

Knowledge Product on “Wind Erosion and its control”

Ahmad, S. 1973. Soil erosion in India. Asia Publ. House Bombay, India.

Al-Afifi, M.A., Haffar, I., Murai, H., Itani, S., Yokota, H., 1990. Use of date-fronds mat fence as a barrier for wind erosion control. 2. Effect of barrier density on microclimate and vegetation. *Agriculture, Ecosystems and Environment* 33, 47-55.

Badescu, V., Cathcart, R. B. and Bolonkin, A. A. (2008). Sand dune fixation: A solar-powered Sahara seawater pipeline macroproject. *Land degradation and development*, 19(6).

Bagnold, R.A., 1943. The physics of blown sand and desert dunes. William Morrow and Co., pp. 1–265.

Balu, A. (2008). The World Bank funded coastal shelterbelt project threatens sea turtle nesting habitats in Tamil Nadu, India. *Indian Ocean Turtle Newsletter No. 7*.

Bhimaya, C.P., Choudhary, M.D. 1961. Plantation of windbreaks in the central mechanised farm, Suratgarh. *Indian Forester*, 87,354-367.

Bhimaya, C.P., Kaul, R.N., Ganguli, B.N. 1961. Sand dune rehabilitation in Western Rajasthan. In: *Proceeding of fifth World Forestry Congress*, pp. 358-363.

Bryan, R.B., 1968, The development, use and efficiency of indices of soil erodibility, *Geoderma* 2, 5-26.

Chepil, W.S., Woodruff, N.P. 1963. The physics of wind erosion and its control. *Advances in Agronomy* 15, 211-302.

Chittibabu, P., Dube, S.K., MacNabb, J.B., Murty, T.S., Rao, A.D., Mohanty, U.C. and Sinha P.C. 2004. Mitigation of flooding and cyclone hazard in Odisha, India. *Natural Hazards*, 31:455–485.

Cornelis, W.M., Gabriel, D., 2005. Optimal windbreak design for wind-erosion control. *Journal of Arid Environments* 61, 315-332.

Dantata, I.J. (2013). Influence of Shelterbelt-Distance on Productivity of Pearl Millet (*Pennisetum glaucum*) in Arid Area of Bauchi, Nigeria. *Asian Journal of Agricultural and Food Sciences*, 1(1).

Das, D. C. 1977. Soil conservation practices and erosion control in India--A case study in soil conservation and management in developing countries. *Soil Bull. No. 33*. Food and Agr. Org. United Nations, Rome, Italy. pp. 11-50.

Dawson, J.C. and Smith, P. 2007. Carbon losses from soil and its consequences for land use management. *Science of the Total Environment* 382: 165-190.

Dhir, R.P. 1985. Characterization and properties of dune and associated soils. p. 41-49. In *Sand dune stabilization, shelterbelts and afforestation in dry zones*. Food and Agricultural Organization of the United Nations, Rome.

Dierickx, W., Gabriels, D., Cornelis, W., 2001. A wind tunnel study on wind speed reduction of technical textiles used as windscreen. *Geotextiles and Geomembrane* 19, 59-73.

Diouf, B., Skidmore, E.L., Layton, J.B., Hagen, L.J., 1990. Stabilizing fine sand by adding clay: Laboratory wind tunnel study. *Soil Technology* 3, 21-31.

Durán, O. and Herrmann, H.J. (2006). Vegetation Against Dune Mobility. *Physical Review Letters*, 97 (18).

Ekhtesasi, M.R., Ahmadi, H., 1996. Introducing of new methods for wind erosion estimation: IRTIFR and indirect measurement using Wind Erosion Meter and regional analysis of wind velocity and duration. 2nd National Conference on Desertification and Desertification Control Methods, 23-24 Aug., Kerman, Iran.

Ekhtessasi, M.R., 1991. Design and fabrication of wind erosion meter. Iranian Res. Organization for Sci. and Tech. Report, 15p. (In Persian)

Ertuna, C. 1995. Water Resources Development and Management in Asia and the Pacific, Environmental Soil and water Management: Past Experience and Future Direction pp 1-36.

Faroda, A.S., Joshi, D.C. and Ram, B. (1999). Agro-Ecological Zones of North-Western Hot Arid Region of India. Fertilizer Association of India. 1988-1989. Fertilizer statistics 1988-1989. New Delhi, India.

