

*Myanmar Water*

Myanmar (Burma) Water and Hydrology  
A Bibliography

By

R. Lee Hadden

Topographic Engineering Center (TEC)  
Engineering Research and Development Center (ERDC)  
7701 Telegraph Road  
Alexandria, VA 22315

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[Robert.L.Hadden@usace.army.mil](mailto:Robert.L.Hadden@usace.army.mil)

- “RCC Dams in Asia.” 2007. *Int. J. Hydro. Dams*. Volume 14, Issue 4, Pages 84-88. Descriptors: Article Subject Terms: Dam Construction; Dams; Hydroelectric Plants; Article Geographic Terms: China, People's Rep.; Myanmar; Vietnam. Abstract: The world's largest RCC dam schemes currently under construction are in Asia, with Longtan setting the record in terms of scale, and RCC placement. This feature brings updates on progress from the sites of some of the most important schemes currently under way in China, Vietnam, Laos and Myanmar. Database: Environmental Sciences and Pollution Mgmt. ISSN/ISBN: 1352-2523.
- “Hydropower Plays a Leading Role in Myanmar's Power Development Plans.” 2005. *Int. J. Hydro. Dams*. Volume 12, Issue 2, Pages 119-123. Descriptors: Article Subject Terms: Dam Construction; Dams; Electric Power Production; Export; Hydroelectric Power; Priorities; Article Geographic Terms: Myanmar. Abstract: With eight major schemes under construction and 16 more planned, Myanmar is moving ahead with a major programme of hydropower development. The Ministry of Electric Power regards hydro development as a priority, both to meet domestic needs and for export to neighbouring countries. With only about 2 per cent of hydro resources currently developed, the Ministry's Department of Hydroelectric Power has much work ahead. This article gives an overview of plans and current activities, including a description of the 132 m-high Yeywa RCC dam and 790 MW hydro scheme now under construction near Mandalay. Database: Environmental Sciences and Pollution Mgmt. ISSN/ISBN: 1352-2523.
- “Special Report: The Sweet Serpent of South-East Asia - the Mekong River; the Mekong River;” 2004. ECT. (2004 The Economist Newspaper Ltd. All rights reserved.): Jan 3. Volume 370, Issue 8356, Pages 28-30. Descriptors: Asia & the Pacific; Natural resources; Economic policy & planning; Rivers; Dams; Water resources; Environmental impact; Economic impact; Economic development. Notes: Geographic: Southeast Asia Mekong River. Abstract: Uniquely for such a big river in the heart of tropical Asia, the Bbiggest city along the Mekong River's banks - Phnom Penh - has a mere 1.1 million inhabitants. That makes the river unusual in another respect: the pressure of a burgeoning population and fast economic growth is only just beginning to make its mark on the Mekong. But the outcome could be all too familiar: a poor compromise between conservation and development. The Asian Development Bank is promoting a scheme to integrate the economies of the greater Mekong sub-region. Two north-south highways are under construction to link China and Thailand, one via Laos and the other via Myanmar. One element of the current development drive is bound to leave its mark on the Mekong: dam-building. ISSN/ISBN: 0013-0613.
- “Sustainable Formula Sought for Rural Energy Development in Asia.” 2003. *Refocus*,. 7. Volume 4, Issue 4, Pages 14-14. Abstract: A three-day meeting in Bangkok has affirmed official belief in sustainable energy access as the essential “Missing Link” in the global quest for poverty

reduction among disadvantaged rural people. The “Expert Group Meeting on Integration of Energy and Rural Development Policies and Programmes”, 25-27 June 2003, was coordinated by the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), in collaboration with the United Nations Development Programme (UNDP). A crucial problem is that energy is rarely considered in rural planning and agricultural development. Senior specialists from Bangladesh, Cambodia, Laos, Myanmar (Burma), Nepal, Pakistan, Sri Lanka and Vietnam, all countries seeking urgent solutions to considerable rural poverty problems, exchanged views. Ms Keiko Okaido, who currently heads the UNESCAP secretariat in Bangkok, pointed out, “The World Summit on Sustainable Development (WSSD) recognized benefits that energy services could bring about, and identified key areas for action to promote energy for sustainable development.” Robert English, UNDP Resident Representative in Thailand, identified sustainable energy development as the “Missing Link” in rural poverty alleviation and environmental conservation. Bangladesh, participants learned, has immense potential for biogas energy technology, wind energy in coastal areas and solar energy. Landlocked Nepal, in contrast, has sustainable fuel-wood resources of about 15 million metric tons, although only half the country's forests are accessible. Hydropower potential is huge in the mountainous terrain. Sri Lanka already boasts some 100 micro-hydropower installations supplying electricity to around 3,000 families. [Lanna B B] This is a short news story only. Visit [www.re-focus.net](http://www.re-focus.net) for the latest renewable energy news.

Quantity with Quality : An Report on Expert Group Meeting on Drinking Water Quality Surveillance and Monitoring : 23 June 2000. 2001. Yangon: page(s): 7. Descriptors: Drinking water -- Burma -- Quality control -- Congresses; Conference publication (cnp). Notes: 24, 8; col. ill. ; 30 cm.; Note(s): Cover title.; Entry: 20040831; Update: 20050312. OCLC Accession Number: 56416518.

Facilitation of Travel in the Asian Region. 2000. United Nations. page(s): 40p. Descriptors: Asia; Bangladesh; Burma; East Asia; Economic and social factors; Facilitation; India; Pacific Area; Sri Lanka; Strategic planning; Thailand; Tourism; Tourists; Travel; Travel behavior; Travelers. Abstract: This issue of the Economic and Social Commission for Asia and the Pacific (ESCAP) Tourism Review offers analysis and insight into the experiences of selected member countries in addressing values of facilitation as part of the national tourism development strategies. Viewpoints of selected international organizations are also presented in order to better understand some of the many complex issues related to the facilitation of travel and tourism. This paper concentrates and makes recommendations for the countries of Bangladesh, India, Myanmar, Sri Lanka and Thailand. ISSN/ISBN: 9211199794. OCLC Accession Number: 01042579. URL: Transportation Research Board.

“Investor Focus on Lancang-Mekong River Region, Yunnan Province, China.” 1997. Hydro Power and Equipment. 2005 Elsevier Ltd. All rights reserved.: Volume 3, Pages 89-92. Descriptors: Water resources development - general -- 74.13.1; river basin development; water resources; hydropower development; transport system. Notes: Geographic: China -- Yunnan Province -- Lancang-Mekong River. Abstract: This international river originates in China and runs for almost 5000km through the south-east Asian countries of Myanmar, Laos, Thailand, Cambodia, and Viet Nam. It has a total basin area of 180 000km<sup>2</sup>. A number of regional financial institutes and foreign investors are showing interest in its development, particularly hydroelectric power development. International co-operation will be key to multipurpose development and utilisation of such rivers in future. This article briefly reviews the

importance of this river in terms of ecology; social, historical and cultural heritage; economy; and natural resources. China's past development activities and plans for its sub-region of the river are outlined. These include a number of dams and associated hydroelectric power stations, and water transportation and dredging projects. River trade is outlined. ISSN/ISBN: 1007-4740. Availability: Connect to the catalog at your library.

INFRASTRUCTURE OPPORTUNITIES IN SOUTHEAST ASIA. HELD IN SAN FRANCISCO, CALIFORNIA ON JUNE 18-20, 1996. 1996. Louis Berger and Associates, Incorporated. page(s): 308 p. Descriptors: Asia (Southeastern); Energy sector; Exports; Feasibility analysis; Feasibility studies; Financing; Financing plans; Infrastructure; Infrastructure economics; International trade; Planning; Programming (Planning); Project management; Project planning; Project profiles; Southeast Asia; Transportation; Transportation sector. Abstract: This briefing book was prepared for the U.S. Trade and Development Agency (TDA) by Louis Berger Internationaal to be presented at TDA's conference in San Francisco, CA, June 18-20, 1996. The document presents profiles on a total of 61 infrastructure projects in the transportation and energy sectors in Southeast Asia. The potential for exports of goods and services deriving from these projects is estimated to be at least \$34.6 billion. Included in Section I is a regional overview and Section II presents country reports for Burma, Indonesia, Malaysia, Philippines, Singapore, Thailand, and Vietnam. Section III addresses project financing issues while Section IV presents case studies of major TDA feasibility studies in the Southeast Asia region. Section V contains profiles of 22 transportation sector projects and, finally, Section VI contains profiles of 39 energy sector projects. Notes: This document was provided to NTIS by the U.S. Trade and Development Agency, Rosslyn, VA. OCLC Accession Number: 00730655. URL: Transportation Research Board.

“The Smiles Fade.” 1996. ECT. Economist Newspaper Group, Incorporated Dec 14, 1996: Dec 14. Volume 341, Issue 7996, Pages 35. Descriptors: Asia & the Pacific; Short articles; Social policy; Schools & educational services; Student rights; Political behavior; Demonstrations & protests; College students. Notes: Geographic: Myanmar. Abstract: The largest student protest in eight years in Myanmar broke out on Dec 7, 1996. Riot police with batons and water cannon broke up the protest, and nearly 900 people were detained for a short period. ISSN/ISBN: 0013-0613.

HANDS ACROSS THE RIVER -- THE GREATER MEKONG SUBREGION.. 1995. John Wiley & Sons, Incorporated. Infrastructure. Descriptors: Asia (Southeastern); Public works; Southeast Asia; Transportation. Abstract: JOINT PROJECTS FOR CHINA, BURMA, THAILAND, LAOS, CAMBODIA AND VIETNAM INCLUDING ROAD, RAIL AND WATER TRANSPORTATION AND AIRPORTS. Notes: INFRASTRUCTURE, DEC. 1995, P. 14-16: ILL. ISSN/ISBN: 1081-7174. OCLC Accession Number: 00871443. URL: Transportation Research Board.

“The Mekong: Dammed if You Don't.” 1995. ECT. Economist Newspaper Group, Incorporated Nov 18, 1995: Nov 18. Volume 337, Issue 7941, Pages 38. Descriptors: Asia & the Pacific; Short articles; Natural resources; Economic policy & planning; Water supply; Treaties; Problems; Dams; Rivers; International relations. Notes: Geographic: Southeast Asia Vietnam Thailand Myanmar Mekong River Laos China Cambodia. Abstract: Thailand, Vietnam, Laos and Cambodia intend to share the resources of the Mekong River if China and Myanmar will cooperate. A special meeting of the new Mekong River Commission on Nov 20, 1995 may smooth relations. ISSN/ISBN: 0013-0613.

- “Ground Water; Beyond 2000; what Future for Asian Supplies.” 1987. Water Resour. J. United Nations, Economic and Social Commission for Asia and the Pacific, New York, NY, International (III): International (III). Sep. Volume 154, Pages 76-81. Descriptors: Afghanistan; Asia; Bangladesh; Bhutan; Burma; Cambodia; China; Commonwealth of Independent States; Far East; ground water; hydrogeology; India; Indian Ocean Islands; Indian Peninsula; Korea; Laos; Malaysia; Maldives; Mongolia; Nepal; Pakistan; Singapore; Sri Lanka; surveys; Thailand; USSR; Vietnam. Notes: CY: GeoRef, Copyright 2007, American Geological Institute. Database: GeoRef. ISSN/ISBN: 0377-8053.
- “Foundation and Subgrade Sealing for Two Dams Resting on Quartzite and Diorite (Burma) : Kutzner, C Proc 6th National Rock Mechanics Symposium, Aachen, 3-4 April 1985 P177-181. Publ Essen: German Society for Soil Mechanics and Foundation Engineering, 1985.” 1986. International Journal of Rock Mechanics and Mining Science & Geomechanics Abstracts., 2. Volume 23, Issue 1, Pages A27-A27.
- BURMA NEEDS AID. 1986. Simmons-Boardman Publishing Corporation. Int. Railway J. Volume: 26, no. 12, page(s): p. 36-38. Descriptors: Burma; Burma railways corporation; Myanmar; Railroads. Abstract: No abstract provided. ISSN/ISBN: 0744-5326. OCLC Accession Number: 00431885. URL: Transportation Research Board.
- VALMET BARGE FEEDER BORIS POLEVOY. 1984. Descriptors: Boris polevoy. Abstract: A Soviet shipping company operates Seabee type barge carriers, carrying 1070 dwt Danube barges between the Black Sea and India, the Bay of Bengal, and Burma. The first of a pair of feeder vessels to supplement these long-distance barge carriers has now been delivered; this vessel is capable of carrying either 6 Danube barges or 12 LASH barges, and can also operate as a ro-ro or conventional container vessel. The twin-screw ship is propelled by a pair of 7560-bhp Diesel engines, and there is an 80-kN bow thruster. Principal dimensions are:- length oa/bp 158.9/141.2m; breadth 31.0m; depth 15.4m; draught operating/trimmed down 4.4/9.3m; deadweight 8800 t; Speed 23.4 knots. Notes: Shipbuild. Mar. Engng Int., 107 , p. 192 (4 pp., gen. arr. plan, 8 fig.). OCLC Accession Number: 00686765. URL: Transportation Research Board.
- “The Himalaya-Ganges Problem in the Context of Peace and Resource- use Conflict Management.” 1984. Mountain Research & Development. 2005 Elsevier Ltd. All rights reserved.: Volume 4, Issue 4, Pages 363-365. Descriptors: INTERNATIONAL DEVELOPMENT ABSTRACTS -- 74. Abstract: Conflict over resource use has been identified as between ethnic and religious groups for forest and agricultural land; for forest and mineral resources between urban commercial enterprises and hill peoples; different uses of water; pressures on land through migration; and nationalistic rivalries between Bangladesh, China, India, Pakistan, Afghanistan, Bhutan, Nepal, Burma, and the USSR.-P.Creese (CDS). Availability: Connect to the catalog at your library.
- BURMA ROAD IS TEST BED FOR NEW TECHNOLOGY. 1983. International Road Federation; Route One Publishing Limited. World Highways/Routes Du Monde. Volume: 34, no. 7, page(s): p. 1-2. Descriptors: Bituminous materials; Bituminous surfacing; Developing countries; Flexible pavements; Granular materials; Highway construction; Road construction; Seal coats; Surface texture; Surface treating; Texture. Abstract: A 700 kilometer road, connecting the seaport of Bassein, in the Irrawaddy River delta, with the provincial town of Monywa, on the Chindwin River west of Mandalay, is under construction in Burma. The road will provide a through link on the west side of the Irrawaddy River, and is part of the Burmese government's program to develop this relatively isolated area. It will also provide a

north-south connection between a number of existing and proposed east-west roads running from the Irrawaddy valley across the Arakan mountains to the Arakan coast on the Bay of Bengal. In 1977 the Burmese government requested assistance from the Australian government in constructing and surfacing the Bassein-Monywa road. The Australian Development Assistance Bureau appointed the Snowy Mountains Engineering Corporation (SMEC) to implement the project, with the following specific objectives: to introduce appropriate low-cost pavement construction and surfacing technology; to assist in upgrading the output of the construction unit by improved plant utilization and overall job planning; to introduce modern road location, survey and design techniques for use on the Bassein-Monywa road; to upgrade mechanical support facilities and methods and fuel handling to increase equipment serviceability; and to introduce appropriate road maintenance methods and management. Following a study it was agreed that a granular flexible pavement using readily available river gravels surfaced with bituminous surface treatment, would be more appropriate than the previously proposed concrete pavement. The final design comprises subbase and base courses of natural gravels which are crushed and mixed on the road. The gravels are taken from rivers and streams encountered at regular intervals of between 15 and 30 kilometers along the road line. Bituminous surface sealing technology has been introduced on the project to provide a low-cost all-weather seal coat. After tests were made of various combinations of prime coat, primer seal, and single and double surface treatment, a standard design was chosen comprising a primer seal with various size cover aggregates, and a single surface treatment. Local technicians learned the surface treatment techniques so quickly that the operations were handed over to them within one year. The work force has continued to produce excellent results. The pavement has proved to be an excellent performer except in areas of poor drainage, where it has become necessary to modify the gravel aggregate. Results to date indicate that over 95 percent of the finished pavement will have a useful life of 20 years or more. (Author). ISSN/ISBN: 0964-4598. OCLC Accession Number: 00380469. URL: Transportation Research Board.

