3	<b>Project Fellow</b>	<b>03</b>	@21000/- for 1 <sup>st</sup> to 5 <sup>th</sup> yr	7.56	7.56	7.56	7.56	7.56	<b>37.8</b>
4	<b>Technical Assistant</b>	<b>01</b>	@12000/- for 1 <sup>st</sup> to 5 <sup>th</sup> yr	1.44	1.44	1.44	1.44	1.44	<b>7.20</b>
5	<b>Field Assistant</b>	<b>04</b>	@8000/- for 1 <sup>st</sup> to 5 <sup>th</sup> yr	3.84	3.84	3.84	3.84	3.84	<b>19.0</b>
6	<b>Visiting Scientists from India/Abroad Collaborating Institute</b>		<b>As per UGC norms</b>	40	40	80	80	80	<b>320.0</b>
	<b>Total INR</b>			<b>71.15</b>	<b>71.15</b>	<b>114.08</b>	<b>114.08</b>	<b>114.08</b>	<b>484.34</b>

**Justification:** As this center is established recent past, except coordinator no other manpower is available. To make center viable, it is necessary to recruit above manpower. Center will cover whole tribal communities under its gambit with a view to portrait a complete picture of tribes with a bio-cultural research perspective, hence two Research Scientists in the category of Associate Professor (one to look after researches in social aspects and another one in biological aspects). Among the Research Scientists in the category of Assistant Professor, two will be engage in laboratory work whereas two will be engage in field based studies of tribes of C.G. They will also be engaged to conduct vocational training time to time. 50% PDF, JRF, Project fellow and Technical Assistant will be engage in research plan proposed under tribal health area & remaining will be work in various other aspects as proposed in research plan. As we need to cover 44 tribal groups within 15 years, which is a huge task, therefore staffs claimed are justified. Field Assistants will assist to manage sample collection and transportation of biological sample immediately. They will also assist in managing instruments in the field. Work will go on simultaneously in northern, central and southern tribal pockets, hence staff claimed is needed.

One Driver to take staff in to remote field area is essential. We have to move along with some equipment and a team will go for conducting survey and data collection. Field work will be conducted in very sensitive area too, hence vehicle and Driver is needed. Peon and Office Staff/ Computer Operator are the minimum office staff to run in properly.

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## BUDGET FOR SALARIES/WAGES OF MANPOWER THIRD FIVE YEAR

S.No.	Name of the Post	No. required	Monthly emulation in INR	1 <sup>st</sup> year In Lakh	2 <sup>nd</sup> year In Lakh	3 <sup>rd</sup> year In Lakh	4 <sup>th</sup> year In Lakh	5 <sup>th</sup> year In Lakh	Total Rs. In Lakh
1	<b>PDF</b>	<b>02</b>	@38800/- for 1 <sup>st</sup> & 2 <sup>nd</sup> yr @46500/- for 3 <sup>rd</sup> , 4 <sup>th</sup> & 5 <sup>th</sup> yr	9.31	9.31	11.16	11.16	11.16	<b>52.1</b>
2	<b>JRF</b>	<b>02</b>	@25000/- for 1 <sup>st</sup> & 2 <sup>nd</sup> yr @28000/- for 3 <sup>rd</sup> , 4 <sup>th</sup> & 5 <sup>th</sup> yr	9.00	9.00	10.08	10.08	10.08	<b>48.24</b>
3	<b>Project Fellow</b>	<b>03</b>	@21000/- for 1 <sup>st</sup> to 5 <sup>th</sup> yr	7.56	7.56	7.56	7.56	7.56	<b>37.8</b>
4	<b>Technical Assistant</b>	<b>01</b>	@12000/- for 1 <sup>st</sup> to 5 <sup>th</sup> yr	1.44	1.44	1.44	1.44	1.44	<b>7.20</b>
5	<b>Field Assistant</b>	<b>04</b>	@8000/- for 1 <sup>st</sup> to 5 <sup>th</sup> yr	3.84	3.84	3.84	3.84	3.84	<b>19.0</b>
6	<b>Visiting Scientists from India/Abroad Collaborating Institute</b>		<b>As per UGC norms</b>	40	40	80	80	80	<b>320.0</b>
	<b>Total INR</b>			<b>71.15</b>	<b>71.15</b>	<b>114.08</b>	<b>114.08</b>	<b>114.08</b>	<b>484.34</b>

