

BIODATA OF CO-INVESTIGATOR

- 1 Name: **Dr Hari Singh Saini**
- 2.Father's Name: Late Bala Ram Saini
3. Date of Birth: 20.10.1954
- 4.. Nationality : Indian
5. Address: Flat no 404, Krishilok CGHS, Sector -45, Faridabad.121010
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8. FIELDS OF SPECIALISATION:

Geoenvironment, Palaeoclimatic Changes, Geohazards

9. EXPERIENCE: > 40 years

Scientific Administration and Research Guidance: 05 yrs;

Research: 30 yrs.

Teaching: 07 yrs.

10. Educational Qualifications.

	COURSE	SUBJECT	UNIVERSITY	YEAR OF PASSING	DIVISION
	D.PHIL	Geology	HNB Garhwal University	1990	
	M.SC	Geology	Kurukshetra University	1978	FIRST
	B.Sc	Geol, Zool, Bot, Eng	B.N.C, Uni , Kurukshetra	1976	FIRST

11.WORK EXPERIENCE : About 38 Years in Geological Survey of India and in Educational Institutions.

	ORGANISATION/INSTITUTE	FROM -TO	NATURE OF WORK	REMARKS
	GUEST FACULTY , MANAV RACHNA INT INTL RES AND EDUVCATION, FARIDABAD	OCT.2019- CONTINUING	TEACHING UG AND PG STUDENTS	

	GUEST FACULTY , R.L.ANAD COLLEGE, UNI DELHI.	AUG,2018 TO APRIL,2019	TEACHING GEOLOGY TO UG	
1	Professor of Geology in School of Civil Engg in Lingayas Vidyapeeth, Faridabad	01.02.2017 To 31.07.2018	Teaching to UG& PG classes and l administration.	Collaborative Research In paleoclimate and natural hazards with Delhi University
2	Professor of Geology in Deptt of Civil Engg in Rawal Institute of Engineering and Technology	1.02. 2015 to 31.01.2017	Teaching to UG& PG and school administration	Collaborative Research In paleoclimate and natural hazards
3	Director in Geological Survey of India, Faridabad	29.05.2010 to 31.10.22014	Guidance & supervision of Earth Science research projects in Ladakh, Thar desert and Indogangetic plains	Superannuated on 31.10.2017
4	Suptd. Geologist in Geological Survey of India, Faridabad	05.04.2010-29.04.2010		
5	Sr. Geologist in Geological Survey of India, Faridabad	18.02.1998-05.04.2010	Research in Geoenviornment, natural hazards, flooding and palaeomonsoon	Establishment of TL/OSL Lab, Geoenviornemental assesment of Faridabad, Gurgaon, Hissar, Sirsa Ferozpur districts.
6	Geologist in Geological Survey of India, Srinagar, Chandigarh, Shillong and Faridabad	16.12.1980 to 18.02.1998	Geological, geoenvironmental and hazard mapping in Ladakh, Indogangetic pains and Thar desert	Joined through UPSC Batch of Geologist Exam 2017. Carried out
7	Lecturer in Geology, Govt College Narnaul	01/1979-06/1979 & 10/1980-12/1980	Teaching to Graduate and PG classes	
8	Geologist Jr. in Gujrat Water Resources Development Corp.Gandhinagar	06/1979-09/1980	Hydrological invetigation in northern Gujtrat	Resigned due to selction in GSI through UPSC Geologist Exam batch 1979

