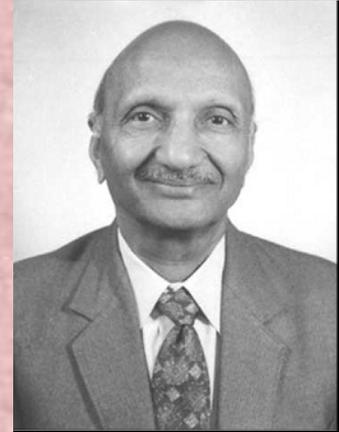


Prof. A. S. Arya

General:-

Dr. Anand Swarup Arya, a well-known name in the field of Earthquake / Structural engineering, Soil and Foundation Engineering. Dr. Arya has a long and distinguished record of research, design and consultancy work. In the present document a small attempt is made to present the profile and achievements of this Gem of Structural Engineering.



Primary and higher education :-

Dr. A. S. Arya, was born on 13th June' 1931 at village Ambehta of District Saharanpur of Uttar Pradesh. After schooling he joined University of Roorkee in Year 1950 for engineering education. He completed his B.E. (Civil engineering) followed by M.E. (Structural Engineering) in Yr. 1954 at Roorkee. Latter he joined University of Illinois, USA in year 1959 for his Doctoral degree. He completed it in year 1961.

Experience :-

After completion of higher education in engineering, Dr. Arya joined University of Roorkee. He served there for 36 years and got retired in Yr 1989 as Professor & Head of earthquake Engineering and then Pro-Vice Chancellor. During his tenure he introduced several new courses including blast resistant structures, disseminating earthquake engineering through specialist courses at Roorkee University and many other Institutes and Design organisations in India and other nations. He conducted training sessions on this topic at Yugoslavia, Japan, Thailand, Philippines, Afghanistan and Nepal. He made significant contribution to the methods of Dynamic Analysis and design of Structures ranging from small to multi-storeyed buildings, arched and shell structures, bridges dams and atomic power plants. The unique feature of his approach has been to develop the most appropriate solution to complex structural problems for feasible applications.

Dr. Arya guided more than 60 Master's and 11 Ph.D. these in Structural and earthquake Engineering.

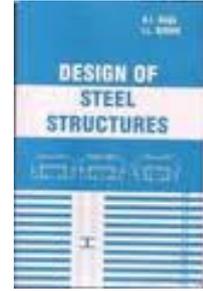
Presently Dr. Arya is working a Prof. Emeritus of Earthquake Engineering in IIT, Roorkee; in addition he is Chairman of Bureau of Indian Standards Committee, CED 39 on Earthquake engineering Codes, for Govt. of India. Also he is a National Seismic Advisor to Ministry of Home Affairs, Govt. of India, GOI-UNDP Earthquake Vulnerability Reduction Programme.

Literature :-

Dr. Arya wrote many technical papers related to Earthquake / Structural engineering. Most of the papers, books and other literature published about Earthquake, in India has somewhere reference / mention of Dr. Arya.

He got recognition for his following two well-known books :-

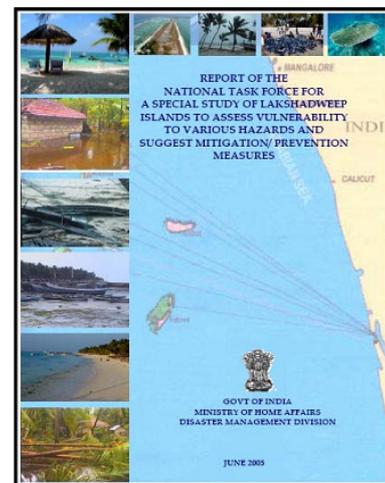
- 1) Design of Steel Structures (published by Nemchand Bros, Roorkee, first edition 18th June 1964), co-authored by Dr. J. L. Ajmani
- 2) Masonry & Timber Structures Including Earthquake Resistant Design (Nemchand Publishers, Roorkee)



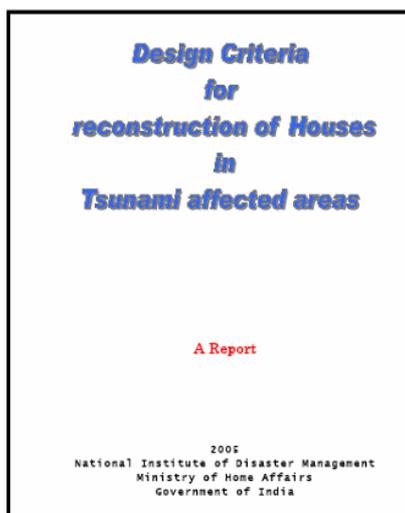
Apart from these, his contribution to the National / International seminars is mentioned ahead.

