Tectonostratigraphic Terranes of the Bundelkhand Craton (Indian Shield)

Vinod K. Singh, A. I. Slabunov, N. S. Nesterova, M. M. Singh, and S. C. Bhatt

Abstract

The geological, geochronological, and isotopic geochemistry investigations complied with magnetotelluric sounding geophysical deep crustal structure compose three tectonic divisions, i.e., the Northern, Central, and Southern Bundelkhand terranes of the craton. The Central terrane comprises Paleo- and Neo-archean tonalite–trondhjemite–granodiorite (TTG), greenstone sequences (ultrabasic-basic, felsic volcanites, Banded Iron Formation (BIF)), and Neoarchean granodiorite-granite series considers it as a granite-greenstone terrane. The Northern terrane location north to the granite-greenstone terrane, mostly consists of Neoarchean potassic granitoids with the visible role of sanukitoids, monzogranites, and granodiorites (TTG), while the Southern terrane consists of mostly Neoarchean potassic granitoids with a minor amount of schist complex, sanukitoids, TTG, and mafic–ultramafic layered and mafic intrusion.

Keywords

Tectonostratigraphic terrane • Bundelkhand Craton • Central Bundelkhand terrane • Northern Bundelkhand terrane • Southern Bundelkhand terrane • Indian Shield

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1 Introduction

A terrane (or tectonostratigraphic terrane) is a block of Earth crust or fragment that preserves a distinctive geologic history that is different from the surrounding areas and that is usually bounded by faults/shears. Terrane analysis was developed for geodynamic reconstructions of Phanerozoic fold belts (Howell et al. 1985; Parfenov et al. 1993), but it also has been applied to the Precambrian (Slabunov et al. 2006). The algorithm of this study comprises: (1) identification of terranes, (2) the study of their formation, (3) comparison of the evolution of various terranes, and (4) the use of the data thus obtained for constructing a geodynamic model showing the evolution of the structure studied. Thus, identifying terranes is an important stage in studies aiming at geodynamic reconstructions.

The Bundelkhand Craton is a protocontinent situated in the center of the Indian shield, previously considered as a big granite massif consisting of 80–90% K-rich granites (Fig. 1; Basu 1986; Ramakrishnan and Vaidyanadhan 2010). Identified in the central portion of the craton is the Bundelkhand Tectonic Zone (BTZ), which cuts it into two blocks (Malviya et al. 2006; Jain et al. 2020). This craton has considered uniquely with similar structurally geological formations with other Indian cratons (Singh and Slabunov 2015a) than it was assumed before, where Neoarchean K-rich granitoids are dominantly occurring. Recently, new data suggest Paleo- and Neo-archean (3.6–3.2 Ga and 2.67 Ga) granitoids of tonalite-trondhjemite granodiorite (TTG) association (Mondal et al. 2002; Verma et al. 2016; Kaur et al. 2016; Singh et al. 2021), Paleoarchean (∼3.44 Ga) mafic-ultramafic volcanic rocks (Singh et al. 2019a), Neoarchean (2.54–2.52 Ga) sanukitoids (Joshi et al. 2017; Singh et al. 2019b), Archean layered igneous intrusive (Slabunov et al. 2018) as well as greenstone complexes (Singh and Slabunov 2015a; Slabunov and Singh 2019a and references therein) exist in the Bundelkhand Craton. These Archean complexes are generally crosscut by several generations of Proterozoic

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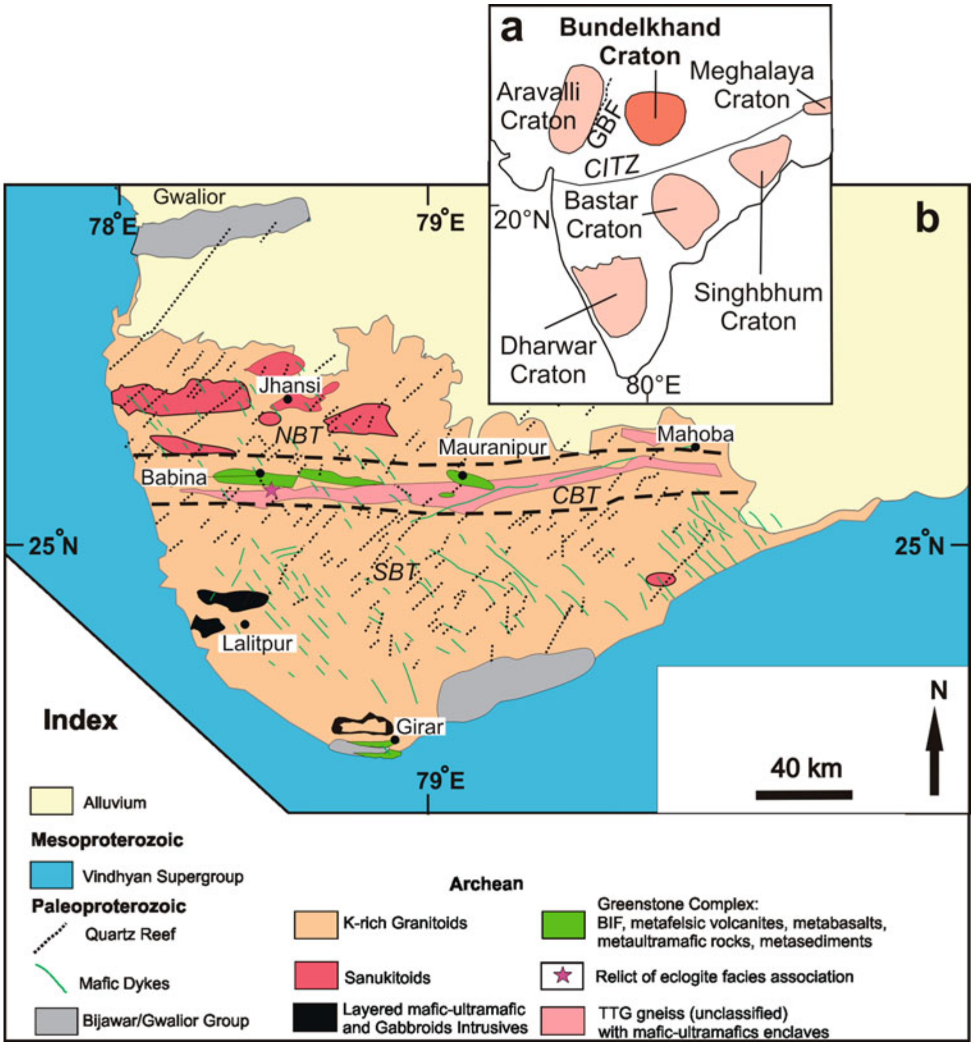

