REFERENCES

AGHNIOTRI, S P (1993) Environmental planning and Geomorphology. Chugh Publ., Allahabad, India 401p

AGRAWAL, A , CHOPRA, R. AND SHUKLA, K. (1982). The state of India's environment. Centre for sciences and environment, New Delhi, 189p

AHLUWALIA, P.P. (1983). Monitoring and management of ground water in saline coastal tracts of Saurashtra Semi on assessments, development and management of ground water resources of India, vol 2, Central Ground Water Board, April, pp. 253-261

AJMAL, M AND KHAN, A.V (1985a) Effects of a textile factory effluent on soil and crop plants. Environmental Pollution (series A), vol.37, pp 131-148 (Ajmal, M , Khan, M.A and Nomani, A.A. (1985). Distribution of heavy metals in water and sediments of selected sites of Yamuna river (India). Int. Journ. Environ. Monitoring and Assessment, vol 5, pp. 205-214)

AJMAL, M , KHAN, M A AND NOMANI, A A. (1985b) Distribution of heavy metals in plants and fish of the Yamuna river (India) Int Jour. Environ Monitoring and Assessment, vol 5, pp 361-367

ANDERSON, J.R , HARDY, E E AND ROACH, J.T. (1972) A landuse classification system for use with remote sensor data. U.S.Geol survey professional paper 964, pp 1-27.

APHA (1980) Standard methods for examination of water and waste water, 15th Ed, Publ American Public Health Association, Washington DC, p 1134

BABUSKHIN, V D (1963) Method of exploiting and evaluating the resources of fresh water lenses In The development of ground water resources with special reference to Deltaic Areas UNESCO, Water resource series, no. 24, pp. 188-191.

BADVE, R V. AND WELEKAR, K G. (1994) Investigation of microbiological contamination of ground water around Pune - A case study Regional workshop on environ Aspects of ground water developments Oct 17-19, Kurukshetra, India, pp 165-175

BAGADE, S.P. (1983). Water quality deterioration in coastal aquifer in Veraval area- Its prevention and control by artificial recharge practices. In proc. sem. on assessment, development and managements of ground water resources, 29-30 April, vol. 1. Central Ground Water Board, Ministry of Irrigation, Govt. of India, pp. 335-344.

BASKARAN, M. (1995). The origin of Quaternary carbonate deposits (Miliolites): A theoretical perspective. In Statira Wadia, Ravi Korisettar and Vishwas S. Kale (ed), Mem. Geol. Soc. India, no. 32, pp. 360-371.

BASKARAN, M., RAJAGOPALAN, G. AND SOMAYAJULU, B.L.K. (1989). $^{230}Th/^{234}U$ and ^{14}C dating of the Quaternary carbonate deposits of Saurashtra, India. Chem. Geol. (Isotope Geo. Sci. Sect.), vol. 79, pp. 65-82.

BHANDARI, N., GUPTA, S.K., SHARMA, P., PREM SAGAR, AYACHIT, V. AND DESAI, B.I. (1986). Hydrogeological investigation in Sabarmati and Mahi basin and coastal Saurashtra using radio isotopic and chemical tracers. High level technical committee on Hydrology (Ministry of Water Resources, Govt. of India), National Instt. of Hydrology, Roorkee, U.P., 115p.

BHARGAVA, D.S. (1985). Water quality variations and control technology of Yamuna river. Environ. Pollut. (series A), vol. 37, pp. 355-376.

BIKSHAM, G., SUBRAMANIAN, V. RAMANATHAN, A.L. AND VAN GRIEKEN, R. (1991). Heavy metal distribution in the Godavari river basin. Environmental Geol. and water sci., vol. 17, pp. 117-126.

BIKSHAMIAH, G. AND SUBRAMANIAN,V. (1980). Chemical and sediment mass transfer in the Godavari river basin in India. Journ. of Hydrology, vol. 46, pp. 331-342.

BISWAS, S. K. (1971). The Miliolite rocks of Kutch and Kathiawar (Western India) Sed. Geol., vol. 5, pp. 147-164.

BISWAS, S.K. (1987). Regional tectonic framework, structure and evolution of the Western marginal baisns of India. Tectonophysics, vol. 135, pp. 302-327.

BISWAS,S.K.(1988). Structure of the western continental margin and related igneous activity. In Deccan Flood Basalts, (Ed. K.V.Subbarao), Geol.Soc. India., Mem. 10, pp. 371-390.

CENTRAL GROUND WATER BOARD (1991) Chemical quality and pollution of groundwater in Pali area, Rajasthan. Ground Water Pollution Directorate and Central Chemical Laboratory, CGWB, Lucknow, pp. 1-48.

CHAKRAPANI, G J. AND SUBRAMANIAN, V (1993). Heavy metals distribution and fractionation in sediments of the Mahanadi river basin, India. Environmental Geology. vol.22, pp. 80-87.

CHAKRAVARTI, A. AND BASKARAN, M. (1989) Biogenic faecal pellet mounds in Quaternary Miliolites of Saurashtra, India Palaeogeog., Paleoclimat , Paleoeco , vol 73, pp. 311-315

CHARI, K V, R AND LAVANYA, G. M. (1994) Ground water contamination in Cuddupah urban area, Andhra Pradesh. Regional workshop on environ aspects on ground water developments, Oct 17-19, Kurukshetra, India pp I 130-I 134

CHARLU, T. G K AND DUTT, D. K. (1982). Ground water development in India. Technical series No 1 , Rural electrification corporation, New Delhi, 228p

CHIPLONKAR, G W AND BORKAR, V D (1978). Stratigraphy of the area around Wadhwan, Saurashtra, Gujarat State Rec. Res. in Geol., vol 7, Hindustan Publ Corp , Delhi, pp 229-239.

