

Annexure - VI

	Project 1 Early life and environment: Evidence from Indian Precambrian basins Coordinator: Mukund Sharma Co-Coordinator: Veeru Kant Singh Technical Support: Archana Sonker	
Component No.	Component Title	Personnel
Component 1.1	Palaeobiological remains of the Vindhya and their significance in understanding the Meso-Neoproterozoic biosphere evolution.	Mukund Sharma (Scientist G) Veeru Kant Singh (Scientist D) S.K. Pandey (Scientist C) Arif H. Ansari (Scientist C) Yogmaya Shukla (Scientist B)
Component 1.2	Molecular oxygen dynamics and their possible role in evolution and diversification of Mesoproterozoic eukaryotes: A case study from the Black Shales of the Proterozoic Chhattisgarh Supergroup, India.	Veeru Kant Singh (Scientist D) Mukund Sharma (Scientist G) Arif H. Ansari (Scientist C) Shamim Ahmed (BSRA)
Component 1.3	Palaeobiological and geochemical investigation of the Neoproterozoic Bhandar Group, central and western India.	S.K. Pandey (Scientist C) Mukund Sharma (Scientist G) Arif H. Ansari (Scientist C)
Component 1.4	Signatures of early life: Evidence from Archaean sediments of India and implication for Astrobiological studies.	Yogmaya Shukla (Scientist B) Mukund Sharma (Scientist G)
Component 1.5	Evolution of marine trace metal and carbon inventory during the Precambrian: implications on ocean-atmosphere evolution.	Gurumurthy G.P. (Scientist B) Arvind K. Singh (Scientist B) Niteshkumar N. Khonde (Scientist B) Mohd. Arif (Scientist B)
	Project 2 Emergence, biotic crisis, adaptation and radiation of life forms during Paleozoic and Mesozoic: An integrated approach Coordinator: Amit K. Ghosh Co-Coordinator: Srikanta Murthy Technical Support: Shivalee Srivastava	
Component No.	Component Title	Personnels

Component 2.1	Floral diversity, vegetational and depositional history and their palaeoenvironmental implications inferred from the Permian sequence of the Son-Mahanadi Basin, India.	Anju Saxena (Scientist D) Srikanta Murthy (Scientist D)
Component 2.2	Floral evolution in Lower Gondwana sediments of South Rewa and Satpura Gondwana basins, Madhya Pradesh: Basinal correlation and implications in biostratigraphy, palaeoecology and phytogeography.	Deepa Agnihotri (Scientist C) S. Suresh Kumar Pillai (Scientist D)
Component 2.3	Palaeofloral and biomarker analyses to reconstruct the Lower Gondwana palaeoenvironment and palaeoclimate of Rajmahal and Damodar basins.	S. Suresh Kumar Pillai (Scientist D) Runcie Paul Mathews (Scientist C) Srikanta Murthy (Scientist D)
Component 2.4	Palynostratigraphy, Palaeoenvironment and evidence of Palaeo-wildfire from late Palaeozoic of Rajmahal and Damodar basins.	Srikanta Murthy (Scientist D) Anju Saxena (Scientist D) S. Suresh Kumar Pillai (Scientist D) Saurabh Gautam (BSRA)
Component 2.5	Palynostratigraphy and Palaeo-environmental studies of the late Permian sediments of the Godavari Basin.	Neha Aggarwal (Scientist C) Biswajeet Thakur (Scientist D)
Component 2.6	Palynological studies in the late Palaeozoic sequence of Maharashtra State, central India: its global implications.	Pauline Sabina K. (Scientist D) Gurumurthy G.P. (Scientist B)
Component 2.7	Biotic and climatic changes across Permian-Triassic sequences in Peninsular India.	Amit K. Ghosh (Scientist F) Ratan Kar (Scientist E)
Component 2.8	OAEs (Oceanic Anoxic Events) studies based on calcareous nannofossils, sedimentary organic matter, geochemical and isotopic characterization of Mesozoic sediments from the Kachchh Basin and Spiti Valley.	Abha Singh (Scientist C) Poonam Verma (Scientist D) Rajesh Agnihotri (Scientist E) Shailesh Agrawal (Scientist C)