Fig. 1 **a** Shows the cratonic blocks of the Indian Shield (Ramakrishnan and Vaidyanadhan 2010), CITZ—Central Indian Tectonic Zone, GBF—Great Boundary Fault; **b** general geological map of the Bundelkhand Craton (modified after Basu 1986; Saha et al. 2011; Joshi et al. 2017; Slabunov and Singh 2019a; Singh et al. 2020, 2021). NBT, CBT and SBT—Nothern-, Central- and Southern-Bundelkhand terranes (Slabunov and Singh 2019b).

dykes (Pati et al. 2008; Pradhan et al. 2012) and giant quartz veins (Pati et al. 2007; Slabunov et al. 2017a). It forms a thick craton and the many multiple tectonic events that it contains are not well preserved, either because the evidence for them has been eroded or because the deformation is partitioned into narrow zones. Consequently, no attempts have been made previously to describe the structural feature and tectonic evolution of the ancient crust due to restrictions by Neoarchean granites.

The goal of the present paper is to discuss the available options of the tectonic division of the Bundelkhand Craton, to assess the validity of identification of terranes, and to test available geodynamic models.

2 Regional Geology

The Indian shield constitutes several segments of Archean cratons, i.e., Bundelkhand, Aravalli, Dharwar, Bastar, and Singhbhum Cratons (Fig. 1a). The ENE–WSW trending Central Indian Tectonic Zone (CITZ) or Narmada Son Lineament is a major lineament, which separates the Dharwar, Bastar, Singhbhum Cratons as a southern block (Basu 1986; Ramakrishnan and Vaidyanadhan 2010). The northern block constitutes Aravalli and Bundelkhand Cratons are also divided by NE–SW trending Great Boundary Fault into west as Aravalli and Bundelkhand Craton to the east respectively (Basu 1986; Mondal et al. 2002; Ramakrishnan and Vaidyanadhan 2010; Verma et al. 2016; Kaur et al. 2016).

The Bundelkhand Craton occurs in a semicircular shape of an area of about 29,000 km^2 mostly constitute acid granitoid complex, lesser amount of meta-sedimentary, meta-basics, with greenschist-amphibolite grade metamorphism of the older crust (Fig. 1b). However, craton also preserved the oldest Paleoarchean TTG crustal nuclei of the Indian shield (Kaur et al. 2014; Saha et al. 2016). There are two Archean supracrustal complexes in the Bundelkhand Craton, i.e., Central Bundelkhand greenstone and South Bundelkhand metasedimentary (schist) complexes (Malviya et al. 2006; Singh and Slabunov 2013, 2015a, b, 2016; Slabunov and