Fryrear, D.W., Bilbro, J.D., Saleh, A., Schomberg, H.M., Stout J.E., Zobeck, T.M. 2000. RWEQ: improved wind erosion technology. *Journal of Soil and Water Conservation*, 55(2), 183–189.

Gajja, B.L., Prasad, R., Mertia, R.S., Samra, J.S., 2007. Impact of shelterbelts on net returns from agricultural productions in wrid western Rajasthan. *Agricultural Econmics Research Review*, 20, 622–627.

Ganguli, J.K., Kaul, R.N., 1969. Wind erosion control. ICAR, New Delhi. *Techn. Bull. (Agric.)*, 20, 1-53.

Garde, R. J., and V. C. Kothiyari. 1987. Sediment yield estimation. *J. Irrig. and Power*, 44(3).

Ghose, B., Pandey, S., Singh, S, (1968). Processes and extent of erosion and its effects on land use in the Central Luni Basin, western Rajasthan. *Annals of Arid Zone*, 7(1).

Gopinath, G. and Seralathan, P. 2005. Rapid erosion of the coast of Sagar island, West Bengal – India. 48: 1058–1067.

Government of India. 1980. India-Agricultural Regions. Plate No. 36, Atlas of Agr. Resources of India. Nat. Atlas and Thematic Mapping Org., Dept. Sci. and Tech., Calcutta, India.

Gupta, J. P. 1990. Sand dunes and their stabilization. In I. P. Abrol and V. V. Dhruvanarayana [eds.] *Technology for Wasteland Development*. Indian Council Agr Res., New Delhi, India. pp. 59-68.

Gupta, J. P., (1979). Some Observation on the Periodic Variations of Moisture in Stablished and Unstablished Sand Dunes. *Journal of Hydrology*, 41(1-2), 153-156.

Gupta, J. P., Aggarwal, R. K., (1980). Sand movement studies under different land use conditions of western Rajasthan. *Arid Zone Research and Development*, 109-114.

Gupta, J. P., Aggarwal, R. K., 1980. Use of an asphalt subsurface barrier for improving the productivity of desert sandy soils. *Journal of Arid Environments*, 3(3), 215-222.

Gupta, J. P., Sharma, B. M., Raina, P., 1997. Wind erosion and its control in Indian arid ecosystem. In: *Desertification Control in the Arid*

Ecosystem of India for Sustainable Development (Eds. Surendra Singh and A. Kar), Agrobios, India. pp. 139-147.

Gupta, J.P. (1983). Soil Drying and Wind Erosion as Affected by Different Types of Shelterbelts planted in Desert Region of Western Rajasthan, India. *Journal of Arid Environment*, 6, 53-58.

Gupta, J.P. (1987). Effect of tillage and mulch on soil and the growth and yield of cowpea grown in the arid tropics. *Arid Soil Research and Rehabilitation*, 1(3), 161-172.

Gupta, J.P. 1993. Wind erosion of soil in drought-prone areas. In: Desertification and its control in the Thar, Sahara and Sahel regions. (Eds. A.K. Sen and A. Kar). Scientific Publishers, Jodhpur, pp. 91-105.

Gupta, J.P., Aggarwal R. K. and Raikhy N.P. (1981). Soil Erosion by Wind from bare sandy Plains in Western Rajasthan, India. *Journal of Arid Environment*, 4, 15-20.

Gupta, J.P., Gupta, G.N. (1981). A Note on Wind Erosion from a Cultivated field in Western Rajasthan, *Journal of Indian Society Science*, 29(2), 278-279.

Gupta, J.P., Ramakrishna, Y.S. (1988). Role of Shelterbelts in Checking Wind Erosion and Increasing Crop Production. *Wastelands Development and their Utilization*

Gupta, J.P., Rao, G.G.S.N., Ramakrishna, Y.S., Rao, B.V.R., 1984. Role of shelterbelts in arid zone. *Indian Farming*, October 1984, 29-30.

Gupta, S. K., K. G. Tejwani, H. N. Mathur, and M. M. Srivastava. 1970. Land resource regions and areas of India. *J. Indian Soc. Sci.* 18(2): 187-198.

Gurmel Singh, G. Ram Babu, and Subhash Chandra. 1981. Soil loss prediction research in India. Bull. No. T-12/D-9, Central Soil and Water Cons. Res. Training Inst., Dehradun, India. 70 pp.