Contribution to Field :-

Dr. ARYA played a major role in establishing Indian Society of Earthquake Technology. He developed the interdisciplinary Department of Earthquake Engineering at the University of Roorkee for teaching, research and consultancy, covering the most complicated structures. He worked as director of International Association of earthquake and as Consultant to UNESCO, UNCHS, UNCRD and the World Bank and produced and International Manual for Earthquake protection of the non-engineered buildings.

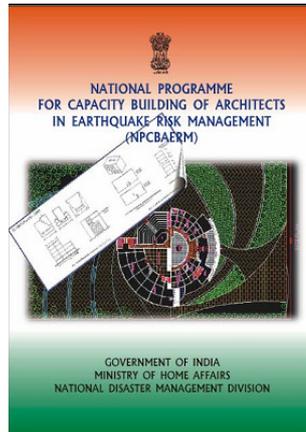
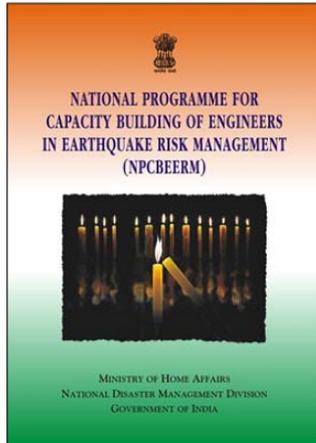


In 2006-07 a Technical Advisory Group was established by Ministry of Home Affairs, GoI and United Nations Development Programme under the leadership of Dr.A.S.Arya (as a National Seismic Advisor, MHA). In this group consisted of the following members – Mr. Ankush Agarwal, Programme Associate (Hazard Vulnerability Reduction), Mr. Jnananjan Panda, Ex-Project Officer (Earthquake Mitigation) and Mr. Anup Karanth, Ex-Project Co-ordinator (Urban Earthquake Vulnerability reduction Programme). Additionally, other persons have also been assisting from time to time on different activities as and when initiated.



Soon after the tsunami on 26th December, 2004 the biggest challenge for the Govt. was to reconstruct safe houses for thousands of affected people. But the question which was haunting day & night was “what design guidelines should be adopted, so as to minimize the loss of life & property?” A meeting was called at a short notice by Prof. A. S. Arya, National Seismic Advisor, GOI-MHA and Shri Rajarshi Bhattacharya, OSD & Ex officio JS, GOI-MHA to discuss & finalise the design criteria to be adopted for reconstruction of houses in tsunami affected areas of India. The meeting was attended by a number of persons from IIT’s & SERC, A & N Administration, MHA & NIDM.

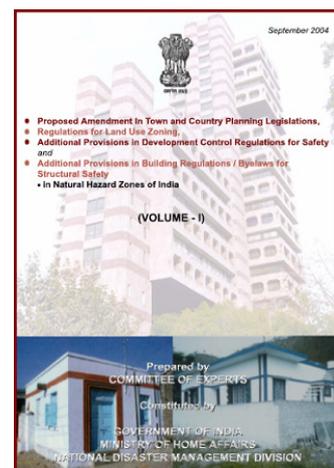
There were two 'Training the Trainers programs on Earthquake Engineering – namely one for the Engineers and another for the Architects were arranged about 137 Engineers and 99 Architects attended the seminar. The resource material for training of trainers and practising professionals for both the training programmes i.e. 'NPCBAERM' & 'NPCBEERM' has been prepared by IIT Roorkee under the guidance of Dr. A. S. Arya and been shared with all National as well as State Resource Institute for their suggestions as well as incorporation.