CHOWDHARY, G C , GUPTA, S. K. AND AGARWAL, H P (1994) Toxic elements status on ground water in greater Varanasi, Varanasi Dist (U P) Regional workshop on Environ. aspects of groundwater developments, Oct 17-19, Kurukshetra, (India) pp I 58- I.64.

CHOWDHARY, M V. R AND RADHAKRISHNA, I (1993) Simulation of groundwater flow and saline water intrusion in Pennar delta. In Proc 28th Annual convention and the Semi. on Geophysics for rural development, Dec 17-19, Indian Geophysical Union, Hyderabad pp 158-170

CLAWSON, M AND STEWART, C L. (1965) Landuse information John Hopkins Press, p 402

DAS, N K. AND SINHA, R. K. (1993) Assessment of water quality of the Ganga river, Bihar, India Env Eco., vol 11, No 4. pp. 829-832

DAS GUPTA, S. P (1984). Ganga Basin, Part-II, Das Gupta (ed), Central Board for the Control and Prevention of Water Pollution, New Delhi

DE. A. K., SEN, A. K., MODAK, D. P. AND MISRA, T. K. (1982). Toxic metal pollution in Durgapur region Seminar on " Status and impact of heavy metal pollution in India," Madras.

DEMMIN, T. R. AND UHRICH, K. D. (1988). Improving carpet wastewater treatment American Dyestuff Reporter, vol. 77, No.6 pp. 13-18.

DEOLANKAR, S. B. (1980). The Deccan basalts of Maharashtra-India-their potential as aquifers. Ground water, vol. 18, No. 5, pp. 434-437.

DESAI, B. I., GUPTA, S. K., SHAH, M. V. AND SHARMA, S. C. (1979). Hydrochemical evidence of sea water intrusion along the Mangrol-Chorwad coast of Saurashtra, Gujarat. Hydrol. Sci. Bull Deshydrogeol., vol. 24, No. 1, pp. 71-82.

DESHMUKH, D. S. AND KARANTH, K. R. (1973). Chemical quality rating of ground water in south India In Proc. Inter. Symp. on development of groundwater resources, Nov. 26-29, vol. 3 Madras pp. VI 1-8.

DESHMUKH, D S., RAO, G. K. AND MURTHY , J. V. S. (1973). Groundwater exploration in Godavari Krishna Inter-stream area, Andhra Pradesh, India. In Proc. Int. Symp. on development of groundwater resources, Nov. 26-29, Madras, vol. 3. pp. V 113-122.

DIRECTORATE OF GEOLOGY AND MINING, DGM (1987). Progress reports (unpublished).

ELANGO, L., RAMACHANDRAN, S., AND CHOWDARY, Y. S. N. (1992). Groundwater quality in coastal regions of south Madras. Indian Jour. Environ. Health., vol. 34, no.4 pp . 318-325.

FEDDEN, F. (1884). Geology of Kathiawar Penninsula in Gujarat. Mem. Geol. Surv. India, vol. 21, no. 2. pp.78-125.

FOOTE, R. B. (1898). The Geology of Baroda State, Baroda State Press, pp. 1-122.

GANAPATHI, S., DESAI, S. J. AND MERH, S. S. (1985a). Significance of Narmada Geo.fracture in Quaternary history of Gujarat coast. Proc. Symp. Quat. Episodes, Dept. of Geology, M. S. Univ Baroda, pp. 97-107.

GANAPATHI. S., PATEL, M. P., AND MERH, S. S. (1985b). Quaternary geology and geomorphology of the coastline between Okhamadhi and Kodinar, western Saurashtra. In Bhaskar Rao (Ed). Proc. 5th I.G.C., Bombay, pp. 349-356.

GANAPATHI, S. AND MERH, S. S. (1987). Geomorphic evolution of Shetrunji estuarine delta. Jour. Geol. Soc. Ind., vol. 29 pp. 440-445.

GAZETTEER (1965). Rajkot district, Gujarat State, Ahmedabad. Govt. printing stationary and publication 633p.

GAZETTEER (1975). Junagadh district, Gujarat state. Dr. S. B. Rajyagor (ed); Govt. printing, stationery and publication, Ahmedabad, 848p.

GAZETTEER (1982). Supplement Rajkot district Gazetteer, S. Tripathy and U. M. Chokshi (ed). Government printing, statinary and publication, Gujarat state, Ahmedabad, 224p.

GHARIA, M. M., PANDYA, H. B., MEHTA, M. V. AND SRIVASTAVA, H. C. (1988). Decolourisation of coloured effluents from textile mills and process houses: Remoral of disperse colours. Resume of papers, 29th Technological conference, 27-28 March, Bombay, Textile Research Association, Bombay, pp. 183-187.

GHATE, H. V. ; DODAKUNDI, G. B. ; AND MULHERKAR, L. (1979). Effect of dye factory effluent on the developing embryos of microhyla ornata. Ind. Jour. of Environ. Health., vol. 21, No. 4, pp 359-365.

GHOSE, N. C. AND SHARMA, C. B. (1986). An integrated study of the pollution of dug wells around Patna, Bihar. In Radhakrisha and Ramachandran (Eds.) India's Environmental problems and perspective, Jour. Geol. Soc. India , Mem. No. 5, pp. 175-182.