Hadjiev, A., Hadjiev, P. ,2003. On some methods for surface erosion control on tailings ponds and waste fly-ash piles. 50 years Uni. of Mining and Geology "St. Ivan Rilski", Annual, vol. 46, part 22, Mining and Mineral Processing, Sofia.185-187.

Hagen, L.J., Lyles, L., 1985. Amount and nutrient content of particles produced by soil aggregate abrasion. In: Proc. of the National Symposium on Erosion and Soil Productivity 8-(85): 1 17- 129.

Harsh, L. N., Tewari, J. C., 1993. Sand dune stabilization, shelterbelts and silvi-pastoral plantation in dry zones. In: Desertification and Its Control in the Thar, Sahara and Sahel Regions (Eds. A.K. Sen and A. Kar), Scientific Publishers, Jodhpur, India. pp. 269-279.

Harsh, L.N. and Tewari, J. C. 1997. Stabilization of sand dunes and their management in Indian arid zone. In: Desertification Control in the Arid Ecosystem of India for Sustainable Development (Eds. Surendra Singh and Amal Kar), Agrobios, India, pp. 317-325.

Harsh, L.N., Mertia, R.S., Tewari, J.C., 1991. Shelterbelt plantation for ameliorating the microclimate and for higher crop production. In: Prospects of Indira Gandhi Canal Project (Eds. I.P. Abrol and J. Venkateswarlu), pp. 74 – 81, Publications and Information Division, Indian Council of Agricultural Research, New Delhi.

Haynes, R.J., FRANCIS, G.S. (1990). Effects of Mixed Cropping Farming Systems on Changes in Soil Properties on the Canterbury Plains. *New Zealand Journal of Ecology*, 14, 73-82.

He, J.J., Cai, O.G., Tang, Z.J., 2008. Wind tunnel experimental study on the effect of PAM on soil wind erosion control, *Environmental Monitoring and Assessment* 145, 185–193.

Hoffmann, C., Funk, R., Li, Y. and Sommer, M. 2008. Effect of grazing on wind driven carbon and nitrogen ratios in the grasslands of Inner Mongolia. *Catena* 75: 182-190.

Hoover, J.M., 1987. Dust control on construction sites, Arizona Department of Transportation, Report No. FHWA-AZ, 86-807. 65p.

Joshi, A.B. 1995. Coastal erosion –An overview. In: *Course Manual on Coastal Erosion, Protection and Coastal Zone Management*, Vol. II. Beach Erosion Board, Min. of Water Resources, G I, New Delhi pp. 1-26.

Kalla, J. C., 1977. Statistical evaluation of fuel yield and morphological variates for some promising energy plantation tree species in western Rajasthan. *Annals of Arid Zone*, 16(1), 117-126.

Kanodia, K.C., Gupta, R. K., (1968). Sand Dune Flora of Western Rajasthan. *Journal of The Bombay Natural History Society*, 65, 681-695.

Kar, A., Garg, B.K., Singh, M.P. and Kathju, S. (Eds.), *Trends in Arid Zone Research in India*. Central Arid Zone Research Institute, Jodhpur, India. Krishnan, G., Srivastava, S.K., Kumar, S., Saha, S.K. and Dadhwal, V.K. 2009. Quantifying the underestimation of soil organic carbon by the Walkley and Black technique-examples from Himalayan and Central Indian soils. *Current Science* 96(8): 1133-1136.

Kar, A., Joshi, D.C., 1995. Sand movement and control of aeolin hazard. In: *Land degradation and desertification in Asia and the Pacific region* (Eds. A.K. Sen and A. Kar), pp. 19-40. Scientific Publishers, Jodhpur.

Kar, A., Moharana, P.C., Raina, P., Kumar, M., Soni, M.L., Santra, P., Ajai, Arya, A.S. and Dhinwa, P.S. 2009. Desertification and its control measures. p. 1-47.

Kaul, O.N., 1985. Forest production on sand dunes. In: FAO conservation guide, Sand Dune stabilisation, shelterbelts and afforestation in dry zones. Food and Agriculture organization of the United Nations, Rome, pp. 87–95.

Kaul, R.N. 1959. Shelterbelt to stop creep of the desert. *Indian Forester*, 85,191-195.

Kaul, R.N., 1985. Afforestation of dune areas. In: Sand dune stabilization, shelterbelts and afforestation in dry zones, pp. 75-85. FAO Conservation Guide 10. FAO, Rome.