Work Summary:**ACADEMIC ASSOCIATIONS:**

- (i) Subject expert of the Union Public Service Commissions for last six years and Punjab Public Service Commission (one year).
 - (ii) **Guest faculty** at Geological Survey of India, Training Institute (Ministry of Mines) for 12 years (2005-2017). (Training to newly UPSC selected officers)
 - (iii) **Research guide: One thesis** for Ph.D entitled: Geomorphology of the Polar Periglacial Environment at the Scirmacher Oasis and Larsmann Hills, East Antarctica with special reference to the sedimentation characteristics” awarded by Banaras Hindu University to Mr. Rajesh Astahna, Dy Director general, GSI, Lucknow.
 - (iv) Guiding two scholars from DU on Saraswati problem in NW India and palaeolitic problems on Ladakh.
 - (v) Reviewer of three international and one national peered review Journals.
 - (vi) Member, organizing committee for “ XII international Symposium on Antarctic Earth Science, Goa, 2015. led one week scientific excursion of international scientific delegates to Ladakh.
 - (vii) Associate Editor: Indian journal of Earth Sciences (formerly Indian minerals) from 2010 to 2015.
 - (viii) Member, National Working Group of the International Geological Co-ordination Programme (IGCP) No. 581. Evolution of Asian river system.(2009-2014).
 - (ix) Member, National Working Group, IGCP 500. Dryland Changes Past, Present & Future (2005-08).
 - (x) Member, National Working Group, IGCP 349 : Desert Margins and Palaeo-monsoons of Northern Hemisphere Old World: 135000 yrs. BP to present (1995-97).
 - (xi) Member Editorial Committees :
 Geological Survey of India Special Publication No 91. 2009.
 Geological Survey of India Record, V.130, Pt. 4, 1999.
 Geological Survey of India Record, V.131, Pt. 4. 1999.
- Invitee to Geological Society of India, Bangalore for special lecturers.
 - Expert Invitee in DD discussions on Himalayan Environment.
 - Invitee speaker to UGC Teacher Training Programmes at University of Delhi.
 - Received University Merit Scholarship during 1978-79. M.Sc., Kurukshetra University.

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PROFESSIONAL TRAINING:

- (i) Management Training Course for Senior officers of GSI at Management Development Institute (MDI), Gurgaon. Two weeks. 2013.
- (ii) Training in Office Management at Institute of Sectoriate Training and Management (ISTM), DOPT, N. Delhi. Two weeks. 2012
- (iii) Training in Optically Stimulated Dating at Risoe National Laboratory, Denmark . Dec.06 – Jan-06, 2007
- (iv) Short Training Course on medical Geology, metals, health and Environment. Dec.,6-8, 2004, Geological Survey of India, Training Institute, Lucknow
- (v) Principles and Practices in Petrological Laboratory Techniques. Feb.1988-March 1988 at Geological Survey of India, Training Institute. Hyderabad.
- (vi) Sixth Orientation course in Geology, Nov.1981 to Sept.1982 Organized by Geological Survey of India, Training Institute at seven satellite centers in India.

PUBLICATIONS. List of important publications is given below; (Two papers are in the drafting stage)

1. APURVA ALOK¹, N.C. PANT^{1*}, KAUSHIK DAS², Y. TSUTSUMI³, PANKAJ KUMAR⁴, SUNDEEP CHOPRA⁴, H.S. SAINI⁵, ABUL AMIR KHAN⁶ (**IN PRESS**)**NEW INSIGHTS ON THE GEOLOGICAL EVOLUTION OF THE RIVER SARASWATI AND HARAPPAN ARCHAEOLOGY IN NW HARYANA PLAINS. JOUR. GEOL. SOC. LONDON.**

1. **H.S.Saini**, Apurva alok, N.C.Pant. (2020) .The lost Saraswati River of Northwestern Indian Plains: Status and way forward. *Episodes*. **43(1): 524-534**
2. Ravish Lal, **H.S.Saini**, N.C.Pant, S A I Mujtaba. **2018** : Tectonics induced switching of provenance during the late Quaternary aggradation of Indus river valley, Ladakh, India. *Goscience Frontiers*. **Doi: ORG/10.1016/J.GSF2017.12.016.**
3. Yama Dixit⁷, David A. Hodell, Alena Giesche, Sampat K. Tandon, Fernando Gázquez, **Hari S. Saini**, Luke Yama Skinner, Sai Mujtaba, Vikas Pawar, Ravindra N. Singh⁸, Cameron A. Petrie⁹ . **2018**. Evolution of climate and Indus civilization in northwest India. *Nature Scientific Reports*.**8**, 4225 (2018), **Doi:10.1038/S41598-018-22505-5.**
4. S.A.I. Mujtaba, Ravish Lal, **H.S.Saini**, Pawan Kumar, Naresh Pant (**2017**).Formation and breaching of two palaeolakes around Leh in Indus valley during Late Quaternary. *Geological Society London, Spl Pub 462*, **doi.org/10.1144/SPL462.3.**