GHOSH, S. K., DOCTOR, P. B. AND KULKARNI, P. K. (1993). Toxicity screening of dye-contaminated river water using the Microtox system and its impact on microbial population. (The) Sci. Total Env (suppl. part 2) pp. 1211-1216.

GOVERNMENT REPORT (1978) Report of the high level committee to examine the problems of salinity ingress along coastal area of Saurashtra. Un publ. report, Public Works Department, Sachivalaya, Gandhinagar, Gujarat, p. 104.

GOVINDAN, V. S. AND SUNDARALINGAM, V. S. (1979). Studies on the treatment of textile mill wastewaters by stabilization pond method. Ind. Journ. Environ. Health, vol. 21, No. 4, pp 321-331.

GUJARAT AGRICULTURAL UNIVERSITY (1994). Agronomy and soil science. Agricultural research council (30th meeting), Dept. of Agri. Chem. and Soil science, Junagadh (Un publ report).

GUPTA, S. C., RATHORE, G. S. AND DOSHI, C. S (1993) Fluoride distribution in ground water of south eastern Rajasthan. Ind. Journ. Environ. Health., vol 35, No 2, pp 97-109

GUPTA, L. P AND SUBRAMANIAN, V. (1994). Environmental geochemistry of the river Gomti · A tributary of the Ganga river Environmental geology. vol 24, pp 235-243.

G.W.R.D.C.(1983-95) Un published Progress report of Rajkot and Junagadh division.

HANDA, B. K. (1972). Geochemistry of the Ganga river water. Ind. Geohydrol., No. 8, pp 72-78.

HANDA, B. K. (1992a). Status report on groundwater pollution in India. vol. 2. Ground water Pollution in India by nitrate, nitrates and ammonia, pp. 302-671.

HANDA, B K (1992B) Status report on ground water pollution in India vol 3 · Groundwater pollution in India by industrial waste effluents and by arsenic pp 1-169

HANDA, B. K (1993) Nitrate and Potassium pollution of groundwater in Lucknow All India Symp on surface and ground water pollut, Inst of Enggn , Roorkee, Abst, 25p

HANDA, B. K., MATHUR, A. K., BHARADWAJ, R K , RASTOGI, R. AND SAXENA, N. (1988) Groundwater pollution problems on the Indian subcontinent and their management. All India semi. on groundwater development, vol II, pp TIV-14 to TIV-42

HASEEB, M A (1990). Lineament, ground water resources potential and artificial recharge in Deccan trap- A case study. In proc All India seminar on modern technique of rain water harvesting, water conservation and artificial recharge, 19-21 Nov., Directorate, Ground water surveys and development agency, Pune, Govt of Maharashtra, pp 196-198.

HEGDE, S. N AND PURANIK, S. C. (1992a). Trace elements in ground water of Hubli city, Karnataka, India Current science, vol 63 pp 43-44

HEGDE, S N AND PURANIK, S C (1994). Ground water contamination in an urban area A review Regional workshop on environmental aspects of ground water development, Oct 17-19, Ind Assc Hydrologists, Kurukshetra, India pp I-86-88

HEGDE, S N , PURANIK, S. C., AND ABBI, A K (1992b) Ground water quality deterioration in Hubli city area Ind. Jour Environ Health , vol 34, no. 2, pp 138-142.

HORTON, R E. (1932). Drainage basin characteristics. Am., Geophys Union, Trans, pp 350-361

HORTON, R. H. (1945). Erosional development of streams and their drainage basin, Hydrophysical approach to quantitative morphology, Bull Geol Soc Amer , vol. 56, pp. 275-300.

INDIAN COUNCIL OF MEDICAL RESEARCH, ICMR (1975) Manual of standards of quality for drinking water supplies 2nd ed., Special report series no 44, New Delhi.

ISI (1983). Indian standard specifications for drinking water Indian standard Institution IS 10500

ISRAILI, A W (1992). Occcurrence of heavy metals in Ganga river water and sediments. Indian Journ Environ. Health., vol. 34, no. 1, pp 63-66.

ISRAILI, A W , AND AHMAD, M. S (1993) Chemical characteristics of river Yamuna from Dehradun to Agra. Indian Journ. Environ Health , vol 35, No 3, pp 199-204

ISRO (1991). Manual for mapping of coastal wetlands / landforms and shoreline changes using satellite date. Space Application Centre, Ahmedabad, 63p.

JHA P K., SUBRANMANIAN, V., SITASAWAD, R. AND VAN GREIKEN, R, (1990) Heavy metals in the sediments of the Yamuna river (A tributary of the Ganges), India. The Sci of total Environment, vol. 95, pp 7-27

KAILA, K. L , TEWARI, H. C. AND SARMA, P. L. N. (1981) Crustal structure from deep seismic sounding studies along Navibandar - Amreli profile in Saurashtra, India Mem. Geo . Soc India, vol 3, pp 218-232.

KALYANASUNDARAM, N.K. AND PATIL, R G (1995) Soils of Gujarat Their genetic and edaphic characteristics In Nikhil Desai and S Ganapathi (ed) Proc. Nat. Semi Rec Res Geol W India, Oct 29-31, M S Univ Baroda, pp. 189-203

KARANTH, K R (1979) Summarised results of exploratory drilling in Rajasthan and Gujarat, Central Ground Water Board, Jaipur, 37p

KARANTH, K R (ED) (1990). Groundwater assessment development and management Tata McGraw Hill Publ Co. Ltd., New Delhi, 716 p

KARKAR, V. P , SIKKA, V M., DASS, J. AND BHATNAGAR, N. C (1989). Hydrochemistry and pollution of groundwater in Faridabad area, Haryana. Central Ground Water Board, NWR, Chandigarh, Report, pp 1-131.