Kenneth, N., Nwankwo, P.E., 2001. Polyacrylamide as a soil stabilizer for erosion control. Wisconsin department of transportation. Report No. W1, 06-98.

Kok, J. F., Parteli, E. J. R., Michaels, T. I. and Karam, D.B. (2012). The physics of wind-blown sand and dust. *Rep. Prog. Phys.*, 75 (10).

Kort, J., 1988. Benefits of windbreaks to field and forage crops. *Agriculture, ecosystem and Environment* 22/23, 165-190.

Kumar, S. and Shankarnarayan K. A. 1988. Aerial seeding on sand dunes: Seedling survival and growth. *Journal of Tropical Forestry*, 4(2), 124-134.

Kumar, S.V., Pathak, K.C., Pednekar, P.N., Raju, S.N. and Gowthaman, R. 2006. Coastal processes along the Indian coastline. 91(4): 530-536.



Lal, R. 1990. Soil erosion in the tropics: principles and management; McGraw-Hill, New York.

Lal, R. 2001. Potential of desertification control to sequester carbon and mitigate the greenhouse effect. *Climate Change* 51: 35-72.

Lal, R., 2003. Soil erosion and the global carbon budget. *Environment International* 29: 437-450.

Larney, F.J., Bullock, M.S., Janzen, H.H., Ellert, B.H. and Olson, E.C.S. 1998. Wind erosion effects on nutrient redistribution and soil productivity. *Journal of Soil and Water Conservation* 53: 133- 140.

Li, B., Sherman, D.J., 2015. Aerodynamics and morphodynamics of sand fences: A review. *Aeolian Research*, 17, 33–48.

Lian-You, L., Shang-Yu G., Pei- Jun S., Xiao-Yan L., and Zhi-Bao, D., 2003. Wind tunnel measurements of adobe abrasion by blown sand: profile characteristics in relation to wind velocity and sand flux, *Journal of Arid Environments* 53(3), 351-363.

Liu, Z.M. and Ma, J.L. (2008). Research progress on plant diversity conservation in sand dune areas. *Pub Med*, 19(1), 183-90.

Lyles, L., Cole, G.W., Hagen, L.J., 1985. Wind erosion: processes and prediction. In: *Soil erosion and crop productivity* (Eds. Follett, R.F., Stewart, B.A.), ASA-CSSA-SSSA, 677 South Segoe Road, Madison, WI 53711, USA.

Mann, H.S., 1985. Wind erosion and its control. In: *Sand dune stabilization, shelterbelts and afforestation in dry zones* (FAO conservation guide), Food and Agricultural Organisation of the United Nations, Rome, pp 125-132.

Meloa, H. P.M., Parteli, E.J.R., Andrade, Jr. J. S. and Herrman, H.J. (2012) "Linear stability analysis of transverse dunes". *Physica A: Statistical Mechanics and its Applications*, 391 (20), 4606–4614.

Mendez, M.J., Oro, L.D., Panebianco, J.E., Colazo, J.C. and Buschiazzi, D.E. 2006. Organic carbon and nitrogen in soils of semiarid Argentina. *Journal of Soil and Water Conservation* 61: 230- 235.

Mertia, R.S., 1992. Shelterbelt research in arid zone. *J. Tropical Forestry* 8(3), 196-200.

Mertia, R.S., Prasad, R., Gajja, B.L., Samra, J.S., Narain, P., 2006. Impact of shelterbelts in arid region of western Rajasthan. Central Arid Zone Research Institute, Jodhpur, India, pp. 76.

Mertia, R.S., Santra, P., 2012. Grazing practices in the rangelands of the Indian Thar desert and its impact on ecosystem and environment. In: *Grazing ecology: Vegetation and soil impact* (Ed J. Ramón). NOVA Publication, NY. pp. 7-26.

Mertia, R.S., Santra, P., Kandpal, B.K. and Prasad, R., 2010. Mass-Height Profile and Total Mass Transport of Wind Eroded Aeolian Sediments from Rangelands of Indian Thar Desert. *Aeolian Research* 2, 135-142.

Mishra, M.N., Prasad, Ram (1956). Strip Cropping For Erosion Control. *Annals of Arid Zone*, 5(2)

Misra, P. R., R. C. Kaushal, S.K.N. Dayal. and Prabhu Shanker. 1975. Studies on the rates of annual water and sediment yields in reservoirs and ponds. Central Soil and Water Cons. Res. Training Inst., Dehradun, India. pp. 17-18.