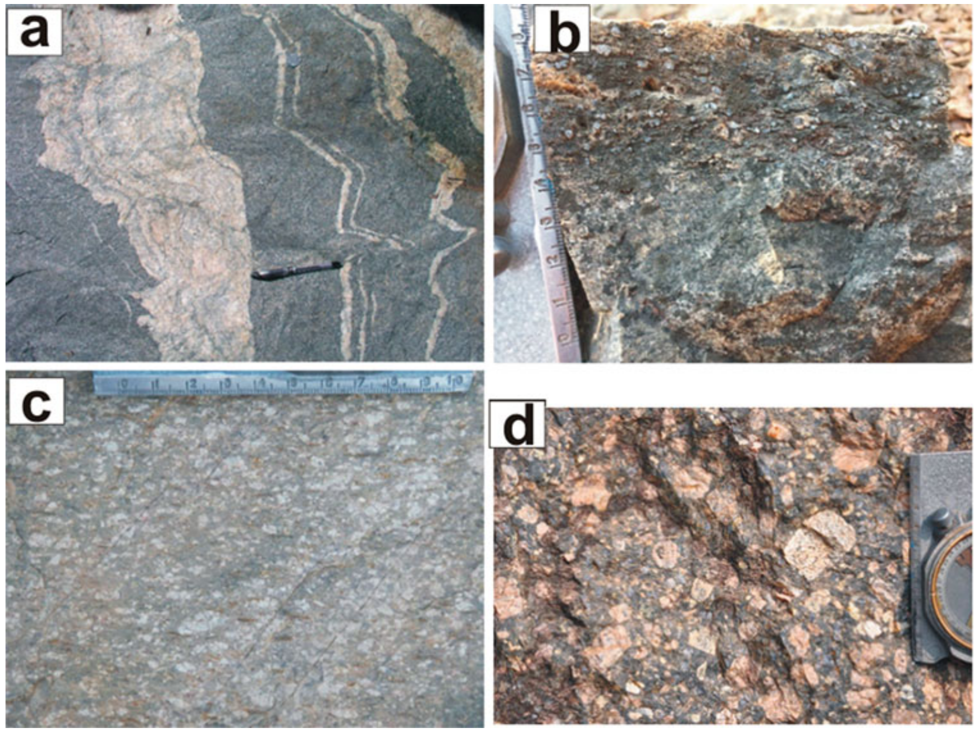

Fig. 2 Field occurrence of rock types in the Central Bundelkhand terrane. **a** Paleoarchean TTG (Babina); **b** Mesoarchean felsic amygdolitic volcanite (Mauranipur), **c** Neoarchean felsic volcanics (Babina); **d** Neoarchean post-tectonic porphyritic granite (Babina), (pen —14 cm and compass scale— 10 cm)

Singh 2019a; Sibelev et al. 2021). Central Bundelkhand greenstone complex includes Paleo/Mesoarchean metabasites, BIF, and two generations of Meso- and Neo-archean felsic volcanites (Fig. 2). There are also 2.67 Ga TTG (consist of mostly granodiorites), 2.56–2.54 Ga sanukitoids and monzogranites, 2.53–2.52 Ga plagioclase–orthoclase granites, which are more widespread in the craton (Verma et al. 2016; Joshi et al. 2017; Singh et al. 2021).

The important post-Archean features of the craton are characterized by NW–SE trending mafic dyke swarms and NE–SW to NNE–SSW trending giant quartz reef. The NW–SE trending mafic dyke swarms occurs around >50 km long discontinuous exposures. Geochemical characteristics of these dykes indicating the involvement of mantle sources followed by fractional crystallization of magma with low Ti–tholeiite, while some studies suggested two phases of mafic magmatic events in the craton (Basu 1986; Mondal and Ahmad 2001; Rao et al. 2005; Pati et al. 2008; Pradhan et al. 2012; Radhakrishna et al. 2013). Samom et al. (2017) estimated a mineral–whole-rock Sm–Nd isochron age ~2.1 Ga for Gwalior basin mafic magmatism at the northern periphery of the Bundelkhand Craton which occurs in an extensional intra-continental rift tectonic setting. Similar types of rocks also occur in the Bijawar basin at the Southern fringe of the craton and these rocks were dominated by sedimentary deposits during Paleoproterozoic (Absar et al. 2009, Colleps et al. 2021).

The quartz veins (reefs) have Paleoproterozoic (1.9–1.8 Ga) age and indicate that the Bundelkhand Craton was affected by one of the orogenic belts in Late Paleoproterozoic (Pati et al. 2007; Slabunov et al. 2017a). Neoarchean granitic magmatism, Paleoproterozoic dolerite emplacement, and hydrothermal quartz fluid make complex geology and envelop the entire craton. The boundaries of the craton to the east, west, and south parts are covered by the Mesoproterozoic Vindhyan basin. The Paleoproterozoic Bijawar and Gwalior groups of rocks cover marginal parts toward the SE and NW of the craton, respectively. While the Deccan trap basalts occur in small outcrops at the southwestern peripheral of the Bundelkhand Craton, the Gangetic alluvium covers the northern part of it (Basu 1986).

The available geochronological data encourage that the Archean granitoid rocks of Bundelkhand Craton can be broadly grouped as: (i) 3.5–3.2 Ga TTG (consisting tonalites, trondhjemites and granodiorites), (ii) 2.65–2.67 Ga TTG (consist mostly granodiorites), (iii) 2.56–2.54 Ga sanukitoids and monzogranites, and (iv) ca. 2.54–2.49 Ga anatectic granites. Granitoids of group 1 are concentrated in the central portion of the craton, but they are occasionally encountered in other blocks, while Neoarchean TTG has been reported only from the central portion. Neoarchean sanukitoids and monzogranites are concentrated mainly to the north of BTZ, but they are scarce to the south of this zone. Anatectic K-rich granites are distributed throughout the craton in a different manner: they predominate in all of its portions, but their fraction in the central portion is slightly smaller.

Important data on the crustal structure of the craton were provided by the results of magnetotelluric studies (Gokarn et al. 2013). The earth crust in the central portion of the craton is identified by relatively low resistivity and a thickness of about 60 km. This narrow crustal block is separated from neighboring blocks by well-defined boundaries, which can be interpreted as faults. The earth crust in the northern portion of the craton is understood as a homogeneous block with high resistivity and a thickness of 65–70 km. The earth crust of the southern portion of the craton is different from the two other portions. It displays a three-membered structure and is about 60 km thick.