**Justification:** As this center is established recent past, except coordinator no other manpower is available. To make center viable, it is necessary to recruit above manpower. Center will cover whole tribal communities under its gambit with a view to portrait a complete picture of tribes with a bio-cultural research perspective, hence two Research Scientists in the category of Associate Professor (one to look after researches in social aspects and another one in biological aspects). Among the Research Scientists in the category of Assistant Professor, two will be engage in laboratory work whereas two will be engage in field based studies of tribes of C.G. They will also be engaged to conduct vocational training time to time. 50% PDF, JRF, Project fellow and Technical Assistant will be engage in research plan proposed under tribal health area & remaining will be work in various other aspects as proposed in research plan. As we need to cover 44 tribal groups within 15 years, which is a huge task, therefore staffs claimed are justified. Field Assistants will assist to manage sample collection and transportation of biological sample immediately. They will also assist in managing instruments in the field. Work will go on simultaneously in northern, central and southern tribal pockets, hence staff claimed is needed.

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Visiting Scientists from India & Abroad from collaborating institute will be invited to utilize their expertise. In addition, experts will be invited for conducting workshop and vocational training programs for their skill development

## BUDGET FOR CONSUMABLES

S.No.	ITEM	1 <sup>st</sup> Five year	Justification	2 <sup>nd</sup> five year	Justification	3 <sup>rd</sup> five year	Justification	Total INR
1	<p><b>Plastic and Glassware, DNA and RNA Kit, Restriction Enzymes, Ladders, Oligo Primers, Chemicals etc</b></p> <p>(For project numbers 5, 6, 7).</p>	50	<p>Highly expensive items which are essential for analysis of genomic markers .</p> <p>In 1<sup>st</sup> five year tribes-Muria, Maria, Dorla, Bhatra, Halba, Gadba, Parja etc of southern part of the state will be covered for the study.</p> <p>In addition consumable will be utilized for the molecular analysis of samples of sickle cell and thalassaemia patients, COPD patients &amp; their matched controls. Some molecular markers related to addiction behavior will be analyzed in alcohol and tobacco addicted persons. Total approximately 3000 tribal subjects will be analyzed using genomic markers.</p>	30	<p>The research work will be replicated in the 2<sup>nd</sup> five year plan among the tribes of northern part including Oraon, Korwa, Hill Korwa, Bhaina, Pando, Birhor ,Baiga, Khairwar, Kanwar etc of the state.</p>	20	<p>In the 3<sup>rd</sup> five year plan the same will be replicated in the tribes of central Chhattisgarh viz. Kamar, Halba, Dhur Gond, Bhinjhwar, Sawra, Bhunjia among the tribes of central part of the state.</p>	100
	<b>Total INR</b>	50		30		20		100

## BUDGET FOR CONTINGENCIES

S.No.	ITEM	1 <sup>st</sup> Five year	Justification	2 <sup>nd</sup> five year	Justification	3 <sup>rd</sup> five year	Justification	Total INR
1	<b>Contingency cost</b>	60	<p>The budget will be utilized for purchasing of psychological tools (Michigan scale, Beckman scale, Impulsive scale etc.). for Project numbers 5 &amp; 7</p> <p>In addition schedule will be prepared for all projects.</p> <p>For running cost of lab, stationery and audio-visual documentation as well as purchase of tangible objects budget is required.</p> <p>Muria, Maria, Dorla, Bhatra, Halba, Gadba, Parja tribes of southern part of the state will be covered in the 1<sup>st</sup> five year.</p>	40	<p>The research work will be replicated in the 2<sup>nd</sup> five year plan among the tribes of northern part including –</p> <p>Oraon, Korwa, Hill Korwa, Bhaina, Pando, Birhor, Baiga, Khairwar, Kanwar etc .</p>	20	<p>In the 3<sup>rd</sup> five year plan the same will be replicated in the tribes of central area of Chhattisgarh viz. –</p> <p>Kamar, Halba, Dhur Gond, Bhinjhwar, Sawra, Bhunjia etc</p>	<b>120.00</b>
	<b>Total INR</b>	60		40		20		<b>120.00</b>