Mohammed, A.E., Stigter, C.J., Adam, H.S., 1996. On shelterbelt design for combating sand invasion. *Agriculture, Ecosystem and Environment* 57, 81-90.

Murai, H., Al-Afifi, M.A., Haffar, I., Yoshizaki, S., 1990. Use of date-fronds mat fence as a barrier for wind erosion control. 1. Effect of barrier density on sand movement stabilization. *Agriculture, Ecosystems and Environment* 32, 273-282.

Murthy, R. S., L. S. Hirekarur, S. B. Deshpande, B. V. Venkata Rao. and H. S. Shankaranarayana. 1982. Benchmark soils of India. Nat. Bur. Soil Survey and Landuse Planning, New Delhi, India.

Muthana, K.D., 1982. A review of sand dune stabilization and afforestation. In: Proceedings of the workshop on the problems of the deserts in India. Miscellaneous Piblication 49, pp. 363-368. Geological Survey of India, Calcutta.

Narain, P., Kar, A., 2007. Desertification and its control in India. In: Human and Nature-Working together for sustainable development of drylands (Eds. A. el-Beltagy, M.C. Saxena and T. Wang), pp. 84-94. International Centre for Agriculture Research in the Dry Areas (ICARDA), Aleppo, Syria.

Narain, P., Kar, A., Ram, B., Joshi, D.C., Singh, R.S., 2000. Wind Erosion in Western Rajasthan, CAZRI Bulletin, Jodhpur, India.

Narain, P., Kar, A., Ram, B., Joshi, D.C. and Singh, R.S. (2000) "Wind Erosion in Western Rajasthan".

Narayana, V. V. Dhruva, and Ram Babu. 1983. Estimation of soil erosion in India. *J. Irrig. and Drainage Eng.*, ASCE 109(4): 419-433.

Nayak, S. 2000. Critical issues in coastal zone management and role of remote sensing. In *Subtle Issues in Coastal Management*, Indian Institute of Remote Sensing, Dehradun. pp. 77-98.

Offer, Z.Y., Sarig, S. and Steinberger, Y. 1996. Dynamics of nitrogen and carbon content of aeolian dry deposition in an arid region. *Arid Soil Research and Rehabilitation* 10: 193-199.

Olafson, A. (1997). Stabilization of Coastal Dunes with vegetation. *Restoration and Reclamation Review*, 2(5).

Pope, A., Harper, J, J., 1966. *Low speed wind tunnel testing*, John Wiley & Sons, New York.

Poyya Moli, G. and Balachandran, N. 2008. Strategies for conserving ecosystem services to restore coastal habitats. Paper presented in UNDP-PTEI Conference on “Restoration of Coastal Habitats”, held at Mahabalipuram, Tamil Nadu, 20-21Aug, 2008.

Raghunath, B., Khullar, A.K. and Thomas, P.K. 1982. Rainfall energy map of India, *10(2&3):1-17*.

Raheja, P.C., 1963. Shelterbelts in arid climates and special techniques for tree planting. *Annals of Arid Zone* 12, 1–13.

Raji, B.A., Uyovbisere, E.O. And Momodu, A.B. (2004). Impact of sand dune stabilization structures on soil and yield of millet in the semi-arid region of NW Nigeria. *Environmental Monitoring and Assessment*, 99, 181–196.

Ram, Babu, K. G. Tejwani, M. C. Agarwal, and L. S. Bhushan. 1978. Distribution of erosion index and iso-erodent map of India. *Indian J. Soil Cons.* 6(1): 1-14.

Ramachandran, S. 2001. Coastal environment and management in India. An over view: In: Ramachandran, S. (ed.) Coastal environment and management, Institute for Ocean management, Anna University, Chennai pp. 1-14. Environ. Geol., Curr. Sci., Ind. J. Soil Cons.,

Rao. Y.P. 1990. Land and water resources of West Bengal, Proc. of the workshop on Research Needs on Land and Water Management for Enhancing Agricultural Production in Eastern Region, Oct. 4-5, WTCER (ICAR), Bhubaneswar pp. 1-15.

Rathakrishnan, E., 2007. Measurement, instrumentation, and experiments in fluids. CRC Press. 492p.

Refahi, H., 2004, Wind erosion and its control. Tehran University, Iran, 320p.