Thus, Bundelkhand Craton granites and supracrustal complexes are distributed throughout the craton in a non-uniform fashion. Furthermore, the earth's crust in its portions is structurally different. Therefore, the craton can be subdivided into three terranes: Central, Northern, and Southern Bundelkhand terrane (Slabunov and Singh 2019b).

3 The Geology of Terranes of Bundelkhand Craton

3.1 The Central Bundelkhand Terrane

The Central Bundelkhand terrane composed of mainly granite–greenstone complex, occur in Babina-Mauranipur-Mahoba area (Fig. 1b; Mondal et al. 2002; Saha et al. 2011, 2016; Singh and Singh 2011; Singh and Slabunov 2015a; Kaur et al. 2016; Verma et al. 2016; Slabunov and Singh 2019a; Singh et al. 2021). They include Paleo-Neoarchean TTGs, (Fig. 2a), greenstone rocks, and Neoarchean granodiorite-granite suite. The greenstone rocks occur mostly in the Babina and Mauranipur belts, with an E–W strike direction arise as Bundelkhand Suture/Tectonic Zone (Gokarn et al. 2013; Malviya et al. 2006). These belts composed of Paleoarchean sequence of mafic to ultramafic metavolcanics (Singh et al. 2019a), Mesoarchean felsic volcanics (Fig. 2b), which are found as tectonic slices in the Mauranipur belt (Slabunov and Singh 2019a), metasedimentary rocks (BIFs), and Neoarchean felsic volcanics (lava (Fig. 2c) and dykes) (Singh and Slabunov 2015a, 2016; Slabunov and Singh 2019a). Neoarchean (2542 ± 17 Ma) felsic volcanics (lava) in the Babina belt have Sm–Nd model age of 3.14 Ga, which means that these rocks are contaminated with pre-existing older crust (Singh and Slabunov 2015a). The 2557 ± 33 Ma felsic volcanics (dykes) in the Mauranipur belt (Slabunov and Singh 2017, 2019a) also show their mixing with Mesoarchean rocks as have inherent zircons there. Neoarchean porphyritic granites (Fig. 2d) and anatectic granites cut TTG and greenstone belts and common forms of big massifs (Singh and Slabunov 2015a; Slabunov et al. 2020). The Central terrane is separated from neighboring terranes through crustal faults/shear zones diagnosed on a magnetotelluric profile (Gokarn et al. 2013). The E-W trending Central-Bundelkhand terrane is traced through the entire craton at a width of up to 20 km (Fig. 1b). The Sm–Nd model ages of granitoids from the *Central Bundelkhand terrane* exhibit variations from ca. 2600 to 3600 Ma, and ε_{Nd} values range from −7 to +5 (Nesterova et al. 2019). This indicated that the terrane contains rocks varying in age from Paleoarchean to Neoarchean.

3.2 The Northen Bundelkhand Terrane

The Northern Bundelkhand terrane is located north of the Central Bundelkhand terrane, which mostly consists of granodiorite-granite series, with visible role of sanukitoids (Fig. 3a–c) (Joshi et al. 2017), monzogranites. There are mostly 2560–2540 Ma sanukitoids massifs situated in this part of the terrane (Joshi et al. 2017). The massifs of porphyritic trachydacite-rhyolites (micromonzonite- granite) occur as subvolcanic nature in the field (Fig. 3b). The andesitic nature of rocks is to be found in Sakrar-Nivari area in association with the porphyritic granite (Singh et al. 2020). There are some exposures of deformed amphibolites near Sakrar-Nivari area in granodioritic and sanukitoid rocks which are cut by K-rich granite confirm it as Archean mafic rocks (Fig. 3d). The vertical dipping fine-grained felsic rocks occur along with E-W shear zones. The granites were also emplaced along E-W to ENE-WSW trending strike-slip plane. The K-rich Neoarchean granitoids (2.6–2.49 Ga) were intruded as granitic complex and subvertical E-W strike-slip crustal shears, reveal sinistral top to SW (left lateral) shear movement occurring at intermediate to shallow depth within intracratonic domains in northern terrane of Bundelkhand Craton (Bhatt and Singh 2019). Singh and Patil (2011) establish westward dipping magnetic lineation in K-rich granite, and the anisotropy of the magnetic susceptibility show general strike of magnetic foliation along N120°E with local variation, confirms the sub-horizontal to inclined strike-slip tectonism in northern terranes of the Bundelkhand Craton. The Sm–Nd model age of granitoids from this terrane varies from ca. 3100 to 3300 Ma, and ε_{Nd} values range from −7 to −2 (Nesterova et al. 2019), suggesting that Paleo- and Meso-archean predominate here in the protolith of the continental crust.