5. Shart Dutta, S.A.Mujtaba, **H.S.Saini**, Radhakrishna Chunchekar, Pawan Kumar (2017). Geomorphic evolution of glacier fed Baspa valley, North-west Himalaya, India. Record of Late Quaternary climate change, monsoon dynamics and glacial fluctuations. *Geological Society London, Spl Pub* 462.
6. **H.S.Saini** , Lakshya P.S. Kaura, S.A.I.Mujtaba, K. Verma and N.C. Pant 2017. Assessment of the soils around Faridabad, NCR in tcontext of chaging landuse. indian Journal of Geoscience, v. 70 No. 3&4, pp219-226 .
7. S.M.Mehdi, N.C.Pant, **H.S.Saini**, S.A.I.Mujtaba, P.Pande. 2016. Identification of Palaeochannel configuration in the Saraswati basin in parts of Haryana and Rajasthan through dizital remote sensing and GIS. *Episodes*, 39(1), 29-38.
8. **H.S.Saini**, Pant, N.C., Lal, Ravish., S.A.I.Mujtaba. 2015. Increasing hydrological hazards in the Himalaya: defence lies in integrated scientific preparedness. *Current Science*, 108 (5), 764-65.
9. **H.S.Saini**.2013. An outline of the Late Quaternary stratigraphy and palaeoclimate in Ladakh Region. *Jour. Geol. Soc. India*, 82,202.
10. **H.S. Saini**, S.A.I.Mujtaba. 2012 Depositional history and palaeoclimatic variations at the northern fringe of Thar desert, Haryana Plains, India. *Quaternary International*. 250, 37-48.
11. **H.S.Saini**, S.A.I.Mujtaba. 2010. Luminescence dating of the sediments from a buried channel loop in Fatehabad area, Haryana: Insight in to Vedic Saraswati River and its environment. *Geochronometria*, 37, 29-35.
12. **H.S.Saini**. 2010.Understanding the Black Box” at the Quaternary plains of Haryana. *Jour. Geol.Soc.India*, 76, 539.
13. **H.S.Saini**, S.K.Tandon, S.A.I.Mujtaba, N.C.Pant and R.K.Khorana, 2009. Reconstruction of buried channel-floodplain systems of the northwestern Haryana Plains and their relation to the “Vedic” Sarswati. *Current Science*, 97 (11), 1634-1643.
14. **H.S.Saini**. 2009. Climate change and its future impact on the Indo-Gangetic Plain (IGP). *Advances in Earth Science*.
15. **H.S.Saini**. 2006. Urban flooding: Can it be ignored any further ?. *Current Science*, 91 (10), 1303-1304.
16. **H.S.Saini**, S.K.Tandon, S.A.I.Mujtaba and N.C.Pant. 2005. Lake Deposits of the northeastern margin of Thar Desert: Holocene palaeoclimatic implication. *Current Science*, 88 (12), 1994-2000.
17. **H.S.Saini**. 2003. Sedimentological Characters of the Late Quaternary Aeolian Sediments of Haryana. *Proc. Indian Nat. Sci. Acad.*, 69A.No.2, 201-215.
18. **H.S.Saini** and SA.I.Mujtaba, 2002. Anatomy, Crises and Management of Flooding in Gurgaon district, Haryana. *Geoinicators and Related Environmental studies – Focus on India* (Edts.) C.S.Dubey and P.S.Saklani, Pilgrim Pub.N. Delhi. 153-162.
19. **H.S.Saini**, S.A.I.Mujtaba and N.C.Pant, 2001. Indogangetic Alluvial Plain – A thrust area for societal geosciences. *Geol. Surv. Ind. Special Pub.* 65(III), 123-130.
20. S.A.I.Mujtaba and **H.S.Saini**, 2001. Ground water environment in semi-arid Hissar and Fatehabad districts, Haryana – Problem and potential. *Geol.Surv.Ind. Special Pub.*65(II),229-236.