Component 2.9	Early Cretaceous Palaeofloristics of South Rewa Gondwana Basin: Its Phytogeographical and Palaeoecological implications.	Neeru Prakash (Scientist F) Neelam (Scientist C)
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Project 3 Palaeobiogeography, biotic and climatic events, characterization of biomarker in the terminal Cretaceous-early Palaeogene sequences of India Coordinator: Vandana Prasad Co-Coordinator: Anupam Sharma Technical Support: Archana Sonker		
Component No.	Component Title	Personnel
Component 3.1	Integrative palynological, magneto-stratigraphic, and sedimentological studies of selected Deccan volcano-sedimentary sections of Peninsular India: implications for age, palaeoclimate, palaeobiogeography and evolutionary history of infra- and intertrappean biotas.	Mohd. Arif (Scientist B) Vandana Prasad (Scientist F) Arvind K. Singh (Scientist B) Vivesh Vir Kapur (Scientist C) Shreya Mishra (BSRA - On joining)
Component 3.2	Biostratigraphy and palaeoclimate of early Palaeogene lignite bearing sequences of Rajasthan and coal bearing sequences of Meghalaya using integrated biotic and abiotic approaches.	Vandana Prasad (Scientist F) Anupam Sharma (Scientist F) Manoj M.C. (Scientist C)
Component 3.3	Geological and climatic evolution of Palaeogene sequence of Jaisalmer and Barmer basins, Rajasthan, India based on geochemical and sedimentological studies.	Arvind K. Singh (Scientist B) Gurumurthy G.P. (Scientist B) Mohd. Arif (Scientist B)
Component 3.4	Reconstruction of Palaeogene palaeoenvironment and palaeobiogeography of northwestern India based on plant mega-remains.	Anumeha Shukla (Scientist C)
Component 3.5	The Palaeogene climate and vegetation of Assam and Meghalaya based on plant mega-remains – A quantitative approach.	Gaurav Srivastava (Scientist C)

Component 3.6	Integrated biostratigraphy of Cenozoic succession of Gujarat, India: implications on palaeoenvironmental and palaeoclimatic reconstruction.	Poonam Verma (Scientist D) Abha Singh (Scientist C)
Component 3.7	Organic composition and source rock characteristics and their relationship with the depositional environments based on organic petrographical and geochemical aspects from Birsingser and Jalipa lignite bearing sequences, Rajasthan.	Runcie Paul Mathews (Scientist C)
Component 3.8	Analysis of amber biota from early Palaeogene sedimentary sequence of Gujarat and Rajasthan basins: biostratigraphic, palaeoclimatic and palaeoecological perspectives.	Hukam Singh (Scientist D)
Component 3.9	Palaeogene fauna from central and western India: palaeobiogeographic and allied aspects.	Vivesh Vir Kapur (Scientist C) Prasanna K. (Scientist B)

Project 4 Understanding monsoonal variability and its relationship with global climate during the Neogene using biotic and abiotic proxies

Coordinator: Binita Phartiyal
Co-Coordinator: Amit K. Ghosh
Technical Support: Prashanta Kumar Das, Shivalee Srivastava

Component No.	Component Title	Personnel
Component 4.1	Monsoon evolution based on the study of Neogene sequence of NW Himalaya.	Sajid Ali (Scientist B) Mohd. Arif (Scientist B) Binita Phartiyal (Scientist E)
Component 4.2	Reconstruction and comparison of monsoon seasonality during the Miocene from Kutch and Quilon.	Prasanna K. (Scientist B) Vivesh Vir Kapur (Scientist C)
Component 4.3	Miocene terrestrial biota from the NW Himalaya and Kutch, India: Biostratigraphy and palaeobio-geographic implications.	Ansuya Bhandari (Scientist B)
Component 4.4	Reconstruction of Neogene palaeoclimate and palaeoceanography of Andaman and Nicobar Basin: evidence from micropalaeontology and geochemical analyses.	Amit K. Ghosh (Scientist F) Arindam Chakraborty (BSRA)

Project 5 Vegetation dynamics and palaeoclimate of late Quaternary sequences of Himalayan region.