Economic Bulletin for Asia and the Pacific, v. 32, no. 1, June 1981. 1981. New York: UN. page(s): 123. Descriptors: ECONOMIC DEVELOPMENT; ASIA AND THE PACIFIC; WATER MANAGEMENT; INDIA; SRI LANKA; RURAL WATER SUPPLY; BANGLADESH; MYANMAR; INDONESIA; NEPAL; PAKISTAN; THAILAND. Notes: v; charts, graphs, tables.; Note(s): UN sales publications.; Entry: 19831116; Update: 20070117. ISSN/ISBN: Stock no: 81.II.F.18. OCLC Accession Number: 78504651.

Proceedings of the 3rd Regional Symposium on the Development of Deltaic Areas (Held at Bangkok, Thailand, 22-28 November 1977). 1978. New York: UN. page(s): 274. Descriptors: ASIA AND THE PACIFIC; BANGLADESH; MYANMAR; DELTAS; FLOOD CONTROL; INDIA; INDONESIA; MALAYSIA; PHILIPPINES; SRI LANKA; THAILAND; WATER MANAGEMENT; WATER RESOURCES; Conference publication (cnp); Government publication (gpb); International government publication (igp). Notes: ix; figures, maps, tables.; Note(s): UN sales no.: 78.II.F.10./ Material type: Sales publications (UN)./ Material type: Conferences, etc. (proceedings/final reports).; General Info: Distribution: General.; Other Titles: Regional Symposium on the Development of Deltaic Areas (3rd : 1979 : Bangkok). Proceedings.; Entry: 19800425; Update: 20070217. ISSN/ISBN: Stock no: 78.II.F.10. OCLC Accession Number: 84200262.

“Water Legislation in Asia and the Far East; Part I : Afghanistan, Brunei, Burma, Republic of China, Hong Kong, Iran, Japan, New Zealand, Philippines and Thailand. no. 31, Water

- Resources Series, ECAFE, Bangkok.” 1969. *Journal of Hydrology*,. 6. Volume 8, Issue 2, Pages 243-243.
- MARINE FUELS AND LUBRICANTS SURVEY. 1969. Benn Brothers Marine Publications Limited; Seven Kings Publications, Limited. *Shipping World & Shipbuilder*. Volume: 162, no. 3839, page(s): 3 p. Descriptors: Bunkering; Fuel systems; Fueling systems. Abstract: Trends in marine lubricants are described and detailed accounts are given of the activities with regard to marine fuels, lubricants and bunkering of Mobile, Burma-Castrol, Chevron International, and Brixham Bunkering. ISSN/ISBN: 0037-3931. OCLC Accession Number: 00005456. URL: Transportation Research Board.
- “The Henzadah Plain and Reclamation Works.” 1889. S.l: s.n., 1889; Surveyor General. Descriptors: Flood control -- Burma -- Henzada District -- Maps; Flood control -- Burma -- Bassein River -- Maps; Flood control -- Burma -- Irrawaddy River -- Maps; Reclamation of land -- Burma -- Henzada District -- Maps; Hydraulic engineering -- Burma -- Henzada District -- Maps; Floods -- Burma -- Bassein River; Government publication (gpb); National government publication (ngp). Notes: Description: 1 map ;; mounted on linen ;; 61 x 41 cm.; Map Info: Scale [ca. 380,160]. 6 mile: 1 inch.; Cartgrph Code: Category of scale: a; Note(s): Relief shown by shading./ Includes “Profile of Nawoon River thalweg and floods,” and profiles of Henzada embankment, and Taboo Canal./ “Photozincographed at the Surveyor General's Office, Calcutta, August 1889.”/ “XXII.”; Other Titles: Alternate title:; Henzadah Plain; Entry: 20030922; Update: 20040526. OCLC Accession Number: 53058900.
- 2007 International Conference on Post-Facto Evaluation of Official Development Assistance in the Greater Mekong Subregion. Descriptors: Article Subject Terms: China, People's Rep.; Vietnam; Asia, Mekong R.; Myanmar; Southeast Asia, Mekong Basin; Thailand; Cambodia; Nongovernmental organizations; Sustainability; Culture; Sex; Nutrition; Conservation; Biological diversity; Ecology; Management plans; Social impact; Grants; War; Basins; Catchment areas; Climatic changes; Internet; Natural resources management; Infrastructure; Tourism; Income; Hydroelectric power; Loans; Wildlife; Downstream; Environmental assessment; Environmental engineering; Preservation; Irrigation; Learning; Rivers; Memory; Resource management; Social aspects; Natural resources; Environment management; Endemic species; Resource conservation; Governments; Environmental monitoring; Evaluation; Resource development. Notes: CF: 2007 international conference on post-facto evaluation of official development assistance in the greater mekong subregion, northern illinois university, de kalb, illinois (USA), 5-7 oct 2007. Database: Conference Papers Index. URL: [http://www.ohiou.edu/seas/Mekong\\_Index.html](http://www.ohiou.edu/seas/Mekong_Index.html).
- Adamson, P. 2001. “Hydrological Perspectives of the Lower Mekong.” *Int. Water Power Dam Constr. Mar.* Volume 53, Issue 3, Pages 16-21. Descriptors: Article Subject Terms: Catchment area; Catchment areas; Dry season; Hydroelectric Power; Hydrology; International waters; Policies; Potential resources; Resource development; River Flow; Rivers; Seasonal Variations; Seasons; Stream flow; Streams (in natural channels); Water reservoirs; Water resources; Watersheds; Article Geographic Terms: Cambodia; China, People's Rep.; China, People's Rep., Lancang Jiang R.; Myanmar; Thailand; Vietnam; China, People's Rep., Mekong R. Notes: TR: CS0635532. Abstract: Regulation of the downstream flow regime, defined as some degree of de-naturalisation of the seasonal flow pattern by reallocating water from the wet to the dry season, is often perceived to be one of the adverse impacts of reservoir development. If the resource development does not involve the consumptive use of water or its diversion out of the catchment, and if the focus is directed at the broad seasonal

characteristics of the regulated flow regime and not at the detailed consequences of operational policy, then it is reasonably straightforward to describe a simple quantitative measure of the potential degree of flow modification. It is anticipated, from the information that is available, that the development of reservoir storage for hydro power generation on the Lancang Jiang (Upper Mekong) in Yunnan, China, fits into this simpler non-consumptive category of water resource development and that the major hydrological impact will be a decrease in the characteristic amplitude of the seasonal cycle of flow in the lower basin. The Lower Mekong system is defined as that portion of the total catchment which drains parts of Lao PDR, Myanmar, Thailand, Cambodia and Viet Nam. Database: ASFA: Aquatic Sciences and Fisheries Abstracts. ISSN/ISBN: 0306-400X.

Aiken, S. Robert, Frost, David B. and Leigh, Colin H. 1980. "Dengue Hemorrhagic Fever and Rainfall in Peninsular Malaysia: Some Suggested Relationships." *Social Science & Medicine. Part D: Medical Geography*,. 9. Volume 14, Issue 3, Pages 307-316. Abstract: Dengue hemorrhagic fever (DHF) is a viral disease which has spread throughout Southeast Asia over the past 25 years. *Ae. aegypti* is the main vector of the disease. The location of DHF outbreaks, the number of infected individuals, and the diffusion of the disease are related to several socio-economic, environmental and host factors. A number of writers have discussed the relationships between DHF outbreaks and rainfall in different parts of Southeast Asia. A review of the literature suggests that there are positive correlations between the two variables in Burma, Thailand and the Philippines, all of which have one wet season and prolonged "dry periods", but that the relationships in countries closer to the equator, such as Peninsular Malaysia and Singapore, where there are two wet seasons, are unclear. In two case studies of Selangor and Johore in Peninsular Malaysia for the period 1973-1977, the relationships between DHF cases and moisture surpluses and deficits, the latter derived from Thornthwaite's method for calculating the water balance, are investigated on a monthly basis. It is shown that there is an increase in DHF cases following the March to May wet season and that the size of the increase is positively related to the size of the moisture surplus. The importance of moisture deficits is also underscored. There is, however, an apparent lack of association between DHF cases and rainfall during the second wet season, September-November, of each year. It is suggested that relationships between DHF and rainfall should be sought for a sequence of years, and that investigations must be based on a more sophisticated measure of moisture availability than raw monthly rainfall data. Topics for further research are outlined.

AIR FORCE COMBAT CLIMATOLOGY CENTER SCOTT AFB IL; Taxler, Kathleen M.; Donahue, Christopher A.; Edwards, Michelle E.; Cloys, Kenneth P. and Walters, Kenneth R., Sr. 1997. "Southeast Asia-A Climatological Study." MAY. Descriptors: CLIMATOLOGY; SOUTHEAST ASIA; CONTROL; CLOUDS; WEATHER; HAZARDS; WIND; PRECIPITATION; VISIBILITY; CLIMATE; METEOROLOGY; GEOGRAPHY; VIETNAM; THAILAND; COMMONALITY; SEASONS; CAMBODIA; LAOS; MALAYSIA; TRAFFICABILITY. Abstract: A climatological study of southeast Asia, a region that comprises Cambodia, Laos, Myanmar, Malaysia, Thailand, and Vietnam. After describing the geography and major meteorological features of the entire region, the study discusses in detail the climatic controls of each of southeast Asia's six zones of climatic commonality." Each "season" is defined and discussed in considerable detail, to include general weather, clouds, visibility, winds, precipitation, temperature, hazards, and

trafficability. Notes: Distribution Statement: APPROVED FOR PUBLIC RELEASE. OCLC Accession Number: ADA383372.

AIR FORCE COMBAT CLIMATOLOGY CENTER SCOTT AFB IL; Traxler, Kathleen M.; Donahue, Christopher A., et al. 1997. "Southeast Asia: A Climatological Study." MAY. Descriptors: CLIMATOLOGY; SOUTHEAST ASIA; CLOUDS; TEMPERATURE; MONSOONS; SEA BREEZE; TYPHOONS; DEW POINT; JET STREAMS; WIND; METEOROLOGY. Abstract: A climatological study of southeast Asia, a region that comprises Cambodia, Laos, Myanmar, Malaysia, Thailand, and Vietnam. After describing the geography and major meteorological features of the entire region, the study discusses in detail the climatic controls of each of southeast Asia's six zones of climatic commonality. Each season is defined and discussed in considerable detail, to include general weather, clouds, visibility, winds, precipitation, temperature, hazards, and trafficability. Notes: Distribution Statement: APPROVED FOR PUBLIC RELEASE. Database: DTIC. OCLC Accession Number: ADA286960. URL: <http://handle.dtic.mil/100.2/ADA286960>.

Akaishi, F., Satake, M., Otaki, M. and Tominaga N. Affiliation: F. Akaishi, Division of Life Science, Graduate School of Humanity and Sciences, Ochanomizu University, 2-1-1 Otsuka, Bunkyo Country: Japan E-mail: [g0440401@edu.cc.ocha.ac.jp](mailto:g0440401@edu.cc.ocha.ac.jp). 2006. "Surface Water Quality and Information about the Environment Surrounding Inle Lake in Myanmar." *Limnology*. 2006 Elsevier B.V., All rights reserved.: Volume 7, Issue 1, Pages 57-62 Additional Info: Japan. Descriptors: Surface water quality: lakes and reservoirs -- 71.6.9.3; Hydrochemistry -- 72.2.4; surface water; water quality; water chemistry; ionic composition; alkalinity Species Term: Bacteria (microorganisms). Notes: References: Number: 18; Geographic: Inle Lake Myanmar Shan Southeast Asia Asia Eurasia. Abstract: Inle Lake is the second largest lake in Myanmar and one of the nine key sites for sightseeing there. An analysis of its water quality has not been published before. The objective of this study is to reveal the current situation and find any major problems with the lake. For this purpose, the natural and cultural environments were examined. Some physical and chemical aspects of the surface water were assayed in situ for 2 days in November 2004. The principal ions were analyzed in our laboratory. The main cation and anion species in the lake surface water are  $\text{Ca}^{2+}$  and  $\text{HCO}_3^-$ . Its high calcium content can be attributed to the limestone of Shan Plateau around the lake. The alkalinity of the lake water was 3829-4114 acid-neutralizing capacity (ANC) (pH 7.8-8.0); it can be attenuated by  $\text{Ca}^{2+}$ . The concentrations of  $\text{PO}_4\text{-P}$ ,  $\text{NO}_2\text{-N}$ , and  $\text{NO}_3\text{-N}$  were relatively high; these could originate from domestic and agriculture uses. The trophic state is eutropic. The concentrations of coliform bacteria indicated that the lake water was unfit to drink, but some people use it for drinking anyway. The bacteria could enter the lake through the direct latrine system used there. The thermal type of the lake is presumed to be warm polymictic. More extensive studies are needed because the lake is thought to be the most changing site in Myanmar as a result of both the tourism boom and increasing agricultural activity. (c) The Japanese Society of Limnology 2006. ISSN/ISBN: 1439-8621.