References Biielders, C.L., Rajot, J.L. and Amadou, M. 2002. Transport of soil and nutrients by wind in bush fallow land and traditionally managed cultivated fields in the Sahel. Geoderma 109: 19-39.

Samra, J.S., Patnaik, U.S. and Sudhishri, S. 1998. Soil and water conservation : A priority issue in coastal ecosystem management, Paper presented in National seminar on Management of coastal ecosystem in India, Aug. 8-10, CARI, Port Blair, The Andamans, India.

Santara, P., Kumar, S. and Roy, M.M. (2015). Thar Desert: Source for Dust storm. *Encyclopedia of Natural Hazards*.

Santara, S., Mertia, R.S. and Narain, P. (2006). Land degradation by wind erosion in Thar Desert- Issues and research priorities. Indian Journal of Soil Cons, 34(3), 214-220.

Santra, P., 2012. Development of dual purpose mechanical barrier to control wind erosion with simultaneous utilization of renewable energy. DST funded project under Fast Track Scheme for Young Scientist (Project code SR/FTP/ES-60/2011), DST, Govt of India.

Santra, P., Kumawat, R.N., Mertia, R.S., Mahla, H.R. and Sinha, N.K. 2012. Spatial variation of soil organic carbon stock in a typical agricultural farm of hot arid ecosystem of India. *Current Science* 102(9): 1303-1309.

Santra, P., Mertia, R.S. and Kushawa, H.L. 2010. A new wind erosion sampler for monitoring dust storm events in the Indian Thar desert. *Current Science* 99(8): 1061-1067.

Santra, P., Mertia, R.S. and Narain, P. 2006. Land degradation through wind erosion in Thar Desert - Issues and Research priorities. *Indian Journal of Soil Conservation* 34(3): 214-220.

Satyanarayan ,Y., Saxena,S.K., Gaur Y. D. (1966). Studies of Dune Ecology - Vegetation of Stabilized Dunes. *Tropical Ecology*, (7).

Schwab, R.O., Fangmeier, D.D., Elliot, W.J., Frevert, R.K. 1993. Soil and Water Conservation Engineering. John Wiley and Sons, New York.

Sehgal, J.L., Abrol, I.P. 1994. Soil Degradation in India: Status and impact. Oxford & IBH publishing Co. Pvt. Ltd., New Delhi.

Sen, A. K. 1972. Agricultural atlas of Rajasthan. Plate-9 (Extent and degree of sand dunes). Central Arid Zone Res. Inst., Jodhpur, India.

Sen, H.S.,Bandyopadhyay, B.K., Maji, B., Bal, A.R., and Yadav, J.S.P. 2000. Management of coastal agro ecosystem. Chapter-10.

Sengupta, M. and Dalwani, R. (eds), Proceedings of TAAL 2007: The 12 World Conference 392-400.

Sharaiha, R.K. and Ziadat F.M. (2008). Alternative Cropping Systems to Control Soil Erosion in the Arid to Semi-Arid Areas of Jordan. *Arid Land Research and Management*, 22(1), 16-28.

Shyampura, R. L., Singh, S.K., Singh, R.S., Jain, B.L. and Gajbhiye, K.S. 2002. Soil series of Rajasthan. NBSS & LUP Publication No. 95, NBSS&LUP, Nagpur.

Siddiqi, R.A., Moore, J.C., 1981, Polymer stabilization of sandy soils for erosion control, Transportation Research Record No. 827, General Soils Problems. 30-34.

Singh, D.V., Sikka, A.K., Selvi, V., Muralidharan, P., Kurothe, R.S., Raghupathy, R. and Dass, A. 2004. Status of soil erosion and control studies in coastal belt of India, A research report on Coastal Agro ecosystem (NATP). State of Environment, 1995. Ministry of Environment and Forest, Govt. of India, New Delhi. State of Forest Report, 2009. Ministry of Environment and Forest, Govt. of India, New Delhi.

Singh, S., (1977). Sand Dunes and Palaeoclimate in Jodhpur District Western Rajasthan. *Man and Environment*, 1, 7-15.

Skidmore, E.L., Hagen, L.J., 1977. Reducing wind erosion with barriers. Transaction of ASAE 20, 911-915.

Soni, M.L., Yadava, N. D., Beniwal, R. K., Singh, J. P., Sunil Kumar, Birbal. 2013. Grass based strip cropping systems for controlling soil erosion

and enhancing system productivity under drought situations of arid western Rajasthan. *Int. J. Agricult. Stat. Sci.*, 9(2), 685-692.