KELLER , E. A. (1985). Environmental Geology, 4th edition, CBS Publ. and distributors, Delhi, p. 480.

KING, C A M (1964) Landforms classification, beaches and coast Edward Arnold (Publishers) Ltd , London, 403p

KOTAIAH, B. and KUMARA SWAMY. N. (1994). Enviromental engineering - Laboratory manual, Charator Publ. House, Anand, p 214

KOTHANDARAMAN, V. , ABOO, K. M. AND SASTRY, C. A. (1976). Characteristics of wastes from a textile mill. Ind Journ of Environ Health , vol 18, no 2, pp 99-112

KRISHNAN, M. S. (1968) Geology of India and Burma Higginbothams Madras 525p

KRUPANIDHI, K V. J. R. (1984). Mechanism of groundwater pollution in village wells Journ Geol Soc India, vol. 25, no. 5, pp. 301-302

KULKARNI, G R. (1990). Some observations on porosity and permenbility of Deccan trap lava flows. In Proc All India seminar on modern technique of rain water harvesting water conservation and artificial recharge, 19-21 No , Directorate Groundwater surveys and development agency, Pune, Govt. of Maharashtra. pp. 274-279

KULKARNI, H. AND DEOLANKAR, S. B. (1989) Aquisition of hydrogeologic data for the mapping of shallow unconfined Deccan basaltic aquifers of Maharashtra, India In Inter. Workshop on Appropriate methodologies for development and management of groundwater resources in developing countries, 28th Feb -4th March, vol 1, C P. Gupta (Ed), Oxford and IBH Publ. Co Pvt. Ltd., New Delhi, pp. 471-482

KULKARNI, P N (1990) Dykes as underground dams (Bandharas) ground water conservation structures In Proc All India Semi on modern technique of rain water harvesting, water conservation and artificial recharge, 19-21 Nov , Directorate, ground water surveys and development agency, Pune, Govt of Maharashtra pp 347-349

LAKSHMANAN, A. R., RAO, T. K. AND VISHWANATHAN, S (1986). Nitrate and fluoride levels in drinking waters of Hyderabad. Ind. Journ. Environ. Health., vol 28, no.1, pp. 39-47.

LAWRENCE, J F AND BALASUBRAMANIAN, A (1994a). Ground water conditions and dispositon of salt-fresh water interface in the Rameswaram island, Tamil Nadu Regional workshop on Environ Aspects of ground water development, Oct 17-19, Kurukshetra, India, pp. III 21-25

LAWRENCE, J F AND BALASUBRAMANIAN, A (1994b) Hydrogeology of Ramanathapuram district, Tamil Nadu Regional workshop on environmental aspects of ground water development, Oct. 17-19, Kurukshetra, India, pp. III 79-84.

LEHMANN, E.L (1986) Testing statistical hypothesis. John Wiley and Sons, New York, p.600

LEHMANN, E.L. AND D' ABRERA (1975) Non-parametrics . Statistical methods based on ranks, p. 262

LEOPOLD, L. B., CLARKE, F. E., HANSHAW, B. B., AND BALSLE, J. R. (1971). A procedure for evaluating environmental impact U.S Geol Surv Circular 645, Washington, pp 1-13

LILLESAND, T M AND KIEFER, R W (1987) Remote Sensing and image interpretation John Wiley and Sons, Singapore, 721p

LIN, S. L. AND PENG. C F. (1994) Treatment of textile waste water by electrochemical method Wat. Res vol 28, no 2, pp 277-282

MAHONEY, J J (1988) Deccan Traps. In Macdougall, J D (Ed) Continental flood Basalt, Kluwer Academic Publ , pp 151-194

MALL, I. D. AND UPADHYAY, S. N. (1995). Removal of basic dyes from wastewater using boiler bottom ash. Ind Journ Environ. Health., vol. 37, no 1, pp 1-10.

MANJUNATH, D. L , AND MEHROTRA. I. (1981) Removal of reactive dyes using alum lignin sludge Ind Journ Environ Health , vol 23, no 4, pp 309-315

MATHUR, U B (1978) Studies on the Quaternary carbonates of southern Saurashtra with special reference to the Miliolite problem Unpubl Ph D thesis, M.S Univ., Baroda.

McKAY, G AND AL-DURI, B. A. A (1988) Activated carbon for removal of basic dye from effluent Colourage, vol. 35, no. 2, pp 24-28

MEHROTRA, M N (1986) The role of sediments in environmental pollution : A case study of Ganga at Varanasi. Presidential Address, VI convention, Indian Assoc of Sedimentologist, Dehradun pp 1-24

MEHTA, B C , DAS, S AND SRIVASTAVA, S K (1994). Environmental hazards of high iron in ground water of Bhubaneshwar, Orissa. Regional workshop on Environ. Aspects of groundwater development, Oct. 17-19, Kurukshetra, India, pp I 50-I 57.

MENDHEKAR, S M. AND PANDEY, A. R. (1976). Hydrogeology of the coastal tract of Junagadh and Amreli district Gujarat with special reference to groundwater quality in Mangrol-Chorwad area, report CGWB, Western region, C G W B Jaipur, India.