21. N.C.Pant and **H.S.Saini**, 2001. Relevance of advanced techniques in Quaternary Geological and Geoenvironmental studies. *Geol. Surv.Ind. Special Pub.* 65(III), 141-146.
22. **H.S.Saini**, S.A.I.Mujtaba and N.C.Pant, 1999. Geoenvironmental appraisal of Faridabad-Ballabgarh blocks, Haryana. In *Remote Sensing of Urban Environment* (Edts.) B.S.Sokhi and S.M.Rashid. Manak Pub.Delhi.156-173.
23. **H.S.Saini** and S.A.I.Mujtaba, 1996. Salinity hazards in southern part of Gurgaon district, Haryana, *Geol.Surv.Ind.Special Pub.*48(2),95-99.
24. **H.S.Saini**, S.A.I.Mujtaba and N.C.Pant, 1996. Significance of geoscientific data in district level planning and environmental management – As case study of Faridabad district(NCR), Haryana. *Geol.Surv.Ind.Sp.Pub.*
25. **Hari Singh Saini** and Vijay Kumar Anand .1996.Lithostratigraphic framework and sedimentological evolution of the Quaternary deposits of northwestern Haryana. *Geol. Surv. India, Sp .Pub.*21(2),227-231.
26. **Hari Singh**, V.K.Anand and C.Prasad.1993. Limit of desert, prevailing trends of sand movements and environmental rejuvenation in northwestern, Haryana. Proc.Int.Conf.Mapping of Environment and Sustainable Development, *Indian Cartographer* V.12, 72-76.
27. **Hari Singh**, S.V.Chaudhary and V.K.Anand. 1992. Polydirectional sand migration in Sirsa district, Haryana, India and its environmental impact. *Geol.Surv.India Rec.* V.115(pt.7&8), 122-127.
28. **H.S.Saini** and S.A.I.Mujtaba. 2009. Luminescence dating of sediments from a buried channel loop in Fatehabad areaq, Haryana : Insight in the Lost Vedic Saraswati” (?). Abst. *Seond Asia-Pacific Conference on Luminescence and Electron Spin Resonance Dating*, PRL, Ahmedabad, Nov, 2009.
29. **H.S.Saini** and S.A.I.Mujtaba. 2008. Luminescence Chronology of aeolian and fluvial sequences on northern fringe of Thar Desert near Hissar. Abst. *Int. Conf. Luminescence and its Application*. NPL, N. Delhi. Feb, 2008.
30. S.A.I.Mujtaba. and **H.S.Saini** 2008. Luminescence dating is remarkable tool in understanding the younger geological processes of Indo-Gangetic Plain. Abst. *XXIV Convention Ind. Assoc. Sediment.* 104-105. March-4-6, AMU, Aligarh.
31. **H.S.Saini** and S.A.I.Mujtaba. 2004. Shallow sub-surface Lithostratigraphy and depositional environments of the Late Quaternary sediments in northwestern Haryana Northern Thar fringe. *Workshop on Quat. Geol. Of Indus-Yamuna Interflue*, GSI, Chandigarh. Oct.2004.
32. N.C.Pant, S.A.I.Mujtaba, H.S.Saini and S.K.Tandon.2004. Archives of Holocene climate change in the desertic landscape of Riwasa-Dadri area, Bhiwani district, Haryana. Proc. of Workshop on *Quat. Geol. Of Indus-Yamuna Interflue*, GSI, Chandigarh. Oct. 2004
33. **H.S.Saini** and S.A.I.Mujtaba. Palaeoenvironmental palaeoclimatic and neotectonic studies of the Kotla Dahar Lake deposits in Gurgaon district, Haryana using mineralogical and chemical proxies. *Geol. Sur. Ind. Rec.,v. 138, pt. 8*
34. N.C.PANT, H.S.SAINI, S.A.I.MUJTABA AND S.K.TANDON (in press). Responses of lake and dune systems to Holocene Climate Change: A study of the western plains of Haryana along the northern margin of the Thar Desert. *Geol. Sur.Ind.Rec.,v. 138, pt. 8*