Akaishi, F., Satake, M., Otaki, M. and Tominaga, N. 2006. "Surface Water Quality and Information about the Environment Surrounding Inle Lake in Myanmar." *Limnology*. Apr. Volume 7, Issue 1, Pages 57-62. Descriptors: Article Subject Terms: Alkalinity; Anions; Bacteria; Calcium; Cations; Coliforms; Laboratories; Lakes; Limestone; Limnology; Surface Water; Water Quality; agriculture; culture; plateaus; Article Geographic Terms: Myanmar. Abstract: Inle Lake is the second largest lake in Myanmar and one of the nine key sites for sightseeing there. An analysis of its water quality has not been published before. The objective of this

study is to reveal the current situation and find any major problems with the lake. For this purpose, the natural and cultural environments were examined. Some physical and chemical aspects of the surface water were assayed in situ for 2 days in November 2004. The principal ions were analyzed in our laboratory. The main cation and anion species in the lake surface water are Ca super(2+) and HCO super(-) sub(3). Its high calcium content can be attributed to the limestone of Shan Plateau around the lake. The alkalinity of the lake water was 3829-4114 acid-neutralizing capacity (ANC) (pH 7.8-8.0); it can be attenuated by Ca super(2+). The concentrations of PO sub(4)-P, NO sub(2)-N, and NO sub(3)-N were relatively high; these could originate from domestic and agriculture uses. The trophic state is eutrophic. The concentrations of coliform bacteria indicated that the lake water was unfit to drink, but some people use it for drinking anyway. The bacteria could enter the lake through the direct latrine system used there. The thermal type of the lake is presumed to be warm polymictic. More extensive studies are needed because the lake is thought to be the most changing site in Myanmar as a result of both the tourism boom and increasing agricultural activity. Database: Environmental Sciences and Pollution Mgmt. ISSN/ISBN: 1439-8621.

- Aki, Koichi and Berthelot, R. 1974. "Hydrology of Humid Tropical Asia." UNESCO, Nat.Resour.Res.Ser. Volume 12, Pages 145-158. Descriptors: abundance; Asia; Bangladesh; Brahmaputra River; Burma; conservation; data processing; discharge; Far East; floods; Ganges River; hydrogeology; hydrology; India; Indian Peninsula; Indochina; mathematical models; Mekong River; models; Mu River; Nam Pung; precipitation; programs; regional; rivers and streams; southeast; surface waters; Thailand; Tibet; utilization; Vietnam; volume; water resources. Notes: CD: NRSRAV; Short separate note on application of computer model to specific reclamation problem; FE: illus. incl. tables; CY: GeoRef, Copyright 2007, American Geological Institute. Database: GeoRef.
- Alam, M., Chowdhury, M. L. R., Gani, M. R., Alam, M. M. and Curray J.R. Affiliation: M.M. Alam, Department of Geology, University of Dhaka, Dhaka 1000 Country: Bangladesh E-mail: mmalam@bdcom.com. 2003. "An Overview of the Sedimentary Geology of the Bengal Basin in Relation to the Regional Tectonic Framework and Basin-Fill History." Sediment. Geol. 2005 Elsevier Ltd. All rights reserved.: 01 FEB. Volume 155, Issue 3-4, Pages 179-208 Additional Info: Netherlands. Descriptors: Regional structure and tectonics -- 72.10.2; paleogeography; continental collision; basin fill; sedimentation; depositional environment; stratigraphy; basin evolution; tectonic evolution. Notes: References: Number: 117; Geographic: India -- Bengal Basin Bay of Bengal. Abstract: The Bengal Basin in the northeastern part of Indian subcontinent, between the Indian Shield and Indo-Burman Ranges, comprises three geo-tectonic provinces: (1) The Stable Shelf; (2) The Central Deep Basin (extending from the Sylhet Trough in the northeast towards the Hatia Trough in the south); and (3) The Chittagong-Tripura Fold Belt. Due to location of the basin at the juncture of three interacting plates, viz., the Indian, Burma and Tibetan (Eurasian) Plates, the basin-fill history of these geotectonic provinces varied considerably. Precambrian metasediments and Permian-Carboniferous rocks have been encountered only in drill holes in the stable shelf province. After Precambrian peneplanation of the Indian Shield, sedimentation in the Bengal Basin started in isolated graben-controlled basins on the basement. With the breakup of Gondwanaland in the Jurassic and Cretaceous, and northward movement of the Indian Plate, the basin started downwarping in the Early Cretaceous and sedimentation started on the stable shelf and deep basin; and since then sedimentation has been continuous for most of the basin. Subsidence of the basin can be attributed to differential adjustments of the crust, collision

with the various elements of south Asia, and uplift of the eastern Himalayas and the Indo-Burman Ranges. Movements along several well-established faults were initiated following the breakup of Gondwanaland and during downwarping in the Cretaceous. By Eocene, because of a major marine transgression, the stable shelf came under a carbonate regime, whereas the deep basinal area was dominated by deep-water sedimentation. A major switch in sedimentation pattern over the Bengal Basin occurred during the Middle Eocene to Early Miocene as a result of collision of India with the Burma and Tibetan Blocks. The influx of clastic sediment into the basin from the Himalayas to the north and the Indo-Burman Ranges to the east rapidly increased at this time; and this was followed by an increase in the rate of subsidence of the basin. At this stage, deep marine sedimentation dominated in the deep basinal part, while deep to shallow marine conditions prevailed in the eastern part of the basin. By Middle Miocene, with continuing collision events between the plates and uplift in the Himalayas and Indo-Burman Ranges, a huge influx of clastic sediments came into the basin from the northeast and east. Throughout the Miocene, the depositional settings continued to vary from deep marine in the basin to shallow and coastal marine in the marginal parts of the basin. From Pliocene onwards, large amounts of sediment were filling the Bengal Basin from the west and northwest; and major delta building processes continued to develop the present-day delta morphology. Since the Cretaceous, architecture of the Bengal Basin has been changing due to the collision pattern and movements of the major plates in the region. However, three notable changes in basin configuration can be recognized that occurred during Early Eocene, Middle Miocene and Plio-Pleistocene times, when both the paleogeographic settings and source areas changed. The present basin configuration with the Ganges-Brahmaputra delta system on the north and the Bengal Deep Sea Fan on the south was established during the later part of Pliocene and Pleistocene; and delta progradation since then has been strongly affected by orogeny in the eastern Himalayas. Pleistocene glacial activities in the north accompanied sea level changes in the Bay of Bengal. (c) 2002 Elsevier Science B.V. All rights reserved. ISSN/ISBN: 0037-0738. Availability: FirstSearch indicates your institution subscribes to this publication. Libraries worldwide that own item: 547 US ARMYCOPRS OF ENG RES DEV CT Connect to the catalog at your library.

Alam, Mahmood, Alam, M. Mustafa, Curray, Joseph R., Chowdhury, M. Lutfar Rahman and Gani, M. Royhan. 2003. "An Overview of the Sedimentary Geology of the Bengal Basin in Relation to the Regional Tectonic Framework and Basin-Fill History." *Sedimentary Geology*, 2/1. Volume 155, Issue 3-4, Pages 179-208. Descriptors: Bengal basin; India-Asia collision; Tectonic framework; Geo-tectonic province; Paleogeographic setting; Basin-fill. Abstract: The Bengal Basin in the northeastern part of Indian subcontinent, between the Indian Shield and Indo-Burman Ranges, comprises three geo-tectonic provinces: (1) The Stable Shelf; (2) The Central Deep Basin (extending from the Sylhet Trough in the northeast towards the Hatia Trough in the south); and (3) The Chittagong-Tripura Fold Belt. Due to location of the basin at the juncture of three interacting plates, viz., the Indian, Burma and Tibetan (Eurasian) Plates, the basin-fill history of these geo-tectonic provinces varied considerably. Precambrian metasediments and Permian-Carboniferous rocks have been encountered only in drill holes in the stable shelf province. After Precambrian peneplanation of the Indian Shield, sedimentation in the Bengal Basin started in isolated graben-controlled basins on the basement. With the breakup of Gondwanaland in the Jurassic and Cretaceous, and northward movement of the Indian Plate, the basin started downwarping in the Early Cretaceous and sedimentation started on the stable shelf and deep basin; and since then sedimentation has

been continuous for most of the basin. Subsidence of the basin can be attributed to differential adjustments of the crust, collision with the various elements of south Asia, and uplift of the eastern Himalayas and the Indo-Burman Ranges. Movements along several well-established faults were initiated following the breakup of Gondwanaland and during downwarping in the Cretaceous.

- Albritton, Robert B. 2001. "The Mekong River and the Struggle for Indochina: Water, War, and Peace." *PJAS*. Volume 36, Issue 3, Pages 310-311. Descriptors: Nonfiction; Rivers; War; Water supply; History; Politics; Geography; Economics. Notes: Geographic: China Burma Laos Thailand Cambodia Vietnam Mekong River. Abstract: "The Mekong River and the Struggle for Indochina: Water, War, and Peace" by Nguyen Thi Dieu is reviewed. ISSN/ISBN: 0021-9096.
- Alfaro, M. E., Sellins, S. L., Karns, D. R., Voris, H. K. and Abernathy E. Affiliation: H.K. Voris, Department of Zoology, Field Museum of Natural History, 1400 S. Lake Shore Drive, Chicago, IL 60605 Country: United States E-mail: hvoris@fieldmuseum.org. 2004. "Phylogeny of *Cerberus* (Serpentes: Homalopsinae) and Phylogeography of *Cerberus* Rynchops: Diversification of a Coastal Marine Snake in Southeast Asia." *J. Biogeogr.* 2004 Elsevier Ltd. All rights reserved.: Volume 31, Issue 8, Pages 1277-1292 Additional Info: United Kingdom. Descriptors: Evolution and Speciation -- 73.10.10.1; plate tectonics; evolution; snake; phylogeography; phylogeny Species Term: *Cerberus rynchops*; *Cerberus australis*; *Cerberus microlepis*; *Homalopsis buccata*; *Bitia hydroides*; *Enhydris enhydris*; *Enhydris plumbea*. Notes: References: Number: 87; Geographic: Viet Nam Singapore [Southeast Asia] Australia Sulawesi Sumatra Thailand India Andamans Philippines Borneo Myanmar Sri Lanka Southeast Asia Australasia South Asia Indian Ocean islands Asia Indian Ocean. Abstract: Aim: The biogeography of Southeast Asia has been greatly affected by plate tectonic events over the last 10 Myr and changing sea levels during the Quaternary. We investigated how these events may have influenced the evolution of *Cerberus* Cuvier, a marine coastal snake belonging to the Homalopsinae (Oriental-Australian Rear-fanged Water Snakes). This study is an expansion of a previous study on the biogeography and systematics of *Cerberus*. Location: We obtained species from localities across the range of the widely distributed *Cerberus*: India, Sri Lanka, the Andaman islands, Myanmar, the Philippines, Borneo, Sulawesi, Sumatra, Vietnam, Thailand, Singapore and Australia. Methods: We analysed mtDNA sequences (12S, ND3, ATPase, 2338 nucleotide characters) from 21 localities. The sample consisted of 65 *Cerberus rynchops* (Schneider), three *Cerberus australis* (Gray) and four *Cerberus microlepis* Boulenger. One *Homalopsis buccata* (Linnaeus), one *Bitia hydroides* Gray, one *Enhydris enhydris* (Schneider), and two *Enhydris plumbea* (Boie) were used as outgroups. Results: We produced phylogenetic trees based on parsimony, maximum likelihood and Bayesian analysis. We did not find unambiguous support for the monophyly of *Cerberus*. *Cerberus australis*, *H. buccata* and all other *Cerberus* populations formed a three-way basal polytomy under parsimony and *C. australis* formed the sister group to a clade consisting of *H. buccata* and all other *Cerberus* in likelihood and Bayesian analysis. The non-Australian *Cerberus* were monophyletic and consisted of four primary biogeographical clades: Indian and Myanmar, Philippines, Greater Sunda Islands and Sulawesi, and the Thai-Malay peninsula and Gulf of Thailand. The range of genetic divergence between these clades and Australian *Cerberus* was 0.06-0.12. Genetic divergence among clades to the west of Australia was less pronounced (Thai-Malay peninsula and Gulf of Thailand = 0.02-0.05; Sunda Islands and Sulawesi = 0.02-0.05; Philippines = 0.02-0.06;

India and Myanmar = 0.04-0.06, Philippines = 0.02-0.5). Main conclusions: Gyi [University of Kansas Publications, Museum of Natural History 20 (1970), 47] recognized three species of *Cerberus*: *C. australis* (from Australia), *C. microlepis* (known only from Lake Buhi in the Philippines), and the widely distributed *C. rynchops* (India to Wallacea). We did not find strong support for the monophyly of the genus. *Cerberus australis* is highly divergent from all other *Cerberus* lineages sampled from this region. The geographically widespread *C. rynchops* is resolved into four biogeographical clades (Indian and Myanmar, Philippines, Greater Sunda Islands and Suluwesi, and the Thai-Malay Peninsula and Gulf of Thailand). We discuss how the dispersal biology of a salt-water tolerant, coastal marine taxon and the complex geological history of the region (Tertiary plate tectonic movements and Quaternary sea-level changes) could produce the observed patterns of diversification. ISSN/ISBN: 0305-0270.