MERH, S. S. AND GANAPATHI, S (1985) Tectonic framework of Saurashtra Peninsula and its neotectonic manifestation. Current trends in Geology, vol IV, I G C. Proceding, pp 175-195

MERH, A J AND LAGHATE, S. A (1989) A brisk ground water investigation for locating bore hole site in basaltic terrain. In proc Inter workshop on appropriate methodologies for development and management of groundwater resource in developing countries, 28th Feb-4th March, vol. 1, C P. Gupta (ed), Oxford & IBH Publ Co Ltd , pp. 315-317

MERH, A. J., LAGHATE, S. A. AND PATEL, R K (1989). Description of lineaments found in Kalavad Taluka of Jamnagar district and drilling drilled for water supply In Proc Inter. workshop on appropriate methodologies for development and management of groundwater resource in developing countries, 28th Feb - 4th March, vol. 1, C. P Gupta (ed), Oxford & IBH Publ Co, Pvt Ltd., pp. 311-314

MERH, S. S (1980) The Miliolite problem Pres, Add , Proc 67th Ind Sci Cong., Part II, pp 17-42

MERH, S. S (1992) Quarternary sea level changes along Indian coast Proc Ind. Nat, Sci Acad , Vol 58A, No. 5, PP. 461-472

MERH, S. S. (1995). Geology of Gujarat Geol Soc India, Bangalore, 222p

MERH, S S., VASHI, N. M. AND GANAPATHI, S (1991) Regional terrain evaluation of Gujarat and Maharashtra coast line In Nichil Desai, S. Ganapathi and P. K. Patel (ed), Proc. Nat. Sem on Quat land scape of Indian subcontinent, 1-3 Dec Dept of Geology, M S Univ , Baroda, pp. 64-72

MISTRY, J F (1989). Measures to overcome the salinity problems of the coastal areas in Gujarat In proc vol. II, Inter workshop on appropriate methodologies for development and management of ground water resources in developing countries, 28th Feb -4th March, C P Gupta (ed), Oxford & IBH Publ. Co Pvt Ltd, New Delhi, pp. 829-838.

MITTAL, S. K , RAO, A. L. J., SINGH, S., AND KUMAR, R. (1994) Groundwater quality of some areas in Patiala city. Indian Journ. Environ. Hlth , vol. 36, No. 1, pp. 51-53.

MUDRI, S. S., KULKARNI, A. L. , SUBRAHMANYAM, P V R AND MOHANRAO, G. J. (1970). Treatment of wastes from a dye factory Environ Health , vol 12, pp 201-217

MUKHERJEE, D., CHATTOPADHYAY, M , LAHIRI, S C (1993) Water quality of the river Ganga (the Ganges) and some of its physicochemical properties (The) Environmentalist, vol 13, no 3, pp 199-210.

MURTHY, C S N (1990) Identification of lineament by electrical resistivity method - A case study In Proc volume all India seminar on modern technique of rain water harvesting, water conservation and artificial recharge, 19-21 Nov , Directorate, Ground water surveys and development agency, Pune, Govt of Maharashtra, pp 296-298

MUTHURAMAN, K., TIWARI, M. P AND MUKHOPADHYAY, P K (1992) Salinity in the ground water of the Purna basin - Its genesis Jour. Geol. Soc India, vol 39, no 1, pp 50-60

NAIR, J. AND GANAPATHI, S (1995). Assessment of the Bhadar river water quality with reference to BOD and COD. In Nikhil Desai and S Ganapathi (ed) Proc Rec Res Geol. W. India, Oct 29- 31, M S.Univ., Baroda, pp 81-86 .

NAIR, J AND GANAPATHI, S. (Press) Water quality of the Bhadar river basin (Saurashtra, Gujarat) its utility for irrigation. Ind Journ Environ Health

NATIONAL BUREAU OF SOIL SURVEY AND LAND USE PLANNING (NBSS & LUP, 1994) soils of Gujarat for optimising land use, NBSS Publ. No 29, soils of India series 2b, 73p

NAYAK S.R., GUPTA M.C , PANDEYA, A AND TRIVEDI C R. (1988). Evaluation of IRS date for coastal wetland mapping in the Gulf of Kachchh Scientific Note IRS-UP/SAC/AD'SN/02/88, Space Application Centre, Ahmedabad, pp 99-119

NARMADA AND WATER RESOURCE DEVELOPMENT (1992). Report of committee of estimation of ground water resources and irrigation potential in Gujarat state, Narmada and water resource department, Govt. of Gujarat.

OLANIYA, M. S. AND SAXENA, K. L. (1977). Ground water pollution by open refuse dumps at Jaipur Ind. Journ Environ Health., vol. 19, no.3, pp 176-188.

OZHA, D. D , VARSHNEY, C. P. AND BOHRA, J. L. (1993) Nitrates in ground waters of some districts of Rajasthan. Ind. Jour Environ. Health , vol 35, no 1, pp. 15-19

PANDA, D., SUBRAMANIAN, V. AND PANIGRAHY, R C (1995). Geochemical fractionation of heavy metals in Chilka lake (East coast of India) - a tropical coastal lagoon. Environment Geology, no 26, pp 199-210.

PANDEY, D S AND MUKHERJEE, S (1994a) Nitrate contamination in groundwater in Varanasi city and its environs Uttarpradesh, India Regional workshop on environ. Aspects of groundwater developments, Oct 17-19, Kurukshetra, India, pp I 123-I 129.