## BUDGET FOR TRAVEL (FIELD WORK)

<b>BUDGET (INR in Lakh)</b>								
S.No.	ITEM	1 <sup>st</sup> Five year	Justification	2 <sup>nd</sup> five year	Justification	3 <sup>rd</sup> five year	Justification	Total INR
1	<b>Travel/ Field Work</b>	50	The proposed all research works are major comprehensive study and would be based on exploratory field survey in far off areas. It is essential to conduct survey and field work in length and breadth of Chhattisgarh. We need to approach tribal people in remotest area and for this 2-3 teams will simultaneously collect data on various tribes.	50	The research work will be replicated in the 2 <sup>nd</sup> five year plan among the tribes of northern part including Oraon, Korwa, Hill Korwa, Bhaina, Pando, Birhor Baiga, Khairwar, Kanwar etc of the state. The budget would be also utilized towards T.A./D.A. payments to visit necessary laboratories for consultation and to conference.	25	In the 3 <sup>rd</sup> five year plan the same will be replicated in the tribes of central Chhattisgarh viz. Kamar, Halba, Dhur Gond, Bhinjhwar, Sawra, Bhunjia among the tribes of central part of the state.  In addition, the fund would be also utilized for payment of T.A./D.A. to Traditional Healer invited in the workshop (project number 3) as well as resource persons	<b>125.00</b>
	<b>Total INR</b>	50		50		25		<b>125.00</b>

## **BUDGET FOR OTHER COSTS**

<b>BUDGET (INR in Lakh)</b>					
<b>S.No.</b>	<b>ITEM</b>	<b>1<sup>st</sup> Five year</b>	<b>2<sup>nd</sup> five year</b>	<b>3<sup>rd</sup> five year</b>	<b>Total</b>
1	<b>Books, Journals &amp; Software</b>	4.0	3.0	3.0	<b>10.0</b>
2	<b>Seminar/Workshop</b>	8.0	12.0	10.0	<b>30.0</b>
3	<b>Training/ Skill Development</b>	30.0	30.0	30.0	<b>90.0</b>
4	<b>Remuneration for Visiting Scientist @3000/-per day</b>	10.0	10.0	5.0	<b>25.0</b>
5	<b>Remuneration for participants @1000/-per day</b>	15.0	5.0	5.0	<b>25.0</b>
6	<b>Local Field guide during Field work @daily wage to local person</b>	4.0	4.0	2.0	<b>10.0</b>
7	<b>Documentary making charges</b>	10.0	20.0	10.0	<b>40.0</b>
8	<b>Vehicle/Four Wheeler</b>	30.0	-	-	<b>30.0</b>
	<b>Total INR</b>	<b>111</b>	<b>84</b>	<b>65</b>	<b>260.0</b>



## Time Line Activity for 15 years

Research Plan	Activities / Year	1 <sup>st</sup> Five Year					2 <sup>nd</sup> Five Year					3 <sup>rd</sup> Five Year					Remark
		1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	
<b>Project 1</b>  <b>To</b>  <b>Project 8</b>	<b>Tribes to be covered</b>	Muria, Maria, Dorla, Bhatra, Halba, Gadba, Parja					Oraon, Korwa, Hill Korwa, Bhaina, Pando, Birhor Baiga, Khairwar, Kanwar					Kamar, Halba, Dhur Gond, Bhinjwar, Sawra, Bhunjia					
	Preliminary work Appointment of staff Purchase of related material Preparation of baseline survey questionnaire-cum-schedule	X	X				X	X				X	X				
	Training of staff Field visit (Pilot survey) HH survey for socio-demography, addiction behavior using psychological tools Collection of biological sample		X	X	X			X	X	X			X	X	X		
	Food intake & dietary intake survey			X	X				X	X				X	X		
	Audio-visual documentation	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
	Kinanthropometry, psychomotor and physical fitness data collection on tribal archers						X	X				X	X				
	Data entry & analysis of archers								X	X			X	X			
	Policy review		X	X	X	X	X	X	X	X	X	X	X	X	X	X	
	Social Impact assessment of Development Projets			X	X		X	X				X	X				
	Collection of biological sample of sickle cell, thalassaemia & COPD patients		X	X	X		X	X	X			X	X	X			
	Wet Lab analysis		X	X	X			X	X	X			X	X	X		
	Tabulation & analysis of data using Softwares		X	X	X	X			X	X	X			X	X	X	
	Research paper writing,			X	X	X			X	X	X			X	X	X	
	Report writing & submission					X					X					X	

## Annexure 2

### Academic Programmes

There is an urgent need to prepare well trained tribal development professionals as 'development facilitators' who can facilitate the process of empowering tribals and improve their quality of life. Hence the following academic programmes are proposed:

1. **Diploma in Tribal Culture in the context of Cultural relativism**
2. **Diploma in Ecological Management and Tribal sustainable Development**
3. **Scaling of Tribal Innovations**

#### Objectives:

The overall objective is to build human capital leading to streamlining of policies & processes and creation of a conducive environment for transforming society to achieve SDGs.