- Andersen, N. M. and Grimaldi, D. 2001. "A Fossil Water Measurer from the Mid-Cretaceous Burmese Amber (Hemiptera: Gerromorpha: Hydrometridae)." *Insect Syst. Evol.* Volume 32, Issue 4, Pages 381-392. Descriptors: Article Subject Terms: Amber; Animal fossils; Cretaceous; Fossils; Geographical distribution; New genera; New species; Article Taxonomic Terms: *Carinametra burmensis*; Gerromorpha; Hydrometridae; Article Geographic Terms: Burma; Myanmar; Hemiptera; Marsh treaders; Semiaquatic bugs; amber. Notes: TR: CS0221290. Abstract: Semiaquatic bugs (Hemiptera: Gerromorpha) comprise about 1,800 extant species classified in eight families. So far, 38 fossil species belonging to six families have been described or recorded, most of Cenozoic age. Knowledge about the evolutionary history of the major groups of Gerromorpha is seriously hampered by the scarcity of well-preserved Mesozoic fossils, especially from the Cretaceous. The present paper reports on a well-preserved semiaquatic bug from amber collected in the northern part of Myanmar (Burma). The source of this fossiliferous amber was previously considered to be Eocene in age, but recent evidence indicates that it originated in the Middle Cretaceous (Turonian-Cenomanian), or 100-90 Ma. The fossil species is described as *Carinametra burmensis* gen. et sp. n. The presence of three pairs of cephalic trichobothria, a prolonged head, long slender antennae and legs, reduced wing venation, etc., places the fossil in the gerromorphan family Hydrometridae or water measurers. Other characters suggest a close relationship with the two extant genera of the most basal of the hydrometrid subfamilies, Heterocleptinae. We present and discuss the available evidence used in the dating of Burmese amber. Finally, we discuss the phylogenetic, paleobiological, and biogeographic significance of the new fossil. Database: ASFA: Aquatic Sciences and Fisheries Abstracts. ISSN/ISBN: 0013-8711.
- Anji Reddy, M. and Jhansi Lakshmi, K. V. "Disinfestation of *Eleusine Coracana* (L.) Gaertn. and *Pennisetum Typhoides* (Burma. F.) Stapf. and Hubb. Seeds by Hot Water Treatment *Cochliobolus Nodulosus*." Notes: Source: *Geobios*. Sept/Nov 1982. v. 9 (5/6) : p. 277-278. Additional Info: Jodphur : Dr. David N. Sen. Publishing Agencies: Non-US Imprint, not FAO. Availability: Connect to the catalog at your library.
- Anonymous. 2008. "Deaths of Rare Crocodile in India Stir Alarm." *New York Times*. Thomson 2008: JAN 22 2008. Volume 157, Issue 54197, Pages AF3. Notes: Concept: 00512, General biology - Conservation and resource management 07502, Ecology: environmental biology - General and methods 07508, Ecology: environmental biology - Animal 07514, Ecology: environmental biology - Limnology 07516, Ecology: environmental biology - Wildlife management: aquatic 10069, Biochemistry studies - Minerals 37015, Public health - Air, water and soil pollution; Major Concepts: Freshwater Ecology ; Pollution Assessment Control

and Management ; Wildlife Management Broader Term(s): Ecology, Environmental Sciences; Conservation; Super Taxa: Reptilia Vertebrata Chordata; Chemicals: lead; CAS Registry Number: 7439-92-1; Role(s): pollutant, water pollutant; Geographic: River Chambal; Geopolitical Location(s): India, Asia; Zoogeographical Region: Oriental region; Entry: 20080402. Abstract: The death of rare Indian crocodile called gharial is found to be increasing on banks of a river called Chambal as reported by the Chambal Wildlife Sanctuary officials. The gharial native to South Asia is one of the most endangered species and WWF believes it is extinct in its former habitats of Pakistan and Myanmar. The cause of river pollution is estimated to be lead, which may have come from the Yamuna River. ISSN/ISBN: 0362-4331.

ARMY CONSTRUCTION ENGINEERING RESEARCH LAB CHAMPAIGN ILL; Schomaker, Norbert B. and Aufmuth, Raymond E. 1971. "Burma Soils. A Study of the Effects of Lime and Cement on Paddy and Laterite Material." MAR. Descriptors: SOILS; BURMA; ROADS; CONSTRUCTION; STABILIZATION; CEMENTS; COMPRESSIVE PROPERTIES; SOIL MECHANICS CIVIL ENGINEERING. Abstract: Laboratory tests were performed on samples of paddy and laterite soils obtained from the proposed right-of-way of the Rangoon-Mandalay Highway, Burma. These tests were conducted to determine the basic engineering properties of the soils and to evaluate the feasibility of stabilizing these soils with lime and cement. The addition of lime to these soils had little beneficial effect on either soil. This was due to the non-reactive nature of the soils and the poor stabilizing quality of the lime available in Burma. Special tests using American lime indicated a strength increase of about 300% over the natural soil strength, compared to an increase of less than 100% with Burma lime. Addition of cement, on the order of 6% by dry weight of soil, effectively stabilizes both soils. Unconfined compressive strengths of both are increased on the order of 300%. (Author). Notes: Distribution Statement: APPROVED FOR PUBLIC RELEASE. OCLC Accession Number: AD0720993.

ARMY ENGINEER INST FOR WATER RESOURCES FORT BELVOIR VA; Priscoli, J. D.; Moon, J.; Groen, P. van; Bradley, J. and Fujii, C. 1985. "Report of the Inland Waterway Transport (IWT) Mission, 5 February-20 April 1985. Main Report." JUN. Descriptors: TRANSPORTATION; INLAND WATERWAYS; PAKISTAN; WATER; NAVIGATION; TRANSPORT; RIVERS; DREDGING; HARBORS; ASIA; CHINA; PHILIPPINES; THAILAND; INDONESIA; BURMA; SRI LANKA; MALAYSIA; GEOGRAPHY HYDROLOGY, LIMNOLOGY AND POTAMOLOGY. Abstract: Report identifies major problems and needs of inland waterways transport across nine Asian countries: Bangladesh, Burma, China, Indonesia, Malaysia, Pakistan, Philippines, Sri Lanka, Thailand. It also recommended and prioritized 70 projects to meet these needs and problems. Originator-supplied keywords: Inland waterway transport, Water resources, Navigation, Asia, Escap, U.N., Ports and harbors, Dredging, Planning, Operation, Rivers. Notes: Distribution Statement: APPROVED FOR PUBLIC RELEASE. OCLC Accession Number: ADA159724.

ARMY ENGINEER INST FOR WATER RESOURCES FORT BELVOIR VA; Priscoli, J. D.; Moon, J.; Groen, P. van; Bradley, J. and Fujii, C. 1985. "Report of the Inland Waterway Transport (IWT) Mission, 5 February-20 April 1985. Appendices." JUN. Descriptors: TRANSPORTATION; INLAND WATERWAYS; PAKISTAN; COMPUTATIONS; REPORTS; DOCUMENTS; TRANSPORT; BACKGROUND; RESOURCES; ASIA; CHINA; PHILIPPINES; THAILAND; INDONESIA; BURMA; SRI LANKA; MALAYSIA; GEOGRAPHY HYDROLOGY, LIMNOLOGY AND POTAMOLOGY. Abstract: Report

identifies major problems and needs of inland waterways transport across nine Asian countries. It also recommended and prioritized 70 projects to meet these needs and problems. Contents of this volume: Terms of Reference and Nature of Services; People Interviewed; Non-ESCAP Team Members; Background Reports of Countries Visited; Project Documentations; Basis of Personnel and Resources Calculations for IWT Study Centre Alternatives. Notes: Distribution Statement: APPROVED FOR PUBLIC RELEASE. OCLC Accession Number: ADA159725.

ARMY NATICK LABS MA EARTH SCIENCES LAB; Dalrymple, Paul C.; Everett, Kaye R.; Wollaston, Sarah; Hastings, Jr, Andrew D. and Robison, William C. 1970. "Environment of the Central Asian Highlands." DEC. Descriptors: CLIMATOLOGY; GEOGRAPHY; PLANTS(BOTANY); WIND; ATMOSPHERIC TEMPERATURE; MOUNTAINS; TREES; ASIA; GLACIERS; WATER SUPPLIES; FORESTRY; ARMY OPERATIONS; MAPS; SOLAR RADIATION; BAROMETRIC PRESSURE. Abstract: The report presents a survey of environmental conditions - physiography, vegetation, and climate - which might affect military personnel and equipment above the 2,000- meter elevation in Central Asia. These highlands include some of the world's highest and most inaccessible mountain ranges, such as the Himalaya, Karakoram, Pamir, Hindu Kush, Kun Lun Shan, Anme Machin, Tien Shan, Nan Shan, and Great Snowy Range, as well as the high plateaus of Tibet and the generally lower mountains of Mongolia. The study treats portions of Afghanistan, Bhutan, Burma, China (including all of occupied Tibet), India, Mongolia, Nepal, Pakistan, Sikkim, and the Soviet Union. It is organized in two parts: a general synopsis of environmental characteristics of the area as a whole, and a series of more detailed treatments by sections. For the latter, Central Asia is subdivided into five sections comprising the Sino-Burmese Ranges, Tibetan Plateau and associated ranges, Pamir Knot and associated ranges, Tien Shan and associated ranges, and the Mongolian Highlands. All of these except the Mongolian Highlands are shown in topographic and cultural maps at a scale of approximately 1:3,800,000. The distribution of terrain, vegetation, and climatic elements over the area as a whole is shown in a series of smaller-scale maps at 1:10,000,000. Notes: Distribution Statement: APPROVED FOR PUBLIC RELEASE. Database: DTIC. OCLC Accession Number: AD0728460. URL: <http://handle.dtic.mil/100.2/AD728460>.

Arntz, W. and Zetzmann, D. 1986. MULTIPURPOSE CARGO SHIPS SAGAING AND MAGWE. Abstract: These are single-screw motor vessels with two continuous decks built by the Seebeckwerft for the Burma Five Star Shipping Corporation. There are four cargo holds, all arranged forward of the superstructure. The hatchways have been selected to suit the dimensions of standard containers; base pads for securing containers are welded to the tank tops. Most bulkheads are flat with the stiffeners located outside the cargo holds. Five 25-t electrohydraulic cranes are provided for cargo handling, arranged as a single crane between holds 1 and 2 and as twin cranes between holds 2 and 3 and holds 3 and 4; the latter two pairs can be coupled by spreaders to provide a total lifting capacity of 100 t. Propulsion is by a M.A.N.-B&W 5L60MCE diesel engine developing 6650 kW at 110 rpm driving a 5.4 m diameter propeller; a stern bulb improves the inflow to the propeller. Principal particulars are: Length oa/bp 149.00/140.00 m; Breadth 22.40 m; Depth 10.75 m; Draught, freeboard 8.05 m; Deadweight 13,055 t; Container capacity 215 TEU under deck, 168 TEU on deck; Speed 16.9 knots. A general arrangement drawing is given. Notes: Hansa, 123 (1986), p.553 (No.7, Apr.) [6 pp., 5 fig., 2 tab.]. OCLC Accession Number: 00689947. URL: Transportation Research Board.

Audy, J. R. and Harrison, J. L. 1951. "A Review of Investigations of Mite Typhus in Burma and Malaya, 1945-1950." Transactions of the Royal Society of Tropical Medicine and Hygiene, . 2. Volume 44, Issue 4, Pages 371-404. Abstract: Summary This paper reviews in general terms the epidemiological work of an Army research unit on the Indo-Burma border in 1945-46 (Scrub Typhus Research Laboratory, Imphal, South-East Asia Command), and a Colonial Office unit, supported by Colonial Development and Welfare funds and attached to the Institute for Medical Research, from 1947 onwards. Only one vector of importance to man is recognized. This exists in two forms, *Trombicula deliensis* (= *walchi*), being the most widespread, and *T. akamushi* (= *fletcheri*), occurring particularly in the east and north. In a wide area of overlap, the parasitic larvae of both forms may transmit infection in neighbouring foci or even in the same focus. The vector is a member of a distinct species-group of which many members have now been found. Larval mites of the family Trombiculidae were the dominant external parasites of small mammals in all the areas investigated. The life cycle of the vector has been studied by Mr. Cockings by breeding it through several generations in the laboratory, in which conditions the cycle is being completed in 5 1/2 to 8 weeks. The cycle of *T. deliensis* in nature appeared to be completed in 8 to 12 weeks during the monsoon in the Imphal area. The vector is distributed on the smallest scale as restricted colonies or "mite-islands" which form an irregular pattern on the ground. The basic infestation pattern is decided largely by the behaviour and numbers of the primary hosts of the parasitic larvae. Though not always the principal hosts in individual foci, the most important and universal hosts of the larvae of the vector are field forms of *Rattus rattus*-in Imphal, *R. r. bullocki*; in Malaya, *R. r. argentiventer*-but others may take their place, e.g., the bandicoot, *Bandicota bengalensis*, in villages and towns in Burma, and forms of *R. exulans* (e.g., *concolor*, *browni*) in Pacific Islands. Some small birds such as quail contribute to the basic pattern. An important group of other hosts with longer ranges are responsible for distributing mites but not appreciably for the basic pattern of infestation. The common giant rats (*R. sabanus*, *R. mülleri*) in the Malayan forest are the proper hosts of members of the vector-species group of mites, and *R. mülleri* is the most prominent host of *T. deliensis* itself in the forest. Heavy infestations by the vector are, however, found outside the forest on forms of *R. rattus*. The number of questing larvae of the vector (and, therefore, the risk of infection) is related to soil moisture and surface humidity, and hence to rainfall (seasonal incidence) and to the lowered humidity which obtains during sunny days and after clearing undergrowth. Even in very dry seasons larvae persist in foci which are kept moist by ground water. Rainfall affects the distribution of the vector in both space and time, and also influences the activity of the rodent hosts to a marked extent. Studies on infection in and infectivity of the vector mite, and of the congenital transmission of infection, are progressing in collaboration with Dr. S. R. Savor. Some evidence has been gained that the congenital transmission of infection may be inefficient.

Auldridge, Larry, Bartlett, Dan C., Houbert, S., Guyonnet, P., Collins, Bart and Hatley, Allen G. 1978. "SOUTHEAST ASIA REPORT." Oil Gas J. Volume 76, Issue 9, Pages 2475118. Descriptors: PETROLEUM PROSPECTING; NATURAL GAS DEPOSITS - Asia; NATURAL GAS, LIQUEFIED - Asia; OIL WELL DRILLING - Equipment. Notes: Compilation and indexing terms, Copyright 2008 Elsevier Inc. Abstract: This special report covers oil and gas activities and prospects in Southeast Asia, throughout the vast swath of islands and waters from Burma and Thailand east and southeast of Malaysia, the Philippines, and Indonesia to Australia and New Zealand. It includes special articles on equipment and

techniques used to cut costs and solve problems peculiar to this region, on the Philippines' first oil field, on crude-oil handling in Indonesia's second largest oil field, and on eliminating teething troubles at Southeast Asia's first big LNG plant in Brunei.

Aung Kywe and Australian International Development Assistance Bureau. 1988. Water for the Villagers : The Burma Village Water Supply Project. Canberra: Australian Government Pub. Service. page(s): 33. Descriptors: Water-supply -- Burma -- International co-operation; Water resources development -- Burma; Wells -- Burma; Government publication (gpb); National government publication (ngp). Notes: iv; ill., maps ; 25 cm.; Responsibility: Aung Kywe ... [et al.]; Entry: 19881207; Update: 20080413. ISSN/ISBN: 0644081007; 9780644081009 Series 1030-7249 ; OCLC Accession Number: 29259696.

Aung Myo, Han, Khin Nwe, D., Tin, Aye and Thein, Hlaing. 1986. "Personal Toilet After Defaecation and the Degree of Hand Contamination According to Different Methods used." J. Trop. Med. Hyg. ; J. Trop. Med. Hyg. Oct. Volume 89, Issue 5, Pages 237-41 Additional Info: ENGLAND. Descriptors: Defecation; Hygiene; Adolescent; Adult; Child; Child Care; Child, Preschool; Diarrhea -- epidemiology; Diarrhea -- microbiology; Diarrhea -- transmission; Dysentery -- epidemiology; Dysentery -- microbiology; Dysentery -- transmission; Educational Status; Female; Hand -- microbiology; Humans; Infant; Myanmar. Notes: Citation: Status: MEDLINE Owner: NLM; Date of Entry: 19870206; Date Completed: 19870206; Date of Update: 20041117. Abstract: Transmission due to contaminated hands is one of the important routes by which diarrhoea pathogens spread. The hands commonly become contaminated while cleaning the anus after defaecation. This study deals with the commonly used methods of anal cleansing in a low socioeconomic community in Rangoon, Burma and with the degree of hand contamination that results according to the method used. A cross-sectional survey was employed for collection of behavioural and hand contamination data. The incidence of acute diarrhoea and dysentery among under-fives in this community was monitored for 1 month and was correlated with the cleaning method used by their mothers. Water was the principal method used for cleaning the anus in all age groups. No one used toilet paper and only 4 to 9% used paper other than toilet paper. The level of education seemed to be a factor in determining the use of paper or water. The hands of mothers using water were more contaminated than those using paper. However, thorough hand washing with soap and water was found to be effective in decontaminating the hands. Furthermore, there was a relation between the incidence of diarrhoea and dysentery and the method of cleaning. ISSN/ISBN: 0022-5304 (Print).