3.3 The Southern Bundelkhand Terrane

The Southern Bundelkhand terrane consists mostly of Neoarchean anatectic granites with minor volume of schist complex (Fig. 4a, b), TTG, sanukitoids, mafic–ultramafic layered (Fig. 4c), and gabbroids (Fig. 4d) intrusions. The Girar schist (metasedimentary) belt consists of two groups of rocks (Berwar Formation of the Mehroni Group; Pascoe

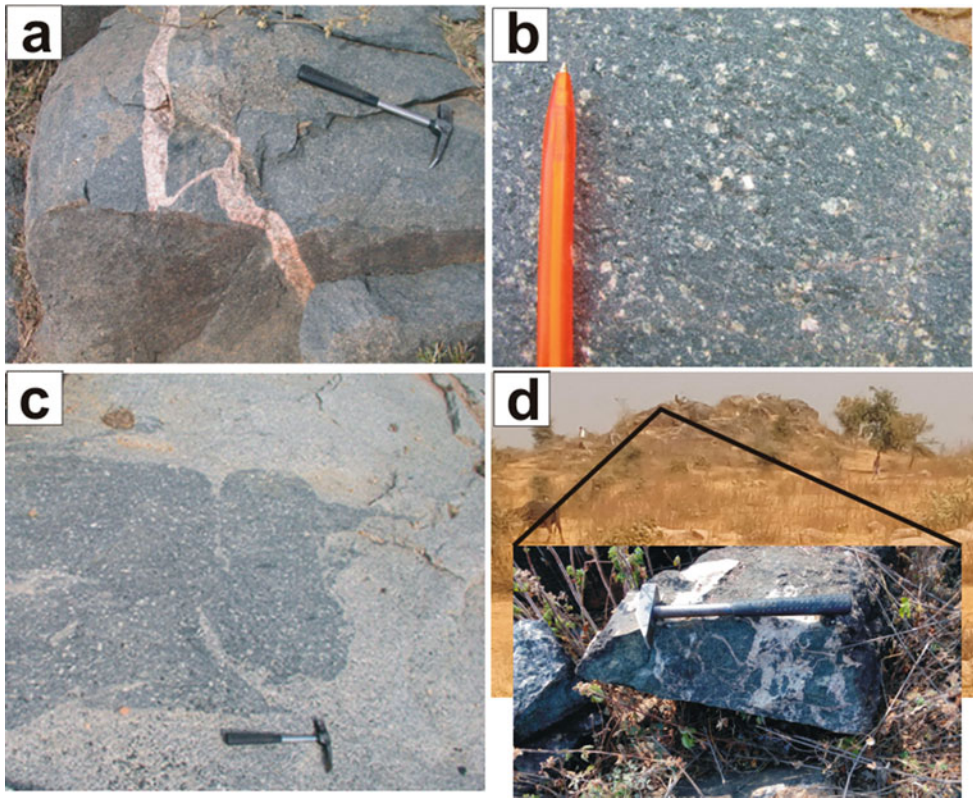

Fig. 3 Field occurrence of rock types in the Northern Bundelkhand terrane; **a** Sanukitoid granodiorite (Karera); **b** Subvolcanic sanukitoid (Nivari-Sakrar); **c** Mingling structure in granodiorite (Mahoba), (hammer 30 cm and pen—10 cm); **d** deformed amphibolites exposed near 5 km north of Nivari

1950): (i) quartzite (Fig. 4a), (ii) BIFs (Fig. 4b) and chlorite schist lenses near the quartzite/BIF boundary (Singh and Slabunov 2016; Slabunov et al. 2017b). Quartzites are represented by low-grade metamorphism of fuchsite- and hematite-bearing quartz arenite with thick meta-argillite (schist) laminae and lesser quartz pebble conglomerates (Singh and Slabunov 2016). BIF consists of thick-bedded quartz and hematite with magnetite. The quartzites of Girar schist (metasedimentary) belt consists of 3.43 and 3.25 Ga detrital zircons, indicating the existence of Paleoarchean granitoids (may be TTG) in the surrounding region (Slabunov et al. 2017b).

The Southern Bundelkhand terrane exposes a large intrusion, presumably a lopolith, known as the Ikauna complex (Farooqui and Singh 2010; Singh and Slabunov 2016; Slabunov et al. 2017b, 2018; Singh 2018). These mafic–ultramafic rocks lie among granitoids of Archean age, which apparently cut them, that determine the lower levels of their age as Archean. This intrusion indicates the influence of a mantle plume on the continental crust (Slabunov et al. 2018), but some scholars believe that it is an Alaska-type intrusion associated with subduction processes (Ramiz et al. 2019). Large-scale gabbroic rock and gabbro-diorite intrusions were identified near Lalitpur (Fig. 1b). The ~2.5 Ga granite has cross-cut to all rocks and indicates Archean age for other rocks. The Sm–Nd model age of granitoids varies from ca. 3100 to 4000 Ma, and ε_{Nd} values range from −15 to −2 in the Southern Bundelkhand terrane (Nesterova et al. 2019).

To identify the mineralogical composition, five samples of mafic–ultramafic rocks from Mauranipur greenstone belt (Central Bundelkhand terrane) and five samples of layered mafic–ultramafic and gabbroid rocks from Lalitpur region, Southern Bundelkhand terrane were collected and these samples were processed to X-ray diffraction analysis at the Innovative Centre of the Bundelkhand University, Jhansi, India. The phase formation of powder samples was confirmed by X-ray diffraction (XRD) technique using an X-ray powder diffractometer (Rigaku Corporation Japan, Smartlab 3 kW) with CuK α radiation (λ = 1.5405 Å) in slow scan in the 2θ range of 05–75°. Diffractograms were processed and mineral identification by using ICDD (pdf-2 release 2013) database. XRD analysis of selected rock samples is presented in Table 1 and diffractograms of two samples are shown in Figs. 5 and 6; signifying magmatic and post-magmatic minerals. It exhibits that the mafic–ultramafic rocks of Central terrane and layered mafic rocks of Southern terrane have different mineral phases.