PANDEY, D S AND MUKHERJEE, S (1994b) Nitrate pollution An alarming problem in and around Jaipur, Uttarpradesh, India A case study Regional workshop on Environ. Aspects of groundwater development, Oct 17-19, Kurukshetra, India, pp I 147-I 152.

PARIKH, H N., MERH, A. J. AND SINGH, S. B. (1989). Deep Geoelectrical soundings and shapes of curves used for recommendations of bore sites in basaltic terrain In C. P. Gupta (ed), Proc. Inter workshop on Appropriate methodologies for development and management of groundwater resource in developing countries, 28th Feb-4th March, vol. 1, Oxford & IHB Publ Co Pvt. Ltd , New Delhi, pp 307-310

PARIKH J R ET AL (1990). Health impact of pollution of river Bhadar National Instt. of Occup Health, Annual Report 1989-90, Dr S K Ghosh and Dr P Chattopadhay(ed) Printed & published by director N.I.O H , Meghani Nagar, Ahmedabad, pp. 26 to 33

PASCOE, E H (1962) A manual of the geology of India and Burma 3rd Ed Govt of India.

PATEL, M. P. (1991a). Depositional environment of the inland Miliolite occurrences of Saurashtra and Kutch. *Proc. Sem Quat. Landscape Ind Subcontinent, 1-3 Dec., Dept of Geol., M.S. Univ Baroda, pp. 119-129

PATEL, M. P (1991b) Quaternary strandlines in Gujarat In Nikhil Desai, S. Ganapathi and P. K Patel (ed), Proc. Nat. Semi. on Quat landscape of Indian sub-continent, 1-3 Dec , Dept of Geology, M.S.Univ. Baroda pp 107-118.

PATEL, M P AND BHATT, N. (1995) Evidence of Paleoclimate fluctuations in Miliolite rocks of Saurashtra, Western India Jour Geol Soc India., Vol. 45, pp. 191-200

PHADTARE, P N. (1989). Geohydrology of Gujarat State C.G.W.B., unpublished report. 102p.

PIPER, A.M. (1944). A graphical procedure in the geochemical interpritation of water analysis Am Geophys. Union. Trans. 25, pp. 914-928

PRAKASH, R , KONWAR, P K AND KUMAR, A (1992) Chemical quality and water pollution in Guwahati city, Assam. Bhu-Jal News, vol 74, pp 24-28.

PRASAD, G , ULABHAJE, A V AND MEHROTRA, M N (1986) Some aspects of pollution of the Ganga near Rajghat, Varanasi (U P) Journ of the Inst of Public Health Engg (IPHE), India, vol. no. 1, pp 15-27

RAGHUNATH, H M. (1996). Hydrology Principles, Analysis and Design. New Age International Pvt Ltd Publ New Delhi. 486p.

RAIYANI, C V., DOCTOR, P B , VERMA, Y., DESAI, N M ; KULKARNI, P. K , RUPORALIA, S G AND GHOSH, S K. (1994). Magnitude of pollution of dye-contaminated river water - its physico-chemical and microbial analysis. Ind. Journ Environ. Protec., vol. 14, no. 4, pp 252-255.

RAJAGURU, S. N. AND MARATHE, A R (1977). Miliolite Formation in the Hiran valley In : Ecol. Arch. W. India , D P. Agrawal and B M Pande (ed), Concept, Delhi, pp 209-216

RAJAN, M. R (1989) Sublethal effects of textile mill effluent on protein, carbohydrate and lipid content of different tissues of *cyprinus carpio* (Linneaus). Prog in pollut. Res. , Proc. Nat. Young scientist Semin Environ Pollu , Univ of Agri. Sci., Bangalore, pp 127-130

RAMANATHAN, A. L., SUBRAMANIAN, V. AND VAITHIYANATHAN, P. (1988). Chemical and sediment characteristics of the upper reaches of the Cauvery estuary. east coast of India. Indian Journ. Marine Science, vol.17, pp 114-120

RAMESH, R AND SUBRAMANIAN, V. (1985) Some aspects of erosion and sediment transport in the Krishna river Journ Geol Soc India, Mem 5, pp 261-267.

RAMESH, R , SUBRAMANIAN, V AND PILLAI, K. C. (1988) Sediment and elemental accumulation rates in the Krishna river basin, India. The Science of the total Environment, no.72, pp. 221-226.

RAMESAN, V. AND RAJAGOPALAN, K. (1985). Fluoride ingestion into the natural waters of hard-rock areas, peninsular India. Journ Geol. Soc India, vol. 26, no. 2, pp. 125-132.

RANA, R. S. AND VISHWAKARMA, L L (1990) Occurrence of artesian conditions in the Sina river basin of drought prone Karjat taluka, Ahmednagar district, in Maharashtra In Proc. All India seminar on modern techniques of rain water harvesting, water conservation and artificial recharge, 19-21 Nov , Directorate, Ground Water Surveys and development ageney, Pune, Govt of Maharashtra, pp.208-213

RAO, A. V , JAIN, B. L AND GUPTA, I C (1993). Impact of textile industrial effluents on agricultural land- A case study Ind Journ Environ Health., vol. 35, no. 2, pp. 132-138.

RAO, K. S., THATHAIAH, K , MURALIKRISHNA, U , RAO, M M. AND RAO, N. V. R. M. (1986) Quality of ground water of Nuzvid town (A.P.). Ind. Journ. Environ. Health., vol. 28, no. 4, pp 349-351.