Aung, M., Tin Mya, Soe, Monfort, S., et al. 2001. "Ecology and Social Organization of a Tropical Deer (*Cervus Eldi Thamin*)." J. Mammal. 2005 Elsevier Ltd. All rights reserved.: Volume 82, Issue 3, Pages 836-847 Additional Info: United States. Descriptors: Animal ecology: mammals: autecology and behaviour -- 73.4.7.5.2; social structure; deer; sex ratio; home range; reproduction Species Term: *Cervus eldi*; *Cervus eldi thamin*; *Cervus*; Cervidae; Vertebrata. Notes: References: Number: 49; Geographic: Myanmar -- Chatthin Wildlife Sanctuary. Abstract: From 1995 to 1999, we conducted an ecological study of thamin (*Cervus eldi thamin*) at Chatthin Wildlife Sanctuary in central Myanmar; we maintained records on deer sightings and radiotracked 11 adult male and 8 adult female deer. Based on 747 sightings, a 0.63: 1.0 adult male: female ratio and 0.51:1.0 fawn: adult female ratio were observed. Mean group size was variable (1.0-5.9 deer) and showed seasonal differences, with few groups observed in August-September and groups of &le;70 individuals observed in March-April. Based on the fixed-kernel method, annual home range was 9.04 km<sup>2</sup> ± 5.67 SD

- and 7.25 km<sup>2</sup> ± 3.45 SD for males and females, respectively. Thamin increased their seasonal home range during the hot-dry season, possibly in response to decreased forage and water availability and increased mating activity. The observed synchrony of estrous onset (March-April) and fawning (October-November) in female thamin is unusual for a tropical cervid species, but reproductive seasonality appears timed to balance fawn survival with doe nutrition in a monsoon environment. ISSN/ISBN: 0022-2372. Availability: FirstSearch indicates your institution subscribes to this publication. Libraries worldwide that own item: 1147 US ARMYCOPRS OF ENG RES DEV CT Connect to the catalog at your library.
- Aung, W., Hlaing, K. K., Kyaw, K. P., Win, M. M. and Kyaw, A. 1999. "Stability of Russell's Viper Venom Toxoid (Lyophilized Form) on Storage." Japanese Journal of Infectious Diseases, 1999 Dec. 52(6):234-7: JAPAN. Volume 52, Issue 6, Pages 234-237. Descriptors: Animals; Biological Assay; Desiccation; Drug Stability; Drug Storage; Female; Formaldehyde: pharmacology; Freeze Drying; Hydrogen-Ion Concentration; Lethal Dose 50; Male; Mice; Myanmar; Preservatives, Pharmaceutical: pharmacology; Refrigeration; Safety; Temperature; Time Factors; Toxoids: chemistry; Viper Venoms: chemistry; Viper Venoms: toxicity. Notes: RN: 0 (Preservatives, Pharmaceutical); 0 (Toxoids); 0 (Viper Venoms); 0 (viper venom); 50-00-0 (Formaldehyde); LR: 20061115. Abstract: A previously developed Russell's viper venom toxoid in Myanmar is in a liquid form that shows reversion in the form of a reduced number of formaldehyde linkages and toxicity during storage at 37 degrees C and at room temperature. In order to have a safe, potent and stable toxoid, a lyophilized form was prepared in the present study from the liquid toxoid through the use of a freeze dryer. Both the liquid and lyophilized forms were then stored at 4 degrees C and at room temperature, and in addition to safety and immunogenicity tests, biochemical parameters such as the protein content, the activity of venom enzymes (proteinase, phospholipase A, phosphodiesterase, and arginine esterase), and the released free formalin amounts were assessed at 3-month intervals over a period of 1 year. The results indicate that under both conditions, the lyophilized toxoid shows minimum changes in enzyme activity, a reduced tendency toward formaldehyde linkage, no toxicity, and more immunogenicity in comparison with the respective liquid toxoids. It could therefore be hypothesized that Russell's viper venom toxoid in a lyophilized form is more promising in terms of efficacy and stability for prophylactic use in human immunization than the conventional toxoid in a liquid form. Database: TOXLINE. ISSN/ISBN: 1344-6304. Availability: Print.
- Avni, Yoav. 1999. "Lithology as the Main Factor Causing Aridization; an Example from Burma (Myanmar); Annual Meeting, 1999; Dead Sea." Annual Meeting - Israel Geological Society. Israel Geological Society, Jerusalem, Israel (ISR): Israel (ISR). Volume 1999, Pages 9. Descriptors: agriculture; Asia; Burma; clastic rocks; desertification; deserts; developing countries; eolian features; Far East; hydrology; infiltration; Irowaddi Formation; Irrawaddi River; land use; lithofacies; planning; runoff; sandstone; seasonal variations; sedimentary rocks; surface water; water management; water resources; water supply. Notes: CD: #54599; CY: GeoRef, Copyright 2007, American Geological Institute. Database: GeoRef. ISSN/ISBN: 0334-0694.
- Aye, T. and Finch, J. 2007. "Legal Aspects of Hydropower Projects in Myanmar." Int. J. Hydro. Dams. Volume 14, Issue 1, Pages 62-70. Descriptors: Article Subject Terms: Dam Construction; Dams; Hydroelectric Plants; International cooperation; Investment; Legal Aspects; Article Geographic Terms: Myanmar. Notes: TR: CS0749942. Abstract: Myanmar is rich in hydro potential, and has a major development programme under way, with a number

of large and small schemes under construction and planned. As a member of the Greater Mekong Subregion and also an ASEAN member, the country offers possibilities for international cooperation in the region. This paper discusses the legal framework relating to investment in hydro schemes. Database: ASFA: Aquatic Sciences and Fisheries Abstracts. ISSN/ISBN: 1352-2523.

- Aye, T. T. and Siriarayapon P Affiliation: Department of Health, Ministry of Health,,Myanmar. 2004. "Typhoid Fever Outbreak in Madaya Township, Mandalay Division, Myanmar, September 2000." J. Med. Assoc. Thai. ; J. Med. Assoc. Thai. Apr. Volume 87, Issue 4, Pages 395-9 Additional Info: Thailand. Descriptors: Disease Outbreaks; Adolescent; Adult; Female; Humans; Male; Middle Aged; Thailand -- epidemiology; Typhoid Fever -- epidemiology. Notes: Citation: Status: MEDLINE Owner: NLM; Date of Entry: 20040625; Date Completed: 20040722; Date of Update: 20061115. Abstract: In September 2000, an outbreak of typhoid fever was reported in a rural village of Central Myanmar. The authors investigated the outbreak in the affected village. A suspected case was a person suffering from fever with either constipation, abdominal pain, diarrhoea/bloody diarrhoea. A probable case was a suspected case who had positive result on the diazo urine test or widal test. Based on probable cases, the authors conducted a case-control study comparing history of contact with the cases, water source, and personal hygiene. Control was a person living in the village was not ill and having a negative result for diazo urine test. Among 49 suspected cases, 33 were probable. Attack rate was 1.2%. Three cases had a positive culture for Salmonella typhi and were not drug resistant. The following risk factors were identified: drinking unboiled river water (adjusted OR 12.5, 95%CI 2.8-75.3), history of contact with other patients before the illness (adjusted OR 22, 95%CI 3.5-76.2), no hand washing with soap after defecation (adjusted OR 0.15, 95% CI 0.03-0.81). Environmental investigation result showed that most of the households had unsanitary latrine and some latrines were constructed near the edge of a river. The outbreak subsided quickly after intervention. ISSN/ISBN: 0125-2208 (Print).
- Baird, I. G. and Beasley I.L. Affiliation: I.G. Baird, Department of Geography, University of British Columbia, Vancouver, BC Country: Canada E-mail:.,ianbaird@shaw.ca. 2005. "Irrawaddy Dolphin Orcaella Brevirostris in the Cambodian Mekong River: An Initial Survey." Oryx. 2006 Elsevier B.V., All rights reserved.: Volume 39, Issue 3, Pages 301-310 Additional Info: United Kingdom. Descriptors: Marine mammals -- 76.5.17; dolphin; coastal water; river system; habitat; river basin; survival Species Term: Orcaella brevirostris; Cetacea; Orcaella; Animalia. Notes: References: Number: 18; Geographic: Bay of Bengal Mekong River Cambodia Ayeyarwady Mahakam Delta Australia Indian Ocean Asia Southeast Asia Myanmar Kalimantan Australasia Eurasia Indonesia. Abstract: Irrawaddy dolphins Orcaella brevirostris are found in coastal waters from the Bay of Bengal east to Palawan, Philippines and south to northern Australia. They also occur in three large tropical river systems in South-east Asia: the Mekong, Mahakam and Ayeyarwady. In March and May 1997 approximately 350 km of riverine habitat in parts of north-east Cambodia were surveyed, discussions took place with local people, and reported dry season dolphin habitat was mapped. Our objectives were to investigate the status, habitat and distribution of dolphins in north-east Cambodia and identify threats to the continued survival of dolphins in the Mekong River Basin. Nine groups of dolphins were observed in the Mekong River. A 'best' estimate of 40 animals were seen. Irrawaddy dolphins were generally confined to sections of the river with water levels >8-10 m during the dry season. It appears that the Mekong River dolphin population is rapidly declining. In 1997 there were probably no more than 100-150

dolphins left in north-east Cambodia (including southern Laos) and no more than 200 within the entire Mekong River Basin, although these numbers remain tentative. Anthropogenic mortality is high, albeit largely unintentional, and there is considerable risk that the dolphin population will become locally extinct in the Mekong River in the near future. The establishment of community-managed deep water Fish Conservation Zones with government support may represent the best opportunity for reducing dry season dolphin mortality from large-meshed gillnet entanglement. Efforts to establish protected areas for dolphins are currently underway. (c) 2005 FFI. ISSN/ISBN: 0030-6053 E- 1365-3008.

Bajracharya D Affiliation: Chief Water and Environmental Sanitation Section, UNICEF, Yangon, Myanmar.,dbajracharya@unicef.org. 2003. "Myanmar Experiences in Sanitation and Hygiene Promotion: Lessons Learned and Future Directions." *Int. J. Environ. Health Res. ; Int. J. Environ. Health Res. Jun. Volume 13 Suppl 1: S141-52 Additional Info, Pages England.* Descriptors: Communicable Disease Control; Health Promotion; Hygiene; Sanitation; Communication; Community-Institutional Relations; Diarrhea -- etiology; Diarrhea -- mortality; Diarrhea -- prevention & control; Handwashing; Humans; Myanmar; Public Health; Rural Population; Toilet Facilities. Notes: Citation: Status: MEDLINE Owner: NLM; Date of Entry: 20030530; Date Completed: 20030923; Date of Update: 20041117. Abstract: Recent activities in connection with the National Sanitation Week (NSW) and Social Mobilisation for Sanitation and Hygiene have contributed to a significant increase in access to sanitary means of excreta disposal, from 45% in 1997 to 67% in 2001. Handwashing with soap and water after defecation has also increased from 18% in 1996 to 43% in 2001. Success is attributable to high level political commitment, state or division level action and community mobilisation by village level authorities. Multi-level efforts such as mass media, planning workshops, training sessions and house-to-house visits by village authorities and health officials have raised greater awareness of sanitation and hygiene issues and led to construction of latrines on a self-help basis. The challenge ahead is to give greater attention to the 'hard to reach' who live in less accessible areas and are more resistant to change. The 2002 NSW has accordingly given special emphasis to activities in 73 of 324 townships where 50% or more of the households have no access to a sanitary latrine. The communication and social mobilisation package has been improved to upgrading unsanitary latrines and integrating handwashing more systematically with promotion of sanitary latrines. Programmatic follow-up to the NSW is being provided in selected townships through more intensive social mobilisation for 'hard to reach' households and activity-based school sanitation and hygiene education. This approach will contribute further towards improved hygienic practices and reduce diarrhoeal morbidity and mortality. ISSN/ISBN: 0960-3123 (Print); 1369-1619 (Electronic).

Bajracharya D. Affiliation: D. Bajracharya, UNICEF, Yangon International Hotel, 330 Ahlone Road, Dragon Township, Yangon Country: Myanmar E-mail:,dbajracharya@unicef.org. 2003. "Myanmar Experiences in Sanitation and Hygiene Promotion: Lessons Learned and Future Directions." *International Journal of Environmental Health Research 13, SUPPL. 2005 Elsevier Ltd. All rights reserved.: Volume 1, Pages S141-S152 Additional Info: United Kingdom.* Descriptors: HEALTH, HEALTH SYSTEMS AND SERVICES -- 74.22; Social Planning -- 70.10.4; health education; sanitation; hygiene; health policy. Notes: References: Number: 4; Geographic: Myanmar. Abstract: Recent activities in connection with the National Sanitation Week (NSW) and Social Mobilisation for Sanitation and Hygiene have contributed to a significant increase in access to sanitary means of excreta disposal, from 45%

in 1997 to 67% in 2001. Handwashing with soap and water after defecation has also increased from 18% in 1996 to 43% in 2001. Success is attributable to high level political commitment, state or division level action and community mobilisation by village level authorities. Multi-level efforts such as mass media, planning workshops, training sessions and house-to-house visits by village authorities and health officials have raised greater awareness of sanitation and hygiene issues and led to construction of latrines on a self-help basis. The challenge ahead is to give greater attention to the 'hard to reach' who live in less accessible areas and are more resistant to change. The 2002 NSW has accordingly given special emphasis to activities in 73 of 324 townships where 50% or more of the households have no access to a sanitary latrine. The communication and social mobilisation package has been improved to upgrading unsanitary latrines and integrating handwashing more systematically with promotion of sanitary latrines. Programmatic follow-up to the NSW is being provided in selected townships through more intensive social mobilisation for 'hard to reach' households and activity-based school sanitation and hygiene education. This approach will contribute further towards improved hygienic practices and reduce diarrhoeal morbidity and mortality. ISSN/ISBN: 0960-3123.