Coordinator: Ratan Kar
Co-Coordinator: S.K. Basumatary

Technical Support: Rajaram Verma		
Component No.	Component Title	Personnel
Component 5.1	Holocene climatic history of the Lahaul Valley with special reference to anthropogenic impact on high-altitude vegetation.	Ratan Kar (Scientist E)
Component 5.2	Exploring the Holocene climate variability over the eastern Himalaya, India using modern vegetation - climate relationships.	Ruby Ghosh (Scientist D) Shailesh Agrawal (Scientist C)
Component 5.3	Vegetational succession in response to the Holocene climate variability in Sirmaur and Bilaspur districts, Himachal Pradesh.	Anjali Trivedi (Scientist D)
Component 5.4	Tree-Ring based climate reconstruction of the Eastern Himalaya: A spatio-temporal perspective of multi-decadal variability.	Santosh K. Shah (Scientist D)
Component 5.5	Tree-Ring based late Holocene climate records and ecological response of trees from Western Himalaya, India.	Krishna Gopal Misra (Scientist D) Rajesh Agnihotri (Scientist E)
Component 5.6	Altitudinal variation in vegetation in relation to climate during Holocene in Meghalaya.	S.K. Basumatary (Scientist D)
Component 5.7	Response of vegetation to the Holocene climatic changes and anthropogenic induced changes across Barak Valley of Assam, northeast India.	Swati Tripathi (Scientist C)
Component 5.8	Analyzing the Holocene vegetation and monsoonal dynamics of the Western Himalaya, based on lacustrine and tree ring archives.	P.S. Ranhotra (Scientist D) Ruby Ghosh (Scientist D) Mayank Shekhar (BSRA)

Project 6 Monsoonal variability and climate change during late Quaternary in Peninsular India inferred from palaeovegetation		
Coordinator: Anjum Farooqui		
Co-Coordinator: Biswajeet Thakur		
Technical Support: Rajaram Verma		
Component No.	Component Title	Personnel
Component 6.1	Indian Summer Monsoon variation during the Holocene from the central Indian Core Monsoon Zone: Pollen-based vegetation dynamics and associated climate change.	Md. Firoze Quamar (Scientist C)
Component 6.2	Mangrove dynamics in response to climate and relative sea level changes from northeastern part of the Mahanadi Delta during Holocene.	Shilpa Pandey (Scientist C) Kamlesh Kumar (Scientist C)

Component 6.3	Monsoonal variation of late Quaternary from sedimentary records of southern India: a palynological study.	Anjum Farooqui (Scientist F) Rupa Ghosh (BSRA)
Component 6.4	Reconstruction of late Quaternary climate from the floral records of Kanara region, SW Coast of India.	Jyoti Srivastava (Scientist C) Manoj M.C. (Scientist C)
Component 6.5	Climatic history recorded in southwest coast of India: a multiproxy approach.	Biswajeet Thakur (Scientist D) Abhijit Mazumder (Scientist D) Manoj M.C. (Scientist C)

Project 7 Late Quaternary Palaeoclimate and palaeoenographic variability from marine records

Coordinator: Pawan Govil
Co-Coordinator: Vartika Singh
Technical Support: Rajaram Verma

Component No.	Component Title	Personnel
Component 7.1	Reconstruction of monsoon - climate induced changes in surface and subsurface oceanic conditions of western Bay of Bengal since LGM based on foraminifera and their geochemical signatures.	Pawan Govil (Scientist D) Abhijit Mazumder (Scientist D)
Component 7.2	Investigating Oxygen Minimum Zone variability in the northeastern Arabian Sea using benthic foraminiferal records.	Abhijit Mazumder (Scientist D) Pawan Govil (Scientist D)
Component 7.3	Reconstructing the Southern Ocean climate variability during the late Quaternary using diatoms.	Sunil Kumar Shukla (Scientist C)
Component 7.4	Study of late Quaternary climate and sea level changes of the Polar regions using integrated multiproxy data.	Vartika Singh (Scientist D)

Project 8 Holocene monsoonal variability and its associated forcing factors inferred from abiotic proxies

Coordinator: Anupam Sharma
Co-Coordinator: Binita Phartiyal
Technical Support: Jitendra Yadav