RICHARDS, L A (ED)(1954) Diagnosis and imprvement of saline and alkali soils Hand book , U S. Deptt of Agriculture, no 60, p 160.

RUPARELIA, S G , VERMA, Y , AND HARGAN, M. C (1993) A short term study on the pollution status of river Bhadar with special refernce to BOD & COD. Indian J Environ Protect, vol 13, no 10, pp 742-744

SAHU, K. C. AND MUKHERJEE, S (1983) Monitoring of water and sediments of Ulhas river North-East of Bombay Mahasagar Bulletin of the National Institute of Oceanography vol 16, no 2, pp 135-142.

SAHU, K. C AND MUKHERJEE, S. (1985). Role of pelitic sediments in a metal polluted aquatic environment Ind. Journ of Earth science, vol. 12, no 4, pp. 289-299

SAHU, N. K , AND KARIM, M. A. (1989). Flouride incidence in natural waters in Amreli District, Gujarat Journ Geol. Soc. Ind., vol. 33, pp. 450-456

SAIKIA, D. K , MATHUR, R. P. AND SRIVASTAVA, S. K. (1988). Heavy metals in water and sediments of upper Ganga Indian Journ. Environ Health , vol 31 no 1, pp 11-17

SANKAR NARAYAN, N AND MADHYASTHA, M. N. (1985). Heavy metal pollution in India - A review Current pollut. Res in India R K. Trivedy & P. K. Goel (ed) Environ Publ., Karad. pp 279-294

SANTING G. (1963) Salt water- fresh water relationships, In Development of ground water resources with special reference to deltaic areas, Water Resource Series, no 24, UNESCO, pp 52-62

SAWYER, C.N., Mc.CARTY, P.L AND PARKIN, G.F (1994) Chemistry for environmental engineering. Fourth eddition, Civil Engg. Series, Mc Graw-Hill international, Singapore, p. 643

SCHWARZLMULLER, A. AND BRISSE, R L (1988). Effluent neutralisation using flue gas. American Dhje stuff Reporter, vol. 77, no. 4, pp 32-36

SETH, A K. AND SINGHAL, D. C. (1994) Status of groundwater quality in upper Hindon Basin, Saharanpur area (Utter Pradesh) Regional workshop on Environ. Aspects of groundwater development, Oct. 17-91, Kurukshetra (India), pp. I. 114-I 222.

SHAH, G L. (1978). Flora of Gujarat state - Part - 1 Sardar Patel University, (Publ) Vallabh Vidhyanagar, Gujarat, p. 602

SHARMA, A. K. AND SHARMA, A. (1981). Impact of the development of science and Technology on Environment Sixty eighth session, ISCA, Presidential address - Shukla, S. C., Tripathi, B D , Rajani Kant, Deepa Kumari, V. and Panday, S. (1989). Physico-chemical and biological characteristics of river Ganga from Mirzapur to Ballia Ind Journ Environ Hlth., vol. 31, no. 3, pp 218-227

SHUKLA, S. P., AJITH KUMAR, T., TIWARI, D N MISHRA, B P AND GUPTA, G. S (1994) Assessment of the effect of the toxicity of a textile dye on *NDS+OC muscorum* ISU, A diazotrophic cyanobacterium Environmental Pollution, vol 84, pp 23-25

SIKDAR, P K , DASGUPTA, N. AND SARKAR, S S (1994) Groundwaer management in parts of Saltora Block, Bankura District, West Bengal. Jour. Geol. Soc India, vol 44, no.3, pp. 291-299.

SINGH, B K , AND SUBRAMANIAN, V (1988) Water and sediment load in streams Draining Mussoorie Phosphate mining areas. Journ Geol Soc India, vol. 31, pp. 575 - 583.

SINGH, K. P (1994) Temporal changes in the chemical quality of groundwter in Ludhiana area, Punjab, India Current Sci , vol. 66, no 5, pp 375-378.

SINGH, R. P., KHANNA, P. P AND BANERJEE, A K (1994) Ground water toxicity in Rajpur-Luni canal command area, district Pali, Rajasthan - A case study. Regional workshop on Environ Aspects of groundwater development, Oct. 17-19, Kurukshetra. India. pp J. 76 - J. 88.

SINGH, T N. AND SINGH, S. N (1995). Impact of river Varuna on Ganga river water quality at Varanasi Ind. Journ Environ. Health , vol. 37, no 4, pp 272-277

SINGH, V , NARAIN, R AND PRAKASH, C (1987) Fluoride in irrigation waters of Agra district, Utter Pradesh Wat Res., vol. 21, no.8, pp 889-890.

SINGHAL, B. B. S , MATHUR, R P , SINGHAL, D C , MATHUR, B S , MINOCHE, V K , SETH, A K AND SINHA S K (1987) Effect of industrial effluents on the water quality of river Hindon, District Saharanpur, U P Jour Geol. Soc India, vol 30, no 5, pp 356-368

SMITH, D.G (1990). A better water quality indexing system for rivers and streams Wat Res vol 24, no, 10, pp. 1237 - 1244.