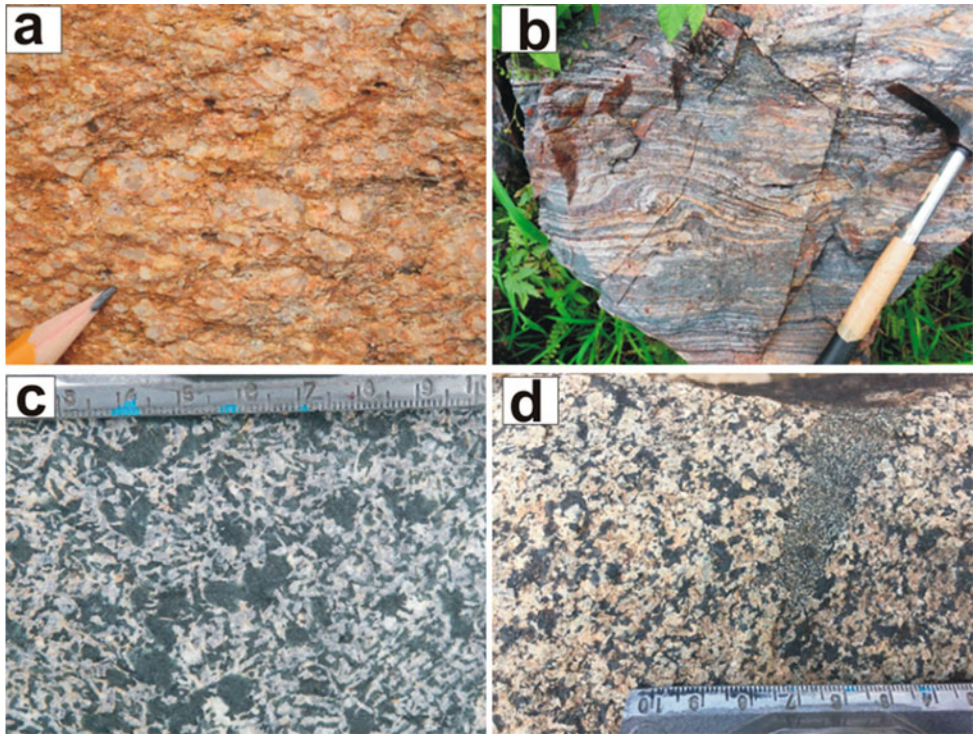

Fig. 4 Field occurrence of rock types in the Southern Bundelkhand terrane; **a** Archean quartzite (Girar); **b** Archean BIF (Girar); **c** Mesoarchean pegmatitic gabbro (Ikauna intrusive); **d** Gabbro-diorite with fine gabbro xenolith (Lalitpur), (pencil—2 cm, hammer 30 cm and compass scale—10 cm)

Table 1 Mineral identified by X-ray diffraction (XRD) method to mafic–ultramafic rocks (Sl. No. 1–5) from Mauranipur greenstone belt, Central Bundelkhand terrane and layered mafic–ultramafic and gabbroid rocks (Sl. No. 6–10) from Lalitpur region, Southern Bundelkhand terrane

Sl. No	Sample no	Mineral identified by XRD in increasing order of abundance
1	MX20-1	Albite, Mg-Hornblende, Richterite
2	MX20-2	Edenite, Mg-Hornblende, Albite, Ferropargasite
3	MX20-3	Edenite, Albite, Quartz, Actinolite Mg-Hornblende
4	MX20-5	Edenite, Albite, Fe- Actinolite, Microcline
5	MX20-11	Fe- Actinolite, Albite, Mg Arfvedsonite, Quartz
6	19–21	Chlorite, Anorthite, Muscovite/Sericite, Augite, Fe-Actinolite
7	19–22	Chlorite, Quartz, Albite, Diopside, Muscovite/Sericite
8	19–25	Chlorite, Anorthite, Diopside, Quartz, Muscovite/Sericite, Mg-Hornblende
9	20–41	Chlorite, Anorthite, Augite, Muscovite/Sericite, Mg-Hornblende
10	20–46	Quartz, Albite, Riebeckite, Richterite, Diopside, Muscovite/Sericite

4 Discussions and Conclusions

The Babina and Mauranipur greenstone belts are composed of mafic to ultramafic lava, felsic volcanics, metasedimentary rocks (BIFs) of Mesoarchean (ca 2.81 Ga) sequence and Neoarchean felsic volcanics (lava and dykes) which combine the Central Bundelkhand greenstone complex. It recognize as: (a) the early (i) basic-ultrabasic, (ii) felsic volcanics, (iii) BIF, and (b) the late-felsic volcanics (2.54 Ga) assemblages. The fragments of Paleoarchean (3.44 Ga) oceanic mafic–ultramafic rocks are also present in these belts (Singh et al. 2019a). Slabunov and Singh (2019a) infer the SHRIMP dating of zircons of felsic volcanics are 3242 ± 65 Ma (xenocrystic zircons), 2810 ± 13, and 2542 ± 17 Ma (magmatic zircon). The Mauranipur felsic volcanics (dykes, 2557 ± 33 Ma) also show their mixing with Mesoarchean rocks as evidence of inherent zircons therein (Slabunov and Singh 2019a). The Sm–Nd model age of 2.54 Ga felsic volcanics indicates the existence of the old crust of 3.14 Ga, which verifies its crustal contamination (Singh and Slabunov 2015a). The felsic volcanics (calc-alkaline dacite-rhyolites composition) and basic-ultrabasic assemblage formed in subduction geodynamic settings. The ages of zircons from metasomatic rocks from tectonic contact are 2687 ± 11 Ma and this is the age of early accretion events. Thus, the Central Bundelkhand greenstone complex states the collage which forms in subduction setting at ~2.83 and ~2.54 Ga,