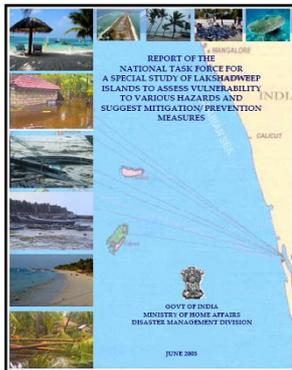
Preparation of Layouts for Construction of Intermediate Shelters, as time was a major constraint in erecting the intermediate shelters, A & N Administration requested Ministry of Home Affairs to deputy 6 architect / planners who will assist the administration in preparation of layout drawings with community facilities, demarcation at site and also in

supervising the construction work. A team of 6 architects / planners were deputed under the leadership of Dr. Arya. These architects were posted at different islands where in they conducted PRA (Participatory Rural Appraisal) exercise and the layouts were prepared accordingly so that the tribal can have ownership of the whole reconstruction activity carried out. Visit to different islands was also made Dr. Arya, wherein he gave his suggestions to the problems faced by the executing agency. He also conducted training programmes for the engineers, so that they are completely acquainted with the design drawings of the intermediate shelters sent by MHA. The target of constructing 10100 intermediate shelters was completed well in time i.e. before the onset of monsoon.

Model Building Bye-laws First step towards the implementation of an earthquake mitigation strategy will be to put in place an appropriate techno-legal regime. Building bylaws had to be amended to incorporate the BIS codes for seismically safe construction. Keeping this in view the National Core Group on Earthquake Mitigation constituted a Committee under the chairmanship of Dr. A. S. Arya to prepare Model Building Bylaws based upon which the States can make amendments in their existing bylaws. The Core Group was of the opinion that a mere reference to the BIS code is not sufficient and as such it was considered necessary to make essential elements of the code a part of the building bylaws, the committee took note of this and prepared structural design basis report (SDBR) in which the designer has to provide all the information required for preparing the structural design of the building (The SDBR format was prepared for masonry, RCC and steel structures). Apart from this a concept of proof checking & quality audit was also recommended for important buildings.



Revision of Vulnerability Atlas of India Recognising the paradigm shift in the policy of the Government in dealing with natural disasters and in keeping with the objectives of Yokohama strategy focusing on pro-active action rather than post disaster response, the Vulnerability Atlas of India was brought out by BMTPC as formulated by Expert Group Constituted by the Ministry of Urban Development, GoI under the chairmanship of Dr. A. S. Arya. In response to the invaluable feedback on the Atlas since its publication to date, the new knowledge has been generated and significant changes have taken place during the intervening period in terms of number of new States and Districts, demographical changes and typology of housing brought out of Census 2001. In view of these 30 significant changes there is a growing demand for updating and revising the Vulnerability Atlas of India released in 1997. To update the Vulnerability Atlas of India in GIS platform, the Ministry of Urban Affairs & Employment constituted a Peer Group comprising of experts from different disciplines under the chairmanship of Dr. A. S. Arya. The Atlas would include hazard maps of States/UT's right upto Taluka level indicating vulnerable areas and district wise and taluka wise risk levels of existing house types. The Group would also make recommendations on nature of Techno-legal regimes to be established and necessary technical guidelines for disaster resistant construction methods, for construction, reconstruction and retrofitting of housing and buildings so that pro-active programme of strengthening the existing stock can be formulated and implemented.



A National Task Force was constituted under the chairmanship of Dr. A. S. Arya, wherein representatives from different departments namely: IMD, DOD, GSI, SoI MoEF, CWC, NRSA, DST, IIT Chennai, DoS, BMTPC and Lakshadweep administration were made as members. A visit to Lakshadweep Islands was made by some of the members soon after which a copy of the draft report was shared with the Ministry and was also circulated to all the members for their comments. Recently a one day workshop was called to discuss & incorporate the suggestions given by the members. The report of the Task force is under finalization.

Awards :-

From the discussion till now the readers might have understood the contribution of Dr. Arya to the Structural Engineering. He is a recipient of the FICCI (Federation of Indian Chambers of Commerce and Industry) Cash award (1986) and the National Design Award of the Institution of Engineers (India) (1987). He was one of the participants in many UNESCO and other international activities, and member of many international delegations as expert in Earthquake Engineering. He received United-Nations DHA-Saskawa Disaster Prevention Award (1997). He was awarded with Padma Shri award in Yr.2002 and Disaster Mitigation Award in Yr. 2006.

Dr. Arya, Acted as a Director, of International Association for Earthquake Engineering, from 1977-80 till 1980-84. He is Fellow of Indian National Science Academy and Indian National Academy of Engineering. Presently staying at Gaziabad.

On behalf of entire Structural Engineer fraternity, lets thank Dr. Arya for offering such a valuable service to the society and also wish him happy and prosperous life ahead.

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Authors:-

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- 2) Er. Vivek Abhyankar (M.Tech-SPCE, Mumbai)

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