35. N.C.PANT, H.S.SAINI, S.A.I.MUJTABA AND S.K.TANDON (in press). Responses of lake and dune systems to Holocene Climate Change: A study of the western plains of Haryana along the northern margin of the Thar Desert. *Geol. Sur. Ind. Rec.*, v. 137, pt. 8.
36. H.S.Saini and S.A.I.Mujtaba. (in press). Evaluation of Water-logging Conditions in Northwestern Parts of Haryana-Causes and Remedies with special reference Lithologic, Hydrologic and Geomorphologic Parameters. *Geol. Sur.Ind.Rec.*,v.137 ,Pt.8,
37. **H.S.Saini** and S.A.I.Mujtaba. 2003. Quaternary Lithostratigraphy of the Haryana Plains. *Proc. Nineteenth Session Ind. Sci. Congress*, Earth System sciences, Banglore.53-54.
38. **H.S.Saini** and S.A.I.Mujtaba. 2003. Evaluation of Waterlogging Conditions in Northwestern Parts of Haryana-Causes and Remedies with special reference Lithologic, Hydrologic and Geomorphologic Parameters. *Geol. Sur.Ind.Rec.*,v.136 ,Pt.8, .
39. **H.S.Saini** and S.A.I.Mujtaba. 2002. Geoenvironmental appraisal of Firozpur district, Punjab. *Geol. Sur.Ind.Rec.*,v.135 ,Pt.8, 37-38.
40. **H.S.Saini** and S.A.I.Mujtaba. 2002.Late Quaternary geological evolution of the piedmont of Ambala and Panchkula districts, Haryana. Abst. GEOSAS. 43-44.N.Delhi.
41. **H.S.Saini** and S.A.I.Mujtaba.2001 Geoenvironmental appraisal of Ambala and Panchkula districts, Haryana. *Geol. Sur.Ind.Rec.*,v.134 ,Pt.8, 30-31.
42. **H.S.Saini** and S.A.I.Mujtaba.2000 Geoenvironmental appraisal of Hissar district, Haryana. *Geol. Sur.Ind.Rec.*,v.133 ,Pt.8, 47-48.
43. **H.S.Saini** and S.A.I.Mujtaba. 1997. Integrated multidisciplinary geological, geomorphological and environmental studies including landuse and evaluation of natural resources Gurgaon districts, Haryana. *Geol. Sur.Ind.Rec.*,v.129 ,Pt.8, 36-39.
44. **H.S.Saini** and D.D.Bhattacharya.1998. Systyematic geological mapping in parts of East garo Hills, West garo Hills, East Khasi Hills, West Khasi Hills and Jaintia Hills districts, Meghalaya. *Geol. Sur.Ind.Rec.*,v.130 ,Pt.4, 4-6.
45. **H.S.Saini** and S.A.I.Mujtaba. 1996. Integrated multidisciplinary geological, geomorphological and environmental studies including landuse and evaluation of natural resources in southern parts of Faridabad and Gurgaon districts, Haryana. *Geol. Sur.Ind.Rec.*,v.128 ,Pt.8,.
46. **H.S.Saini** and S.A.I.Mujtaba. 1995. Integrated multidisciplinary geological, geomorphological and environmental studies including landuse and evaluation of natural resources in northern parts of Faridabad district, Haryana. *Geol. Sur.Ind.Rec.*v.127, Pt.8,.
47. **Hari Singh** and V.K.Jain. 1993. Quaternary geology and geomorphology of surrounding areas of Etah in Ganga basin, Uttar Pradesh. *Geol. Sur.Ind.Rec.*,v.126 ,Pt.8,84-86.
48. **Hari Singh** and V.K.Jain. 1992. Quaternary geology and geomorphology of surrounding areas of Moradabad-Jhirna areain parts of Nainital, Bijnor and Moradabad districts, Uttar Pradesh. *Geol. Sur.Ind.Rec.*,v.125 ,Pt.8, 58-60.

49. **Hari Singh**. 1991. Mineralogy and morphometry of some recent Aeolian and alluvial sediments of Haryana. *Geol. Sur.Ind.Rec.*,v.124 ,Pt.8, 3-4.
50. **Hari Singh**. 1990. Mineralogy and morphometry of some recent Aeolian and alluvial sediments of Haryana. *Geol. Sur.Ind.Rec.*,v.123 ,Pt.8,7-8.
51. **Hari Singh** and V.K.Jain. 1989. Geoenvironmental and petrological studies in Badkhal-Surajkund area, Faridabad district, Haryana. *Geol. Sur.Ind.Rec.*,v.122 ,Pt.8,10-1
52. **H.S.Saini** and S.A.I.Mujtaba. (1994) Discussion on ‘Quaternary stratigraphy and sedimentation of Indo-Gangetic plain, Haryana’ *Jour.Geol.Soc.India*, V.48, pp 230-233.
53. **H.S.Saini** and A.K.Gupta (1996) Discussion on “ Deep geoelectric structure in the Rohtak region using the magnetotelluric studies” *Jour.Geol.Soc.India*, V.51, pp 713-714.

SCIENTIFIC REPORTS:

Twenty unpublished report of Geological Survey of India, Ministry of Mines (Seven on Geoenvironmental studies, eight on Quaternary geological studies and one on Sedimentology and two on palaeoclimatic studies). These are based on the original work carried out under the approved field season programmes of the Govt of India, Min. of Mines.