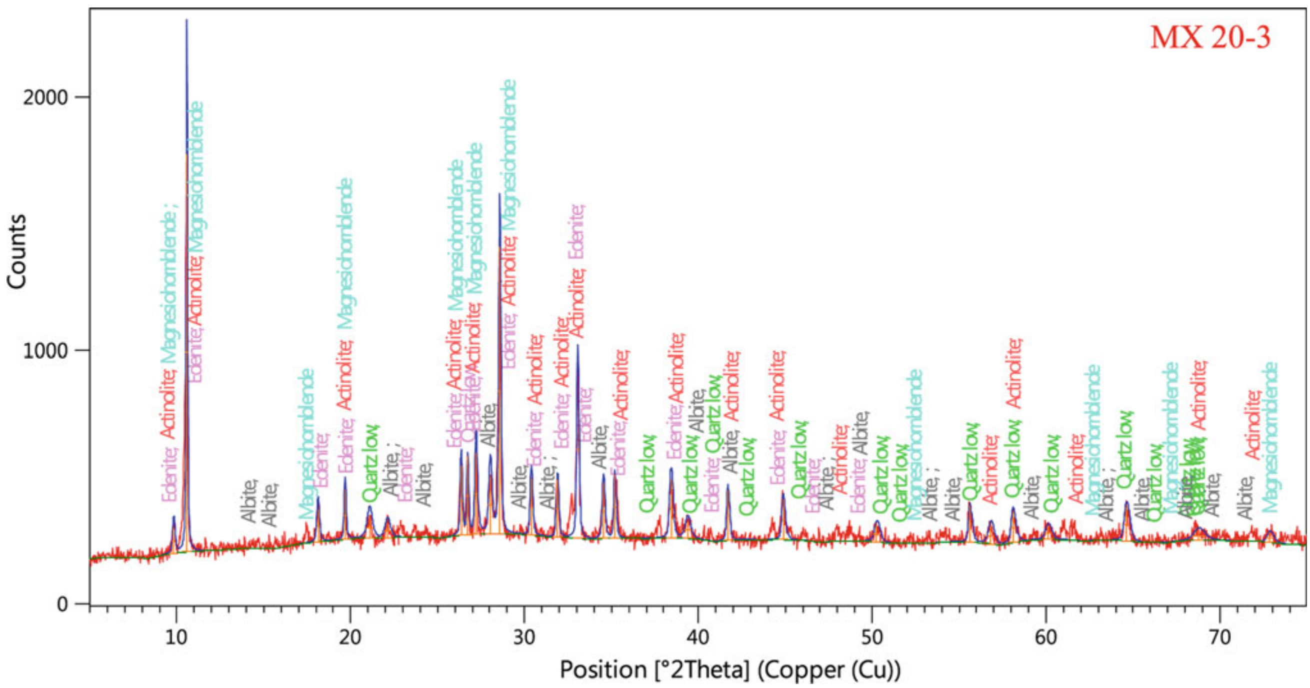

Fig. 5 X-RD analysis of deformed mafic–ultramafic sample (MX 20-3) near Kamla Sagar Dam, Kuraicha village, Mauranipur greenstone belt