Component No.	Component Title	Personnel
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Component 8.1	Holocene climatic variations in Tethyan and Trans Himalayas with reference to local, regional and global forcings: a multiproxy approach.	Binita Phartiyal (Scientist E) Anupam Sharma (Scientist F) Debrati Nag (BSRA)
Component 8.2	Glacier response to Holocene ISM and NEWM variability from higher Himalaya, Sikkim: Understanding the driving mechanism.	Sheikh Nawaz Ali (Scientist C) P. Morthekai (Scientist C)
Component 8.3	Compilation and quantification of climate proxy datasets of western India during Holocene.	Trina Bose (Scientist B) Binita Phartiyal (Scientist E)
Component 8.4	Indian Summer Monsoon (ISM) variability during Holocene, evidence from Mahi River Basin, mainland Gujarat, India: using multiproxy studies.	Kamlesh Kumar (Scientist C) Shilpa Pandey (Scientist C)
Component 8.5	Ascertaining cause(s) for abandonment of Korkai and Kayal ports in the southeastern coast of India.	P. Morthekai (Scientist C) Sheikh Nawaz Ali (Scientist C)
Component 8.6	Holocene sedimentation and associated palaeoenvironmental changes in western Great Rann of Kachchh (GRK) Basin, western India.	Niteshkumar N. Khonde (Scientist B) Gurumurthy G.P. (Scientist B)
Component 8.7	Indian summer monsoon rainfall (ISMR) variability during the Holocene: stable carbon isotope based transfer-function approach.	Shailesh Agrawal (Scientist C) Sheikh Nawaz Ali (Scientist C)

Project 9 Archaeobiology, Archaeochemistry, Palaeogenomics/metagenomics: Implications to human environment interaction during the Holocene

Coordinator: Rajesh Agnihotri
Co-Coordinator: Anil K. Pokharia
Technical Support: Nandita Tiwari

Component No.	Component Title	Personnel
Component 9.1	Palaeoethnobotany: Ancient man, plants and environment in northern and north western India: studies of botanical remains from the Neolithic-Chalcolithic site at Agaibir, Mirzapur District, Uttar Pradesh.	Anil K. Pokharia (Scientist E) Anjali Trivedi (Scientist D) Deepika Tripathi (BSRA)
Component 9.2	Reconstructing past agronomic conditions, crop evolution, craft culture, domestic and industrial human activities using multi isotopic and geochemical tracers from archaeological material.	Rajesh Agnihotri (Scientist E) Anjum Farooqui (Scientist F) Niraj Rai (Scientist C)

		Niteshkumar N. Khonde (Scientist B)
Component 9.3	Reconstructing the population history of South Asia using palaeogenomics.	Niraj Rai (Scientist C) Kamlesh Singh Mahar (BSRA)
Component 9.4	Role of human-environment interaction in tracing urbanization in different sectors of Ganga Plain: geochemical and metagenomics approach.	Anupam Sharma (Scientist F) Kamlesh Kumar (Scientist C) Niraj Rai (Scientist C) Sandhya Mishra (BSRA)

Project 10 Laboratory establishment and protocol development for new proxy parameters and smooth functioning of sophisticated analytical facilities		
Coordinator: Director		
Co-Coordinator: Anupam Sharma		
Technical Support: Jitendra Yadav		
Component No.	Component Title	Personnel
Component 10.1	Palaeotemperature reconstruction- Alkenone and foraminifera elemental ratio approach.	Manoj M.C. (Scientist C) Pawan Govil (Scientist D)
Component 10.2	Luminescence chronology for the dose-rate assumptions violated sites.	P. Mortheikai (Scientist C) Sheikh Nawaz Ali (Scientist C)
Component 10.3	Establishment of Laboratory to extract and analyse Tree-Ring cellulose isotope data.	Trina Bose (Scientist B) Krishna Gopal Mishra (Scientist D)
Component 10.4	Protocols development (R&D) for new proxy parameters, up-gradation and functioning of TL/OSL and Geochemistry lab.	Anupam Sharma (Scientist F) Pawan Govil (Scientist D) Shailesh Agrawal (Scientist C) Kamlesh Kumar (Scientist C) Sheikh Nawaz Ali (Scientist C) P. Mortheikai (Scientist C) Manoj M.C. (Scientist C) Runcie Paul Mathews (Scientist C)
Component 10.5	Upgradation and smooth functioning of BSIP's Radiocarbon dating facility along	Rajesh Agnihotri (Scientist E)

	with stable isotope measurement facility: Research and Development.	
Component 10.6	Establishment of Palaeo-Informatics Unit & Digitization of fossils displayed in BSIP Museum.	Amit K. Ghosh (Scientist F) Sanjai K. Singh (Tech. Officer B) Nilay Govind (Tech. Assistant E)

All Scientists, BSRAs/BSRSs are required to use new project and component numbers and titles (if applicable) and get their scientific and administrative correspondence forwarded through their respective project coordinators/Co-coordinators.