SPSS, Release 16.0, SPSS Inc., Chicago, Illinois, USA.

Stallard, R.F. 1998. Terrestrial sedimentation and the carbon cycle: coupling weathering and erosion to carbon burial. *Global Biogeochemical Cycles* 12: 231-257.

Telysheva, G., Shulga, G., 1995. Silicon-containing polycomplexes for protection against wind erosion of sandy soil. *Journal of Agricultural Engineering Research*, 62(4), 221-227.

Tibke, G., 1988. Basic principles of wind erosion control. *Agriculture, ecosystem and Environment* 22/23, 103-122.

Velayutham, M., Sarkar, D., Reddy, R.S., Natarajan, A., Shiva Prasad, C.R., Challa, O., Harindranath, C.S., Shyampura, R.L., Sharma, J.P. and Bhattacharya, T. 1998. Soil resources and their potentials in coastal areas of India. Paper presented in "Frontiers of Research and its Application in Coastal Agriculture", Fifth National Seminar of Indian Society of Coastal Agricultural Research, held at Gujarat Agricultural University, Navsari, Gujarat, 16-20 Sep., 1998.

Venkataraman, K. 2007, *Marine Ecosystems of India.* , 7(4): 7-26.

Venkateswarlu, J., Kar, A., 1996. Wind erosion and its control in arid north-west India. *Annals of Arid Zone*, 35, 85-99.

Vora, A.B., Parappillil, A.J., Sharma, K.S., 1982. Effect of wind break and shelterbelts on wheat and mustard as well as on wind velocity. *Indian Forester*, 108(3), 215–220.



Wallace, A., Wallace, G.A., Abouzamzam, A.M., 1986. Amelioration of sodic soils with polymers . Soil Science Society America Journal 141, 359-362

Walling, D. E., and B. W. Webb. 1983. Patterns of sediment yield. In K. J. Gregory [ed] Background to Palaeo-hydrology. John Wiley, New York, N.Y. pp. 69-100.

Wayal, A. S., Ameta, N.K., and Purohit, D.G. M. (2012). Dune Sand Stabilization Using Bentonite And Lime. *Journal of Engineering Research and Studies*, 3(1), 58-60.

Wischmeier, W. H., and D. D. Smith. 1978. Predicting rainfall erosion losses---A guide for conservation planning. Agr. Handbk. No. 537. U.S. Dept. Agr., Washington, D.C.

Woodruff, N.P., Lyles, L., Siddoway, F.H., Fryrear, D.W., 1972. How to control wind erosion. USDA ARS Agriculture Information Bulletin No. 354.

Yadav, J.S.P. 2006. Improved farming and ecological security in coastal region. 24(2): 229-240.

Yadav, J.S.P., and Singh, G.B (eds). Natural Resource Management for Agricultural Production in India. Proceeding of the International conference on Managing Natural Resources for Sustainable Agricultural Production in the 21st century, Feb.14 - 18, 2000. New Delhi, India. pp. 925-1022.

Yadav, J.S.P., Bandyopadhyay, A.K. and Bandyopadhyay, B.K. 1983. Extent of coastal saline soils of India.

- Zhang, C.L., Zou, X.Y., Cheng, H., Yang, S., Pan, X.H., Liu, Y.Z., Dong, G.R., 2007. Engineering measures to control windblown sand in Shiquanhe town, Tibet. *Journal of Wind Engineering and Industrial Aerodynamics* 95, 53-70.
- Zhang, N., Kang, J.H., Lee, S.J., 2010. Wind tunnel observation on the effect of a porous wind fence on shelter of saltating sand particles. *Geomorphology* 120, 224-232.
- Zhao, H.L., Yi, X.Y., Zhou, R.L., Zhao, X.Y., Zhang, T.H. and Drake, S. 2006a. Wind erosion and sand accumulation effects on soil properties in Horqin Sandy Farmland, Inner Mongolia. *Catena* 65: 71-79.
- Zhao, T.L., Gong, S.L., Zhang, X.Y., Blanchet, J.P., Mc Kendry, I.G. and Zhou, Z.J. 2006b. A simulated climatology of Asian dust aerosol and its trans-Pacific transport. Part I: mean climate and validation. *Journal of Climate* 19: 88-103.