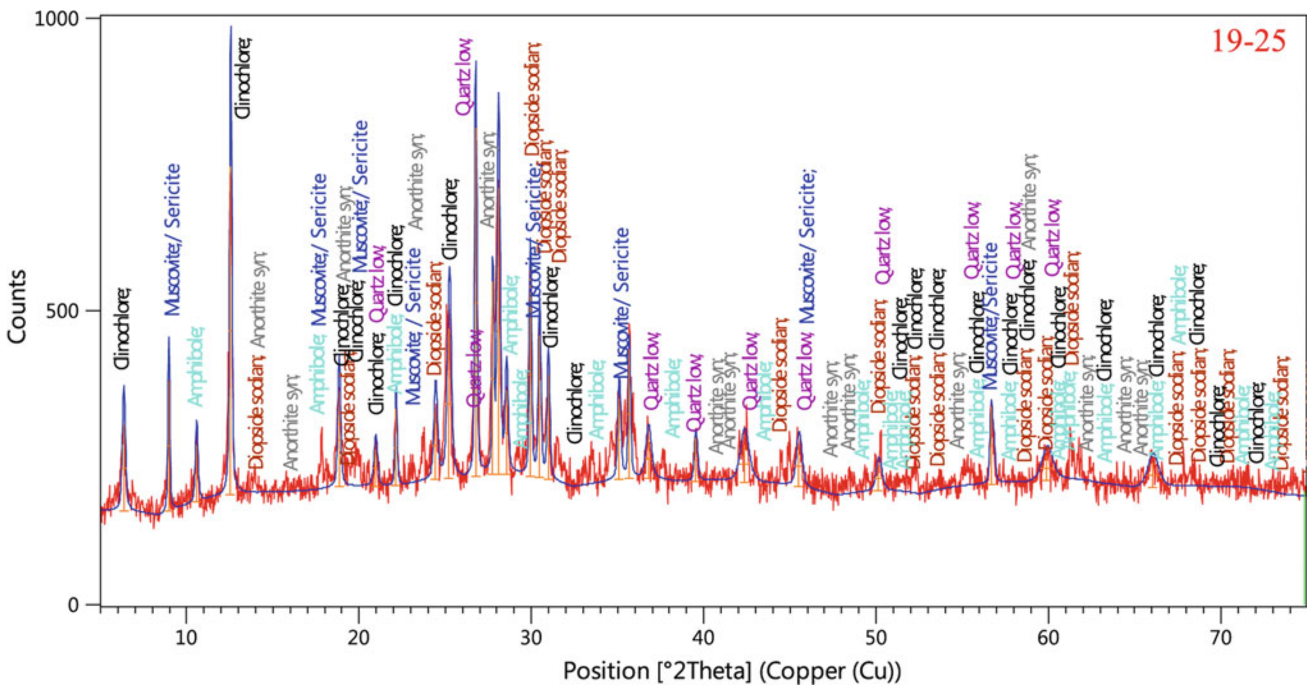

Fig. 6 X-RD analysis of layered mafic–ultramafic sample (19–25) near Jakhora, Lalitpur area in Southern Bundelkhand terrane

and accretion-collisional events during ~2.69 and ~2.51 Ga (Slabunov and Singh 2019b; Singh et al. 2020).

Granitoids (sanukitoids, granodiorites, and quartz monzonites) are more prominent in the Northern Bundelkhand terrane, which are exposed in north of the Central Bundelkhand granite–greenstone terrane. The sanukitoids massifs (2577–2560 Ma) are important components in northern terrane which occur as subvolcanic nature along with high-K granitic magmatism (Joshi et al. 2017; Singh et al. 2020). Around the Nivari Sakrar region, the deformed orthoamphibolite (metagabbro) bodies are accessible in this terrane. Magnetotelluric sounding has shown a homogeneous block with high crustal resistivity to a depth of 65–70 km (Gokarn et al. 2013) and has a well-defined boundary with the Central Bundelkhand terrane. Sm–Nd model age of granitoids from this terrane vary from ca. 3100 to 3300 Ma, and ε_{Nd} values range from −7 to −2 (Nesterova et al. 2019). This terrane consists mainly of Paleoarchean continental crustal rocks that made up the margin of a supersubduction slab in Neoarchean time. Numerous sanukitoid massifs formed in it at this stage under active continental margin conditions (Joshi et al. 2017; Joshi and Slabunov 2019; Slabunov and Singh 2019b; Singh et al. 2020). This terrane combined with Central and Southern terranes during accretion-collision processes in Neoarchean time.

The Southern Bundelkhand terrane consists mainly of Neoarchean K-rich granitoids with a small component of a schist complex, TTG, sanukitoids, and mafic–ultramafic layered intrusion. The Girar schist (metasedimentary) belt consists of two groups of rocks: (i) quartzite, (ii) BIFs, minor amount of dolomitic marble and chlorite schist lenses. The quartzite rocks consist of 3.43 and 3.25 Ga (detrital) zircons which are evident for the Paleoarchean granitoids (may be TTG) on this terrane. The mafic–ultramafic rocks occur as layered intrusive in this terrane too and well exposed around Lalitpur, Ikauna, and Madaura area due to mantle plume on the continental crust. It seems that the Girar metasedimentary belt was formed during this time. A low-gravity field in the central area of the Southern terrane (Gokarn et al. 2013) set by the thick deposit of K-rich granitoids; therefore, a thin upper layer, low resistivity in the intermediate zone, and thick lower unit with high resistivity zone depict in this region. The supracrustal metasedimentary rocks of quartzite formations (fuchsite- and hematite-bearing quartz arenite) and banded iron formations (BIF; thinly-bedded quartz–hematite (±magnetite) rocks) occur in the southern part. BIF is fairly rich in Cr and Ni, poor in Zr, Hf, Ba, Th, Sr, Yb, and Lu, and displays a distinct positive Eu-anomaly ($Eu/Eu^* = 1.14–2.46$; Singh and Slabunov 2016). Zircons from quartzite formations display two concordian U–Pb ages: 3432 ± 9.7 and 3252 ± 6.4 Ma. The Sm–Nd isotope study of quartzite shows that the T_{DM} is 3.29 Ga which well correlates and indicates that the continental crust began to form in the Paleoarchaean (3.4–3.2 Ga). In the Mesoarchean, the continental crust of the South Bundelkhand Craton was affected by a mantle plume. As a result, numerous gabbroic rock intrusions and a layered mafic–ultramafic intrusion formed. Furthermore, the same geodynamic factor was responsible for the formation of a sedimentary basin, in which, quartzites and BIF were deposited (Singh and Slabunov 2016; Slabunov et al. 2017b).

Therefore, it seems that the Bundelkhand Craton consists of three terranes: Central, Northern, and Southern Bundelkhand. This tectonic division is in good agreement with available geodynamic models showing the evolution of the craton. Each of the cratons displays its own Paleo-Mesoarchean evolution pattern. And it was not until the Neoarchean that they amalgamated during an accretion-collision event and became one crustal block, a craton.

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