SOIL DRAINAGE AND RECLAMATION DEPARTMENT (1992) Report on behaviour of sub-soil water table during 1990-91, Bhadar irrigation scheme, Jetpur, Rajkot, Unpubl Report, 21p

SOIL SURVEY ORGANISATION (1979). Semi - detailed soil survey report of command area of Bhadar irrigation project (Saurashtra), district, Rajkot Agriculture department, NavsariUnpub report), no. 60, p 38

SOIL SURVEY STAFF (1978) Soil Taxonomy Agri, Hand Book No 436, U S. Dept of Agri Soil conservation, NBSs & LUP (ICAR) Publ New Delhi

SOOD, R. K., SUBRAMANYAM, V. AND SAHAI, B. (1981). Quaternary geomorphology of Kathiawar Coast Res Researches in Geology, Vol 9, (Hindustan Publ Delhi) pp 3-12

SRIVASTAVA, P K. (1963). Geology of Saurashtra. Un publ O.N.G.C. report.

SRIVASTAVA, P, K (1968). A note on the Quaternary geology of Saurashtra peninsub Quart Journ Geol. Mem. Met. Soc. India, vol. 40, no. 2, pp 55-64

STRAHLER, A. N. (1957). Quantitative analysis of watershed geomorphology. Am. Geophys Union Trans vol 38, no 6, pp. 913-920

SUBHA RAO, N., AND KRISHNA RAO, G. (1990). Intensity of pollution of groundwater in Vishakhapatnam Area, A.P., India. Journ Geol. Soc. India, vol 36, pp 670 - 673.

SUBRAMANIAN. S. (1994) Hydrological studies in coastal aqufer of Tiruchendur, Tamil Nadu, Unpubl Ph. D Thesis, Manonmaniam Sundarana Univ. Tirunelveli, p 308

SUBRAMANIAN, S AND BALASUBRAMANIAN, A (1994) Hydrogeochemical studies of Tiruchendur coast Tamil Nadu, India In regional workshop on environmental aspects of groundwater development, Oct 17-19, Kurukshetra, India, pp III J. 26- J 32

SUBRAMANIAN, V (1976) Factors affecting the concentration of Fe, Mn, Ni in natural waters. In : Proc Nat Sym on Hydrology, IIT Kanour, pp C 4 1-C4 12

SUBRAMANIAN, V. (1979a). Chemical and suspended sediment characterestics of rivers of India Jour. of Hydrol, vol 44, pp. 37-55

SUBRAMANIAN, V. (1979B). Quantitative analysis of elements in sediments and soils by X-ray fluorescence A discussion Clay and Clay minerals, no 27, pp. 305

SUBRAMANIAN, V (1993) Sediment load of Indian rivers Current science, vol.64, pp. 928-931.

SUBRAMANIAN, V (1994) Pollution problems in rivers In Banerjee, S P (Ed) Second National seminar on minerals and ecology pp. 209-215

SUBRAMANIAN, V., BIKSHAM, G. AND RAMESH, R. (1987B) Environmental geology of peninsular river basin- of India. Jour. Geol. Soc India vol 30, pp. 393-401.

SUBRAMANIAN, V. AND MOHANACHANDRAN G. (1990) Heavy metal distribution and enrichment in the sediments of south coast of India Marine pollution Bull, vol 21, pp. 324-330

SUBRAMANIAN, V., VAN GRIEKEN, R. AND VAN T'DACK, L. (1987) Heavy metal distribution in the sediments of Ganges and Brahmaputra rivers Environ Geol., and Water Sciences, vol 9 no 2, pp. 93-103.

SUKHTANKAR, R. K. AND SAWANT, P. T (1990). Significance of geomorphological parameters in groundwater studies. In Proc. All India Semi. on modern techniques of rain water harvesting, water conservation and artificial recharge for drinking water, afforestation, horticulture and agriculture, Directorate of Goroudwater and agriculture, development agency, Pune, Govt of Maharashtra, pp 225-230.

THORAT, P. K AND SABLE, A. B. (1990) Importance of the geological mapping in selection of sites for artificial recharge in the Deccan volcanics with reference to some case histories from Parner taluka of the Ahmednagar district, Maharashtra state. In all India Seminar on modern techniques of rain water harvesting, water conservation, and artificial recharge, 19-21 , Nov Directorate , Groundwater surveys and development agency, Pune,Govt of Maharashtra, pp. 199-206

TODD, D K. (1959) Ground water hydrology, John Wiley and Sons Inc , New York, p 336.

TURNER AND COFFMAN (1973). Geology for planning : A review of environmental geology, Quaterly of the Colorada School of Mines, vol 68, no 3

VAITHIYANATHAN, P., SUBRAMANIAN, V AND RAMANATHAN, A L (1989). Transport and distribution of phosphorous by Indian rivers Mem. Geol Soc. India, No 13, pp. 127-137

VERMA, K K AND MATHUR, U. B. (1978) High stands of Quaternary sea along the western coast of India - A new area for the test of glacio-eustasy in Asia. Proc. of the third regional conference on geology and mineral resources of S E Asia, Bangkok, pp. 113-118.

VERMA, K. K. (1979). Contribution to the study of the Saurashtra coast, Gujarat with special reference to microfacies and sea level changes. Unpubl. Ph. D. thesis, M.S.Univ. Baroda.

VIET, N T. AND BHARGAVA, D S (1989) Water quality and management of the Saigon river in Hochi Minh city (Vietnam). Indian Journ. Environ. Health, vol. 31, no. 4, pp. 321 - 330.

WILCOX, L.V (1955) Classification and use of irrigation waters, U.S.Deptt. of Agriculature, Circ. 969, Washington, D C.

WHO (1971). International standards for drinking water, 3rd edition, Geneva.

YOUNG, A. (1972). Slopes, Geomorphology (text 3) Oliver and Boyd puhl , Edinburgh, pp 172-175