Bajracharya, D. 2003. "Myanmar Experiences in Sanitation and Hygiene Promotion: Lessons Learned and Future Directions." *Int. J. Environ. Health Res.* S141-S152. Jun. Volume 13, Issue Suppl. 1, Pages S141-S152. Descriptors: Article Subject Terms: Communication; Education; Human Diseases; Hygiene; Morbidity; Mortality; Planning; Public Health; Sanitation; Water Supply; Water supplies; Article Geographic Terms: Myanmar; diarrhea; water-borne diseases. Abstract: Recent activities in connection with the National Sanitation Week (NSW) and Social Mobilisation for Sanitation and Hygiene have contributed to a significant increase in access to sanitary means of excreta disposal, from 45% in 1997 to 67% in 2001. Handwashing with soap and water after defecation has also increased from 18% in 1996 to 43% in 2001. Success is attributable to high level political commitment, state or division level action and community mobilisation by village level authorities. Multi-level efforts such as mass media, planning workshops, training sessions and house-to-house visits by village authorities and health officials have raised greater awareness of sanitation and hygiene issues and led to construction of latrines on a self-help basis. The challenge ahead is to give greater attention to the 'hard to reach' who live in less accessible areas and are more resistant to change. The 2002 NSW has accordingly given special emphasis to activities in 73 of 324 townships where 50% or more of the households have no access to a sanitary latrine. The communication and social mobilisation package has been improved to upgrading unsanitary latrines and integrating handwashing more systematically with promotion of sanitary latrines. Programmatic follow-up to the NSW is being provided in selected townships through more intensive social mobilisation for 'hard to reach' households and activity-based school sanitation and hygiene education. This approach will contribute further towards improved hygienic practices and reduce diarrhoeal morbidity and mortality. Database: Environmental Sciences and Pollution Mgmt. ISSN/ISBN: 0960-3123.

Banerjee, P. K., Bagchi, A., Vaz, G. G. and Sengupta B.J. Affiliation: P.K. Banerjee, 315 B Upen Banerjee Rd, Calcutta 700 060 Country:,India. 2001. "A Qualitative Assessment of Seismic Risk Along the Peninsular Coast of India, South of 19°N." *Journal of Geodynamics.* 2005 Elsevier Ltd. All rights reserved.: Volume 31, Issue 5, Pages 481-498 Additional Info: United Kingdom. Descriptors: Earthquakes -- 72.12.4; Earthquake mechanisms and effects -- 77.1.3; natural hazard; earthquake; seismicity; seismic hazard; risk assessment. Notes:

References: Number: 66; Geographic: India. Abstract: Many earthquakes have been recorded from the coastal margin of the Indian peninsular shield during the last 200 years. Largely made up of Precambrian assemblages with variable cover of Jurassic to Quaternary sedimentary rocks and Cretaceous-Eocene volcanics, the peninsular shield was long held to be aseismic. Recent measurements, however, show that this continental fragment is being pushed northeastward by the Carlsberg and Central Indian ridges; and the Indo-Myanmar subduction zone is exerting vigorous slab pull towards the east. Repeated cycles of sea level change during the Quaternary have also induced continuing hydro-isostatic adjustment due to variable melt water loading in the Bay of Bengal and the Arabian sea. All these forces produce space-time fluctuations of strain around many small to large faults, which occur in the upper crust of the shield. Some of the faults have been intermittently active (during the past 100 kyr); others were active earlier. Although the Shillong plateau and the associated hill ranges of northeastern India and Myanmar are subject to the maximum seismic hazard, the peninsular coast is also vulnerable to intermittent seismicity. We present illustrative evidence of some active faults, which are recognisable (a) on coastal land by displaced Pleistocene weathered cover, hot springs, leakages of native mercury and allochthonous geochemical anomalies of base metals and (b) offshore below the inner shelf by horst-shaped uplifted segments and intra-formational slump folds on and below the top shallow seismic (3.5 khz) reflector. On the other hand, there are long stretches of the east coast at Vishakhapatnam and Manappad Point, which do not show active faults. Step-like marine terraces, which occur up to + 6 m above the low tide level (LTL) preserve records of relative sea level fluctuations during the Holocene and the Last Interglacial. In such sectors, absence of tectonic disturbance during the last 100 ka is also corroborated by lateral continuity of shallow seismic reflectors below the inner shelf over many kilometers. Since authentic historical (200-1000 years B.P.) records of seismicity along the Peninsular coast are virtually unavailable, the likely recurrence interval between earthquakes in each sector cannot be gauged. We, therefore, propose a scale of seismic risk, based on geometry of the mappable faults and available seismic records of the last two centuries. These could be used in combination to rank the densely populated coastal tracts sector-wise. (c) 2001 Published by Elsevier Science Ltd. All rights reserved. ISSN/ISBN: 0264-3707.

Banerjee, Pronab K., Vaz, G. G., Sengupta, B. J. and Bagchi, A. 2001. "A Qualitative Assessment of Seismic Risk Along the Peninsular Coast of India, South of 19°N." *Journal of Geodynamics*,. 7. Volume 31, Issue 5, Pages 481-498. Abstract: Many earthquakes have been recorded from the coastal margin of the Indian peninsular shield during the last 200 years. Largely made up of Precambrian assemblages with variable cover of Jurassic to Quaternary sedimentary rocks and Cretaceous-Eocene volcanics, the peninsular shield was long held to be aseismic. Recent measurements, however, show that this continental fragment is being pushed northeastward by the Carlsberg and Central Indian ridges; and the Indo-Myanmar subduction zone is exerting vigorous slab pull towards the east. Repeated cycles of sea level change during the Quaternary have also induced continuing hydro-isostatic adjustment due to variable melt water loading in the Bay of Bengal and the Arabian sea. All these forces produce space-time fluctuations of strain around many small to large faults, which occur in the upper crust of the shield. Some of the faults have been intermittently active (during the past 100 kyr); others were active earlier. Although the Shillong plateau and the associated hill ranges of northeastern India and Myanmar are subject to the maximum seismic hazard, the peninsular coast is also vulnerable to intermittent seismicity. We present illustrative evidence

of some active faults, which are recognisable (a) on coastal land by displaced Pleistocene weathered cover, hot springs, leakages of native mercury and allochthonous geochemical anomalies of base metals and (b) offshore below the inner shelf by horst-shaped uplifted segments and intra-formational slump folds on and below the top shallow seismic (3.5 kHz) reflector. On the other hand, there are long stretches of the east coast at Vishakhapatnam and Manappad Point, which do not show active faults. Step-like marine terraces, which occur up to +6 m above the low tide level (LTL) preserve records of relative sea level fluctuations during the Holocene and the Last Interglacial. In such sectors, absence of tectonic disturbance during the last 100 ka is also corroborated by lateral continuity of shallow seismic reflectors below the inner shelf over many kilometers. Since authentic historical (200-1000 years B.P.) records of seismicity along the Peninsular coast are virtually unavailable, the likely recurrence interval between earthquakes in each sector cannot be gauged. We, therefore, propose a scale of seismic risk, based on geometry of the mappable faults and available seismic records of the last two centuries. These could be used in combination to rank the densely populated coastal tracts sector-wise.

- Bannert, D. 1993. "Copyright 2005 Elsevier Ltd. all Rights Reserved.; Facies Developments in Hydrocarbon Basins from Landsat Images." Environmental Research Institute of Michigan, Ann Arbor. page(s): 159-168. Descriptors: GEOGRAPHICAL ABSTRACTS: PHYSICAL GEOGRAPHY -- 71; hydrocarbon basin; Landsat imagery; sedimentation. Abstract: A set of isopach maps was constructed showing the depositional features of the shelf area of Tertiary Burma. Oligocene sediments, which were believed to be absent in the northern part (Chindwin Basin) could be proven in an area defined during the course of the work. Indications for the rise of the Arakan Yoma during Post-Oligocene times could be deduced. A second example where Landsat MSS image interpretation yielded valuable information on the sedimentary process lies at the eastern Makran coast in Pakistan. There, the fast uplift of the accretionary prism of flysch sediments put deep water sediments into near shore position documented by a change from clay to coarse sandstone. -from Author. Notes: References: Number: 27; Note(s): Special Features: 1 map, 3 photos, 27 references. Availability: Connect to the catalog at your library. OCLC Accession Number: 1013892.
- BAY, E. C. and SELF, L. S. 1972. "Observations of the Guppy, *Poecilia Reticulata* Peters, in *Culex Pipiens Fatigans* Breeding Sites in Bangkok, Rangoon, and Taipei." P 407-416: VOL 46, NO 3. Descriptors: ASIA; HUMAN DISEASES; PUBLIC HEALTH; MOSQUITOES; ORGANIC WASTES; WATER POLLUTION; CITIES; BANGKOK; CULEX-PIPIENS-FATIGANS; GUPPY; MOSQUITO CONTROL; POECILIA-RETICULATA; RANGOON; TAIPEI; WUCHERERIA-BANCROFTI. Abstract: THE SUCCESSFUL ESTABLISHMENT OF THE GUPPY IN A NUMBER OF SHALLOW, HIGHLY POLLUTED GROUND POOLS BENEATH LOW INCOME HOUSING IN BANGKOK, THAILAND WAS PREVIOUSLY REPORTED. WHETHER BANGKOK GUPPIES EVOLVED A HIGHER TOLERANCE TO ORGANIC POLLUTION THAN *P. RETICULATA* THAT HAD NEVER BEEN EXPOSED TO THESE CONDITIONS WAS QUESTIONED; THE POSSIBILITIES OF USING THESE FISH ELSEWHERE TO CONTROL *C. PIPIENS FATIGENS* (ESPECIALLY IN RANGOON, BURMA, AND TAIPEI, TAIWAN) WHERE THIS MOSQUITO IS THE VECTOR OF *WUCHERERIA BANCROFTI* WHICH AFFECTS HUMANS ARE DISCUSSED.--COPYRIGHT 1973, BIOLOGICAL ABSTRACTS, INC. Database: Environmental Sciences and Pollution Mgmt.

- Beech, Hannah. 2007. "A Bend in the River." TMAS. 2007 Time Inc. All rights reserved. No part of this material may be duplicated or disseminated without permission.: Sep 10. Volume 170, Issue 10, Pages 26. Descriptors: Dams; Hydroelectric plants; Environmental protection; Water flow; Shipping industry; Industrial parks; Farmers; Environmental economics; Entrepreneurs; Economic expansion; Construction. Notes: Geographic: China Mekong River. Abstract: In 2001, Chinese crews, brought in by Southeast Asian governments eager to increase traffic and trade, began blasting and dredging a stretch of the river running from Burma and Laos to Thailand, clearing away islands, reefs and rapids that once blocked the passage of ships. ISSN/ISBN: 1064-0304.
- Bender, F.; Bannert, D.; Brinckmann, J.; Gramann, F. and Helmcke, D. 1983. Geology of Burma. Federal Republic of Germany (DEU): Gebrueder Borntraeger Verlagsbuchhandlung, Berlin-Stuttgart, Federal Republic of Germany (DEU). Beitrage Zur Regionalen Geologie Der Erde. Volume: 16, Language: English. Descriptors: areal geology; Asia; Burma; Far East; hydrogeology; monographs; regional; soils. Notes: CD: BRGEA4; FE: References: 940; illus. incl. 92 plates, table, geol. sketch map, sect., strat. col.; MP: Scale: 1:2,000,000. type: Geologic map; LL: Latitude:N090000,N284500 longitude:E1014500,E0920000; CY: GeoRef, copyright 2007, american geological institute. reference includes data from PASCAL, institute de l'information scientifique et technique, vandoeuvre-les-nancy, france. ISSN/ISBN: 0522-7038. Database: GeoRef. OCLC Accession Number: 1985-034073.
- Bert, W. 1990. "Chinese Policy Toward Democratization Movements: Burma and the Philippines." Asian Survey. 2005 Elsevier Ltd. All rights reserved.: Volume 30, Issue 11, Pages 1066-1083. Descriptors: WATER -- 74.13; reform movement; democratisation; Chinese foreign policy. Notes: Geographic: Burma Philippines China. Abstract: This article is an inquiry into China's attitude and policy toward situations where a reform movement was trying to replace or reform a rigid and inefficient government in a geographical area of strategic and economic importance to China. As the crises deepened in Burma and the Philippines, was China's policy toward democratization aimed at continuing good relations with the friendly but now threatened "old regime" and maintaining the status quo or at establishing rapport with and supporting the movement or party attempting to take power; and were China's reasons for giving or withholding support based on its advocacy of reform per se, or protection of its security and economic interests through diplomatic and foreign policy means? -from Author. ISSN/ISBN: 0004-4687.
- BIERBAUER, ELAINE. 1995. THOSE BURMA-SHAVE JINGLES, AMERICA'S ROADSIDE REIGN OF RHYME. California Highway Patrolman. Descriptors: Advertising; Advertising, outdoor; Billboards; History; Roadside advertising; United States. Abstract: No abstract provided. Notes: P. 56-60: ILL.; CALIFORNIA HIGHWAY PATROLMAN. VOL. 59, NO. 8 (AUG. 1995). OCLC Accession Number: 00857119. URL: Transportation Research Board.
- Bird, M. I., Robinson, R. A. J., Win Oo, N., et al. "A Preliminary Estimate of Organic Carbon Transport by the Ayeyarwady (Irrawaddy) and Thanlwin (Salween) Rivers of Myanmar." Quaternary International,. Volume In Press, Corrected Proof,
- Blaber, S. J. M., Brewer, D. T., Milton, D. A., et al. 1999. "The Life History of the Protandrous Tropical Shad *Tenualosa Macrura* (Alosinae: Clupeidae): Fishery Implications." Estuarine, Coastal and Shelf Science,. 11. Volume 49, Issue 5, Pages 689-701. Descriptors: tropical; coastal waters; *Tenualosa*; protandry; overfishing; distribution. Abstract: *Tenualosa macrura* is a tropical shad that was previously found throughout the estuaries and coastal waters of Sumatra and Borneo where it formed the basis of flourishing fisheries. The only viable fishery

today has contracted to the Riau Province of Sumatra, Indonesia. To provide information for conservation and fisheries management, a two-year study of the biology, ecology and life history characteristics of *T. macrura* was conducted. The evidence from sizes of sexes, sex ratios and histology is that *T. macrura* is a protandrous hermaphrodite. It changes from male to female mainly between 14 and 20 cm SL (standard length) (six months to one year in age), after the male has spawned. Almost all fish in their second year are females; the species does not appear to live beyond two years. There is a regular movement of spawning males and females between the Strait of Malacca (salinity 28-30) and the spawning grounds in the sheltered straits (salinity 20-28) of Riau Province on each new and full moon. Their occurrence in the inshore straits leads to heavy fishing during these moon phases. The main nursery areas are the shallow coastal waters of the Strait of Malacca. The decline in catches of *T. macrura* has probably been as a result of fishers intensively targeting aggregations of spawning females. Furthermore, most are caught before spawning. It is postulated that the protandrous habit of this species, and its likewise endangered congener of Sarawak, *T. toli*, renders them more vulnerable to overfishing than is the gonochoristic and more widespread *T. ilisha* that is heavily fished from Burma through the Indian sub-continent to Kuwait.