#### Specific objectives are:

1. To develop understanding of good governance in the field of tribal development.
2. To develop adequate skills to prepare and implement integrated development plan & projects for tribal communities
3. To train professional 'development facilitators'
4. To develop trainees as competent change agent in the field of tribal development.

The enrolled students will get a unique opportunity to access the best learning resources as well as for developing a strong perspective and high capability for developing and managing tribal development projects on their own. They will also get opportunity to prefer in the tribal development department of Government on the Class-II & III posts as *Tribal Development Inspector, Assistant Tribal Development Project Officer, Wardens in Hostels* etc. The courses are proposed to meet the challenges of Tribal Development and Tribal Empowerment. It will provide opportunity to train the students as "development facilitators" available for working with tribal communities. :

### Scheme

#### 1. Diploma in Tribal Culture in the context of Cultural relativism

Semester	Paper No.	Name of the Paper	External marks	Internal Marks	Total Marks	Credit	Passing Marks
First	I	Tribal Culture & Social Institutions	80	20	100	4	40
	II	Tribal Development Policies & Governance	80	20	100	4	40

	<b>III</b>	Research Methods and use of Technology applications	80	20	100	4	40
	<b>IV</b>	Minor Project report (field work based in tribal area)	80	20	100	8	40
		<b>Sub-Total</b>	<b>320</b>	<b>80</b>	<b>400</b>	<b>20</b>	<b>160</b>
<b>Second</b>	<b>I</b>	Tribal Art and Customs (Tangible and Intangible)	80	20	100	4	40
	<b>II</b>	Tribal Livelihood and poverty alleviation	80	20	100	4	40
	<b>III</b>	Dissertation	80	20	100	8	40
	<b>IV</b>	Viva	80	20	100	4	40
		<b>Sub-Total</b>	<b>320</b>	<b>80</b>	<b>400</b>	<b>20</b>	<b>160</b>
		<b>Grand Total</b>	<b>640</b>	<b>160</b>	<b>800</b>	<b>40</b>	<b>320</b>

## 2. Diploma in Ecological Management and Tribal sustainable Development

Semester	Paper No.	Name of the Paper	External marks	Internal Marks	Total Marks	Credit	Passing Marks
<b>First</b>	<b>I</b>	Forest & Tribal Economy	80	20	100	4	40
	<b>II</b>	Contribution of Tribal Medicine in domestic and international trade and Sustainable Development	80	20	100	4	40
	<b>III</b>	Research Methods and use of Technology applications	80	20	100	4	40
	<b>IV</b>	Minor Project report (field work based in tribal area)	80	20	100	8	40
		<b>Sub-Total</b>	<b>320</b>	<b>80</b>	<b>400</b>	<b>20</b>	<b>160</b>
<b>Second</b>	<b>I</b>	Mainstreaming Tribals in the natural resources centric programmes	80	20	100	4	40
	<b>II</b>	Valuation of Traditional Ecological Knowledge	80	20	100	4	40

	<b>III</b>	Dissertation	80	20	100	8	40
	<b>IV</b>	Viva	80	20	100	4	40
		<b>Sub-Total</b>	<b>320</b>	<b>80</b>	<b>400</b>	<b>20</b>	<b>160</b>
		<b>Grand Total</b>	<b>640</b>	<b>160</b>	<b>800</b>	<b>40</b>	<b>320</b>

### **3. Scaling of Tribal Innovations**

To develop the skills, time to time CITS will conduct need based training programmes as well as consultative and advisory services to help members of tribal communities build internal competitiveness, enhance capacity and sharpen competencies. It will catalyze excellence, innovation; employability and self sustainability thereby march towards achieving sustainable development goals. Links would be builds between innovator and entrepreneurs. Local innovation database will be maintained by the center.

Hon'ble Prime Minister has launched 'Skilling India' as a multi-skill development programme on mission mode for job creation and entrepreneurship for all socio-economic classes. Keeping this vision in mind, the Government of India has established a Ministry of Skill Development & Entrepreneurship for Skill Development and Entrepreneurship, to act as a nodal point for all initiatives on skill development in India by the various ministries/departments. The center will support the mission through organizing training and workshops and intra and inter- sectoral coordination.