1. S.A.I.Mujtaba,H.S.Saini, S.Bhattacharya (2012). Report on Study of Palaeoclimatic changes in selected river valleys of northwestern Himalayas. Unpub. GSI Report FS. 2009-10,2010-11 & 2011-12.
2. H.S.Saini and S.A.I.Mujtaba: (2010).Luminescence Dating of Aeolian and fluvial sediments from the northern fringe of Thar desert (Haryana-Punjab Plains). *Unpub. GSI report F.S. F.S.2006-07 & 2007-08.*
3. H.S.Saini and S.A.I.Mujtaba: (2006). Response of lake and dune systems to Holocene climate change: a study of western plains of Haryana along the northern margin of Thar desert. *Unpub. GSI report F.S. F.S.2002-03 , 02-04 & 2004-05. 41p*
4. H.S.Saini and S.A.I.Mujtaba:(2006) Palaeoenvironmental , palaeoclimatic and neotectonic studies of the Kotla Dhar Lake deposits in Gurgaon district, Haryana using mineralogical and chemical proxies. *Unpub. GSI report F.S. F.S.2003-04 & 2004-05.30p*
5. H.S.Saini and S.A.I.Mujtaba. Evaluation of Water-logging Conditions in Northwestern Parts of Haryana-Causes and Remedies with special reference Lithologic, Hydrologic and Geomorphologic Parameters. *Unpub. GSI report F.S. 2001-02 &2002-03..*
6. H.S.Saini and S.A.I.Mujtaba. 2002. Geoenvironmental appraisal of Firozpur district, Haryana. *Unpub. GSI report F.S. 2000-01.*
7. H.S.Saini and S.A.I.Mujtaba. 2003 Geoenvironmental appraisal of Ambala and Panchkula districts, Haryana. *Unpub. GSI report F.S. 1999-2000. 35p..*
8. H.S.Saini and S.A.I.Mujtaba. S. Wahi. 2001 Geoenvironmental appraisal of Hissar district, Haryana. *Unpub. GSI report F.s. 1996-97 to 1998-99. 51p..*

9. H.S.Saini and D.D.Bhattacharya. 1998. Systematic geological mapping in parts of East garo Hills, West garo Hills, East Khasi Hills, West Khasi Hills and Jaintia Hills districts, Meghalaya. *Unpub. GSI report F.S. 1996-97.*
10. H.S.Saini and S.A.I.Mujtaba. 1997. Integrated multidisciplinary geological, geomorphological and environmental studies including land use and evaluation of natural resources Gurgaon districts, Haryana. *Unpub. GSI report F.S. 1994-95 and 96-97. 34p..*
11. H.S.Saini and S.A.I.Mujtaba. Integrated multidisciplinary geological, geomorphological and environmental studies including land use and evaluation of natural resources in southern parts of Faridabad districts, Haryana. *Unpub. GSI report F.S. 1992-93 to 1994-95. 43p..*
12. Hari Singh and V.K.Jain. Quaternary geology and geomorphology of surrounding areas of Etah and mainpuri districts in Ganga basin, Uttar Pradesh. *Unpub. GSI report F.S. 1991-92.*
13. Hari Singh and V.K.Jain. Quaternary geology and geomorphology of surrounding areas of Moradabad-Jhirna area in parts of Nainital, Bijnor and Moradabad districts, Uttar Pradesh. *Unpub. GSI report F.S. 1990- 91.*
14. Hari Singh. Mineralogy and morphometry of some recent Aeolian and alluvial sediments of Haryana. *Unpub. GSI report F.S. 1988-89 & 89-90..*
15. Hari Singh, Raghubir Singh, S. Singharaju and D. Chakraborty. Quaternary geology and geomorphology of parts of Sirsa and Hissar districts, Haryana. *Unpub. GSI report F.S. 1985-86.*
16. Hari Singh. Quaternary geology and geomorphology of parts of Sirsa and Hissar districts, Haryana. *Unpub. GSI report F.S. 1984-85.*
17. V.K.anand and Hari Singh. Quaternary geology and geomorphology of parts of Sirsa and Hissar districts, Haryana. *Unpub. GSI report F.S. 1983-84.*
18. Hari Singh. Quaternary geology and geomorphology of parts of Sirsa and Hissar districts, Haryana. *Unpub. GSI report F.S. 1982-83.*
19. Hari Singh and V.K.Jain. 1989. Geoenvironmental and petrological studies in Badkhal-SurajKund area, Faridabad district, Haryana. *Geol. Sur.Ind.Rec.,v.122 ,Pt.8,10-1.*
20. J.L.Waja, P.L.Raina, Hari Singh and Partha Singh. Systematic mapping and pre-liminary mineral appraisal in Pang la area of Rupsu, Leh district, J & K. *Unpub. GSI report F.S. 1981-82.*

Papers presented in Seminar/Symposium/Workshop: 22