Blaber, SJM; Milton, DA; Fry, G. and Chenery, SR. 2003. New Insights into the Life History of *Tenualosa Ilisha* and Fishery Implications. 5410 Grosvenor Ln. Ste. 110 Bethesda MD 20814-2199 USA, [URL:<http://afs.allenpress.com>]: American Fisheries Society. Am. Fish. Soc. Symp. Volume: 35, page(s): 223-240. Descriptors: Article Subject Terms: Age groups; Anadromous species; Bays; Biodiversity; Brackishwater environment; Catch statistics; Coastal fisheries; Coastal waters; Commercial species; Correlation; Depleted stocks; Distribution records; Estuaries; Estuarine fisheries; Fecundity; Fishery management; Geochemistry; Growth rate; Migrations; Monsoons; Otolith reading; Population dynamics; Population structure; Recruitment; Rivers; Salinity gradients; Sex ratio; Sexual maturity; Spawning grounds; Stock assessment; Temperature effects; Water temperature; Article Taxonomic Terms: *Tenualosa ilisha*; Article Geographic Terms: Australia; Bangladesh; ISW, Indian Ocean, Bengal Bay; Kuwait; Myanmar; PSE, East Indian Ocean; Pakistan; Hilsa; Sex ratio bias; Shads; Brackish. Abstract: *Tenualosa ilisha* (known as hilsa) is the most widespread of the five species of tropical shads *Tenualosa* spp. It is found from North Sumatra in the east to Kuwait in the west. It is the basis of important fisheries in Bangladesh, India, Burma, Pakistan, and Kuwait and is probably the basis of the largest estuarine fishery in the world. In Bangladesh, *T. ilisha* comprises 25% of total fish production (total = about 200,000 metric tons per year). To date, there has been no attempt to relate the marine, estuarine, and freshwater components of the populations and describe the full life history of the species. To address this, studies were conducted in Bangladesh by the Commonwealth Scientific and Industrial Research Organization, Australia, and the Fisheries Research Institute of Bangladesh between 1996 and 2000. Results show that male and female *T. ilisha* reach sexual maturity at 200 mm when they are 1 year old and that both are able to spawn at this size. Unlike other *Tenualosa* species, there is no histological or macroscopic evidence for sex change in *T. ilisha*, but there is a bias in the sex ratio. The majority of individuals over 300 mm and almost all over 400 mm are females. Males predominate between 100 and 250 mm, but the sex ratio below 100 mm is more even. The biases in the sex ratio suggest that males may not live as long as females. Spawning occurs throughout the year from upstream at the Indian border to the coast at Chittagong and even in the sea off Cox's Bazar. Contrary to the previous belief that *T. ilisha* is strictly anadromous, the data show clearly that *T. ilisha*

spawn in rivers, in estuaries, and on the coast. Otolith core microchemistry indicates that some fish (e.g., from Cox's Bazar) are born in middle to high salinities, which suggests that salinity per se may not be relevant to the location of spawning areas. The previously documented large-scale movements of *T. ilisha* show a marked correlation with water temperature. Upstream movements during the monsoon (July-September) take place when water temperatures are highest inland. Conversely, the movement toward the sea corresponds with a marked drop in upstream water temperature from about October, when sea temperatures are 3-4 degree C higher than riverine temperatures. Otolith Sr:Ca ratios and reproductive surveys indicate that the movement patterns of *T. ilisha* are complex and variable. Individuals attain 20 cm standard length by the end of their first year and grow at similar rates to other tropical clupeids. The population is now dominated by 1-year-old fish, whereas in the 1960s it was composed mainly of 3-year-old fish. Hence, the probability of recruitment failure has greatly increased because 1-year-old fish now contribute most to egg production and have a relatively low fecundity. This, together with a decline in female fecundity, has implications for the future of the fishery which recorded large declines in catches in 2000 and 2001. Notes: SO: Biodiversity, Status, and Conservation of the World's Shads. pp. 223-240. American Fisheries Society Symposium [Am. Fish. Soc. Symp.]. Vol. 35.; TR: CS0509113. ISSN/ISBN: 1888569514. Database: ASFA: Aquatic Sciences and Fisheries Abstracts. OCLC Accession Number: 5707398.

Bodden, Ralf. 1987. "KINDA DAM HYDROELECTRIC POWER PLANT MAKES AN IMPORTANT CONTRIBUTION TO BURMA'S POWER SUPPLY." *Energy & Automation*. Volume 9, Issue 6, Pages 52-53. Descriptors: HYDROELECTRIC POWER PLANTS -- Burma; DAMS - Burma; ELECTRIC POWER PLANTS - Burma. Notes: Compilation and indexing terms, Copyright 2008 Elsevier Inc. Abstract: The Kinda Dam hydroelectric power plant was commissioned at the end of 1985 after a construction period of just under five years. It is part of a multi-purpose project built for the Electric Power Corporation and financed by the World Bank and the Kreditanstalt fuer Wiederaufbau. In January 1986 the plant, which is Germany's major development aid project for Burma, was visited by Dr. Richard von Weizsaecker, President of the Federal Republic of Germany. The Kinda Dam storage reservoir was built to afford protection against flooding in the rainy season and for irrigation of wide areas of land for more intensive rice cultivation, since the severe seasonal water shortage is a problem in the dry zone of central Burma.

Bodet, Francois and Schaerer, Urs. 2001. "Pb Isotope Systematics and Time-Integrated Th/U of SE-Asian Continental Crust Recorded by Single K-Feldspar Grains in Large Rivers." *Chem. Geol.* Elsevier, Amsterdam, Netherlands (NLD): Netherlands (NLD). 30 Jul. Volume 177, Issue 3-4, Pages 265-285. Descriptors: alkali feldspar; Asia; Burma; clastic sediments; continental crust; crust; drainage basins; erosion; Far East; feldspar group; fluvial environment; framework silicates; hydrology; Indochina; Irrawaddy River; isotope ratios; isotopes; K-feldspar; lead; Mekong Delta; metals; Pb-206/Pb-204; Pb-207/Pb-204; Pb-208/Pb-204; Phanerozoic; Precambrian; provenance; radioactive isotopes; Red River; rivers and streams; Salween River; sand; sediments; silicates; Southeast Asia; stable isotopes; stream sediments; Th/U; Thailand; U/Th/Pb; Vietnam. Notes: CD: CHGEAD; FE: References: 41; illus. incl. 1 table, geol. sketch map; CY: GeoRef, Copyright 2007, American Geological Institute. Reference includes data from CAPCAS, Elsevier Scientific Publishers, Amsterdam, Netherlands. Abstract: To elucidate time-integrated Th/U and Pb isotope characteristics of the SE-Asian continent, 159 individual K-feldspar grains from the rivers

Mekong, Salween, Irrawaddy and Red River were analyzed. Earlier U-Pb dating and Hf isotope results of zircon and baddeleyite from the same river sands have established its crustal growth and recycling history, also showing that these heavy minerals are sufficiently representative for the evolution of large continental regions [Geochim. Cosmochim. Acta 64 (2000) 2067]. We therefore consider K-feldspar populations in these sands to be the best possible way to investigate Pb isotope systematics on the continental scale, and analyzing individual grains overcomes the averaging effect of multi-grain measurements. To test the basic condition that U/Pb-ratios are very low in K-feldspar, Pb concentration were measured in all grains, and U in about 10% of them, corroborating Pb concentrations between 4 and 292 ppm with a mean value of 80+ or -40 ppm, and U and Th well below 0.1 and 0.4 ppm, respectively. In situ decay of U can therefore be neglected in all grains and measured Pb isotope ratios are those acquired by the magmatic or metamorphic host material at the time of K-feldspar crystallization. Relative to the model evolution of (super 206) Pb/ (super 204) Pb in upper continental crust, model ages range between 0.5 and 0.2 Ga, whereas many (super 207) Pb/ (super 204) Pb are significantly more radiogenic than any type of Phanerozoic crust. This confirms important recycling of Precambrian crust into the K-feldspar source material such as already observed by Hf signatures for the heavy mineral source lithologies. An important observation is that none of the K-feldspars has preserved Precambrian Pb isotope signature and in consequence, detrital sediments covering the SE-Asian continent must essentially originate from Phanerozoic orogenic belts, where K-feldspars have been re-equilibrated by metamorphic reactions or crystallization in newly formed melts. To dominate delivery of detrital material to such a large extent on the continental scale, these Phanerozoic orogenies must have generated important high mountains ranges, to be subsequently flattened by erosion; today topographic highs are exclusively due to uplift in relation to the India-Asia collision. Concerning (super 232) Th/ (super 208) Pb and time-integrated Th/U ratios, only 4 out of 159 grains plot on the model curves for continental crust, with all other ratios being significantly more radiogenic in (super 208) Pb/ (super 204) Pb, indicating high Th/U source material. If these time-integrated Th/U ratios are modeled in the frame of the known crust formation events, Th/U ratios lie at 4.15-4.22 plotting significantly higher than Th/U deduced for fine-grained sediments or predicted by classical models for average or upper continental crust. Database: GeoRef. ISSN/ISBN: 0009-2541.

Bolin, T. D., Genge, J. R., Duncombe, V. M., Soe-Aung and Myo-Khin Affiliation:

Gastrointestinal Unit, Prince of Wales Hospital, Randwick, New South Wales,,Australia.

1996. "Patterns of Methane Production in a Burmese (Myanmar) Population." J.

Gastroenterol. Hepatol. ; J. Gastroenterol. Hepatol. Jan. Volume 11, Issue 1, Pages 71-6

Additional Info: AUSTRALIA. Descriptors: Adolescent; Adult; Age Factors; Aged; Aged, 80

and over; Breath Tests; Child; Child, Preschool; Cross-Sectional Studies; Diet; Female;

Humans; Infant; Infant, Newborn; Male; Methane -- metabolism; Middle Aged; Myanmar;

Sex Factors; Smoking -- epidemiology; Socioeconomic Factors. Notes: Chemical Subst:

Methane [74-82-8]; Citation: Status: MEDLINE Owner: NLM; Date of Entry: 19960814;

Date Completed: 19960814; Date of Update: 20041117. Abstract: While up to 50% of

Western populations produce methane, this is less than that of rural black Africans and there

is no information on methane production in populations from Asian developing countries.

Females consistently produce methane more commonly than males, and methane production

in children under the age of five years, except in Nigeria, is unusual. Breath methane was

sampled in 1426 subjects from Myanmar ranging in age from 1 month to 88 years, with a

- mean age of 26.2 years. Half (49.8%) of the Myanmar population produced methane, this figure comprising 53% of females and 46% of males sampled. Methane production increases with age and reaches adult levels after 10 years of age. A high prevalence of methane production was found in children under 3 years of age (15.8%). Methane production was absent in 13 solely breast-fed children and increased as other food was introduced into the diet. There was an association of methane production within families and with smoking. The prevalence of methane production increased in male and female smokers, with 75% of smokers producing methane. Methane production was not associated with occupation, education, income, water source, latrine type, previous diarrhoea, antibiotic usage or socio-economic status. ISSN/ISBN: 0815-9319 (Print); 1440-1746 (Electronic).
- Bondre, N. 2007. "Earthquakes: Burma's Fault." *Nature*; *Nature*. Sep 6. Volume 449, Issue 7158, Pages 33 Additional Info: England. Descriptors: Models, Theoretical; Natural Disasters; Myanmar; Oceans and Seas; Water Movements. Notes: Note(s): Comment On: *Nature*. 2007 Sep 6; 449 (7158): 75-8 PMID: 17805292; Citation: Status: MEDLINE Owner: NLM; Date of Entry: 20070906; Date Completed: 20071002. ISSN/ISBN: 0028-0836 (Print); 1476-4687 (Electronic). Availability: FirstSearch indicates your institution subscribes to this publication. Libraries worldwide that own item: 2818 US ARMYCOPRS OF ENG RES DEV CT Connect to the catalog at your library.
- Boonpiraks, S. 1992. "Thai-Myanmar Joint Hydro Schemes." *International Water Power and Dam Construction IWPCDM*, Vol.44, no.10, p 40-41. October 1992. 1 fig. Descriptors: Hydroelectric projects; Myanmar; Thailand; Water resources development; Water resources management; Cost analysis; Dams; Developing countries; International agreements; Regional planning. Abstract: Both Thailand and the Union of Myanmar have, for a long time, been interested in the development of the water resources of their bordering rivers. The two countries agreed in 1989 to cooperate on eight hydro projects along their common border: Nam Mae Sai, Klong Kra, Upper Salawin, Lower Salawin, Nam Moei 1, Nam Moei 2, Nam Moei 3, and Mak Kok. Preliminary studies of the projects have since been carried out and choices for dam type and electric power generation equipment have been made. The total capacity of the eight stations will be 6397.5 MW, requiring a total investment of some US \$5.12 billion. (Rochester-PTT). Database: Environmental Sciences and Pollution Mgmt.
- Boonpiraks, S. 1992. "Thai-Myanmar Joint Hydro Schemes." *Int. Water Power Dam Constr.* Volume 44, Issue 10, Pages 40-41. Descriptors: Hydroelectric power plants; Water resources. Notes: Compilation and indexing terms, Copyright 2008 Elsevier Inc. Abstract: A brief overview is presented here of planned cooperation between Thailand and Myanmar to harness the hydro resources available along the border of the two countries. This would reduce their dependence on thermal generation. ISSN/ISBN: 0306-400X.
- Boucher, Francois. 2007. *Southeast Asia. A Rail Network from China to Singapore. LA VIE DU RAIL*. no. 3, page(s): pp 28-35. Descriptors: Burma; China; Network analysis (Planning); Networks; Railroad transportation; Railroads; Regional development; Regional planning; Regional transportation; Singapore; Southeast Asia; Vietnam. Abstract: By 2015, a 5,500-km unified Pan-Asian railway network should be completed, replacing the existing metric gauge mosaic of railway lines in Southeast Asia. Since 1995, this project has mobilized the key railway players and stakeholders in this part of the globe. Between China and Singapore, and between Vietnam and Burma, 8 countries are involved. However, not all these countries have the same level of development nor the same priorities as do the aforementioned nations. This article discusses the logistics, barriers, and possible solutions involved in constructing the

- proposed Pan-Asian railway network throughout Southeast Asia. OCLC Accession Number: 01082418. URL: Transportation Research Board.
- Boucot, A. J., Cocks, L. R. M. and Racheboeuf P.R. Affiliation: A.J. Boucot, Department of Zoology, Oregon State University, Corvallis, OR,97331. 1999. "Early Devonian Brachiopods from Satun Province, Southern Thailand." *J. Paleontol.* 2005 Elsevier Ltd. All rights reserved.: Volume 73, Issue 5, Pages 850-859 Additional Info: United States. Descriptors: Invertebrates -- 72.8.5; Devonian; paleobiogeography Species Term: Quasiprosserella samedensis; Plectodonta forteyi; Caplinoplia thailandensis; Clorinda wongwanichi; Brachiopoda; Entovalva; Plectodonta; Quasiprosserella. Notes: References: Number: 52; Geographic: Thailand -- Satun Province. Abstract: Twelve brachiopod taxa are described from the Early Devonian (probable early Emsian) Pa Samed Formation of southern Thailand, including the new genus and species Quasiprosserella samedensis (Ambocoeliidae?) and the new species Plectodonta forteyi, Caplinoplia thailandensis, and Clorinda wongwanichi. They are the first undoubted Devonian brachiopods from Thailand. They represent the deeper-water Benthic Assemblages BA4-5, and, although clearly indicative of the Old World Realm, cannot be assigned to a particular biogeographical region. A new undescribed fauna from the contemporary Zebingyi Formation of Burma (Myanmar) is also noted. ISSN/ISBN: 0022-3360. Availability: FirstSearch indicates your institution subscribes to this publication. Libraries worldwide that own item: 865 US ARMYCOPRS OF ENG RES DEV CT Connect to the catalog at your library.
- Bray, J. 1993. "Burma Politics and Petroleum." *Geopolitics of Energy.* 2005 Elsevier Ltd. All rights reserved.: Volume 15, Issue 5, Pages 6-8. Descriptors: WATER -- 74.13; gas; petroleum; political factors; offshore exploration. Notes: Geographic: Burma. Abstract: Interest in Burma is provoked mainly by offshore prospects and the possibility that such gas discoveries may be related to others in the Gulf of Thailand, thus making the region a gas province of importance to continental Southeast Asia and possibly a source of additional LNG trade. The geological opportunities for offshore exploration are considered attractive, but the bleak political outlook sours the prospects for economic expansion. -from Author. ISSN/ISBN: 0273-1371.
- Brichieri-Columbi, J. S. A. 1983. "Hydrological Studies of the Irrawaddy Delta." *Hydrology of Humid Tropical Regions IAHS Publication no.140, 1983.Proceedings of a Symposium Held at the 18th General Assembly of the International Union of Geodesy and Geophysics.* Hamburg, West Germany. Volume August 15-27, Pages 3 ref. Descriptors: Hydrology; Irrawaddy Delta; Mathematical models; Surveys; Drainage basins; Deltas; Hydrologic regime; Short-term planning; Available water; Mali River; N'Mai River; Burma; China. Abstract: The Irrawaddy is formed by the confluence of the Mali and N'Mai rivers which rise among 6,000 m peaks on the Burma-China border, and drains a 415,000 sq km drainage basin. As it is navigable for much of its 2,000 km length, and provides a constant supply of fresh water to the dry central zone, it has played a dominant role in the history and economic life of Burma. The delta starts at Kyangin, 380 km from the Gulf of Martaban, at an altitude of 15 m, and extends over an area of 31,000 sq km between the confining hills of the 1,300 m Arakan Yomas in the west and the 900 Pegu Yomas in the east. The river fans out from its braided channel above Kyangin in a complex of tidal creeks which drain into the gulf by 12 major mouths extending over 260 km of coast. In the period November 1977-March 1981, a hydrological survey was carried out by various British government and private organizations under a project funded by the IDA and ODA (UK). The study objectives were (a) to establish

- hydrological design parameters for paddy projects; (b) to determine the availability of fresh water in the lower delta channels; (c) to assess the effect of short-term projects for development of 400,000 ha of paddyland, and long-term development with widespread embanking, on the hydraulic regime of the delta. To satisfy the second and third objectives, a one-dimensional mathematical model of the delta was set up to study the fluvio-tidal interaction under low flow and flood conditions. The modelling work was carried out in parallel with a major survey effort in order to concentrate the survey efficiently, and to identify errors in the survey or modelling while the teams were still available. (See also W87-00086) (Lantz-PTT). Database: Environmental Sciences and Pollution Mgmt.
- Brinckmann, J. and Hinze, C. 1981. "On the Geology of the Bawdwin Lead-Zinc Mine, Northern Shan State, Burma." *Geologisches Jahrbuch, Reihe D.* 2005 Elsevier Ltd. All rights reserved.: Volume 43, Pages 7-45. Descriptors: MINERALOGY -- 72.1. Notes: Note(s): Special Feature: 2 figs, 11 coloured photos, 2 coloured geological maps (1:10 000 & 1:4800), 5 coloured plans. Abstract: Detailed geological re-mapping shows a close association between the Pb(Ag)-Zn ore of the Bawdwin mine and the rhyolitic country rocks. These 2000 m-thick volcanoclastic sediments and shallow rhyolite intrusive are intercalated in Lower Palaeozoic shallow-water deposits. The late phase of this volcanism was characterized by pneumatolytic and/or hydrothermal solutions which gave three sulphide orebodies (the Shan, Chinaman and Meingtha lodes) and surrounding low-grade ore in volcanoclastic sediments. The position of the high-grade orebodies was controlled by the Bawdwin fault zone. Several features of the Bawdwin ore and its felsitic host rocks are similar to the Japanese Kuroko ore deposit. The Bawdwin lodes are of the 'fissure-filling vein type' and/or 'stockwork ore' of the Kuroko-type deposits. -R.A.H. Availability: Connect to the catalog at your library.
- Browder, Greg John. 1998. NEGOTIATING AN INTERNATIONAL REGIME FOR WATER ALLOCATION IN THE MEKONG RIVER BASIN (CAMBODIA, LAOS, THAILAND, VIETNAM). STANFORD UNIVERSITY; 0212 Advisor: Adviser: LEONARD ORTOLANO. DAI. Volume: 59, 06A, page(s): 359-2178. Descriptors: POLITICAL SCIENCE, INTERNATIONAL LAW AND RELATIONS; POLITICAL SCIENCE, GENERAL; ENVIRONMENTAL SCIENCES; URBAN AND REGIONAL PLANNING. Abstract: This study analyzes negotiations for the 1995 Mekong Agreement and examines the early implementation of the Agreement. The Mekong regime is defined as a governance system for water management in the Mekong Basin. The regime-member states are Cambodia, Laos, Thailand, and Vietnam; the two upper basin states, China and Myanmar, are not members. Although the regime has existed since 1957, the Agreement signaled the start of a new era in which water allocation is a key issue. The research question is: How, and to what extent, has the Mekong regime made progress on water allocation issues? The dissertation reviews the history of the Mekong regime, surveys current water resource development in the Mekong Basin, and describes the geopolitical context for the Agreement. Negotiations for the Agreement and its early implementation are then examined. The study constructs an analytic framework based on the work of three negotiation researchers: Howard Raiffa, James Sebenius, and Lawrence Susskind. Information for the analysis comes from interviews with the negotiators, negotiation documents, press reports, and the author's personal experiences. Three levels of hierarchical rules exist in the Mekong regime: constitutional, legislative, and administrative. The Agreement represents a new constitution because it specifies principles, procedures and organizational arrangements. The Agreement was possible because: (i) the Mekong states wanted to maintain amicable relations in the post-Cold War era, (ii)

governments from Europe and Japan subsidize the Mekong regime, and (iii) planned Chinese reservoirs will augment the dry season water supply. Mediation by the United Nations Development Programme was necessary in formulating the Agreement. The Agreement created the Mekong River Commission (MRC), and requires the MRC to formulate legislative rules on: (i) minimum flows in the Mekong River, (ii) procedures for reviewing proposed water uses, and (iii) a non-binding basin development plan. The MRC has encountered difficulties drafting these legislative rules because of the absence of mediation, the MRC's low status on the region's foreign policy agenda, and the contentious nature of water allocation issues. The restructuring of the Mekong regime will not be complete until the MRC has a set of administrative rules on specific water uses. Notes: Degree: PH.D. OCLC Accession Number: AAG9837180.

Brown, L. R.; Renner, M. and Halweil, B. 1999. VITAL SIGNS 1999. THE ENVIRONMENTAL TRENDS THAT ARE SHAPING OUR FUTURE. Norton (W.W.) and Company, Incorporated. page(s): 197 p. Descriptors: Burma; Cellular phones; Economic conditions; Environmental quality; Laos; Newspapers; Scientists; Weather and climate. Abstract: This eighth volume in the series from the Worldwatch Institute shows the key trends that often escape the attention of the news media and world leaders -- and that are often ignored by economic experts as they plan for the future. This book provides key indicators that show social, economic, and environmental progress, or the lack of it. The data have been extracted from thousands of documents obtained from government, industry, scientists, and international organizations into "vital signs" of our times. Among the findings are the following: 1998 was the hottest year since record keeping began in 1866; Yak caravans in the mountains of Laos and Burma now use cell phones to find the best route to market during the rainy season. ISSN/ISBN: 0393318931. OCLC Accession Number: 00765528. URL: Transportation Research Board.

Brown, P., Kenney, A. J., Htwe, N. M., et al. 2008. "Farmers' Knowledge, Attitudes, and Practices for Rodent Management in Myanmar." Int. J. Pest Manage. 2008 Elsevier B.V., All rights reserved.: Volume 54, Issue 1, Pages 69-76 Additional Info: United Kingdom. Descriptors: Pests -- 73.6.2; crop damage; crop yield; farmers attitude; farmers knowledge; farming system; perception; pest control; pest species; rice; rodent Species Term: Hexapoda; Rattus; Rodentia. Notes: References: Number: 29; Geographic: Asia Eurasia Myanmar Southeast Asia. Abstract: A survey of 350 farmers was conducted in the lowland rainfed agricultural system of central Myanmar (Burma) to examine the importance of rodents, farmers' perception of the causes of yield loss, and their beliefs as to why they undertake rodent management. Farmers grew monsoon rice, summer rice and mungbeans with the major constraints upon production identified as pests (29.4% of respondents), followed by insufficient water (19.4%). The main pests were insects (48.6%), followed by rats (40.9%); however, farmers thought that rats caused most damage to their crops (47.7% of respondents; insects 30.3%), and were the most important pest to control. Farmers estimated that rodents caused 13% yield loss. Most farmers believed they could increase yields if they were to work together to control rats, but 61.1% applied rodent control individually. Most farmers (81%) thought that rodenticides were not safe despite 33% using them. Rodents were clearly identified as a significant problem by farmers. With an understanding of the main rodent pest species, ecology and crop damage, ecologically based management strategies for the lowland rainfed rice system in Myanmar can be developed. ISSN/ISBN: 0967-0874 E- 1366-5863.

- Bruneau, M. 1991. "Modeles Spatiaux Des Etats De l'Asie Du Sud-Est Continentale Translated Title: State Spatial Models of Continental Southeast Asia." Cahiers De Geographie Du Quebec. 2005 Elsevier Ltd. All rights reserved.: Volume 35, Issue 94, Pages 89-116. Descriptors: Spatial Analysis, Location Theory -- 70.2.2; WATER -- 74.13; developing country; spatial model; regional variation; simulation model; colonisation process; national territory; core-periphery relations; capitalist economy; regional development; state control; uneven development; territorial administration. Notes: Geographic: Asia -- (Southeast) Burma Thailand Laos Cambodia. Abstract: Within four states of continental Southeast Asia (Burma, Thailand, Laos, Cambodia) we observe the persistency of a concentric circle spatial model of uneven development and decreasing control of the central power. This model originates from the muang or principality of the precolonial period whose autonomy was challenged only by the rise of strong kingdoms. The colonisation and the penetration of the capitalist economy did not succeed in truly integrating the national space in spite of the development of communication networks and of the rationalisation of territorial administration. Thailand, not directly colonised, has gone the farthest in the way of a unified national territory because of the continuity of its monarchy and the integration of her Chinese bourgeoisie. The two buffer-states of Laos and Cambodia, and Burma are still economically underdeveloped and have a very loosely integrated external ring. The present trend for them is to become peripheries to Thailand and especially its center Bangkok where population, activity and capital accumulate. -from English summary. ISSN/ISBN: 0007-9766.
- BRUNEAU, M. and BERNOT, L. 1974. "A Lake Population: The Intha of Lake Inle. (Southern Shan States, Burma), (in French)." J Agric Trop Bot Appl.19(10/11); P 401-441. 1972(1974). Descriptors: ASIA; LAKES; RICE; HUMAN POPULATION; FORESTS; GEOGRAPHY; WATER HYACINTH; NUISANCE ALGAE; BIBLIOGRAPHIES; BURMA; CERATOPHYLLUM; DIPTEROCARPUS-TUBERCULATUS; EICHORNIA-CRASSIPES; EPHYDATIA-FLUVIATILIS; HYDRILLA; IMPERATA; INLE; INTHA; SHAN; UTRICULARIA. Abstract: CULTURAL DATA ON THE PEOPLE AND A BIBLIOGRAPHY OF GEOGRAPHIC, ETHNOGRAPHIC AND BIOLOGICAL WORKS ON THIS AREA ARE PROVIDED. THE YAUNGSHWE BASIN CONTAINS 2 DISTINCT TYPES OF FOREST: ONE CHARACTERIZED BY DIPTEROCARPUS TUBERCULATUS AND ASSOCIATED PLANTS; THE OTHER BY IMPERATA. THE LACUSTRAL ZONE OCCUPIES A PORTION OF THE BASIN AND IS COMPOSED OF 3 SECTIONS: THE CENTRAL SECTION, CHARACTERIZED BY CERATOPHYLLUM; THE AREA AROUND THE LAKE, COMPOSED OF FLOATING ISLANDS OF LIVING AND DEAD PLANTS, ESPECIALLY THE WATER HYACINTH EICHORNIA CRASSIPES, A RAPIDLY GROWING SOUTH AMERICAN PLANT WHICH IS CONSIDERED A NUISANCE; AND THE INTERMEDIATE PALUDAL ZONE, THE BOTTOM OF WHICH IS COVERED WITH HYDRILLA, CERATOPHYLLUM AND UTRICULARIA. THIS LAST ZONE IS ALSO RICH IN THE SPONGE, EPHYDATIA FLUVIATILIS. THE PRINCIPAL INDUSTRY IN THE AREA IS RICE GROWING.-- COPYRIGHT 1975, BIOLOGICAL ABSTRACTS, INC. Database: Environmental Sciences and Pollution Mgmt.
- Bryant, R. L. 1994. "Fighting Over the Forests: Political Reform, Peasant Resistance and the Transformation of Forest Management in Late Colonial Burma." Journal of Commonwealth & Comparative Politics. 2005 Elsevier Ltd. All rights reserved.: Volume 32, Issue 2, Pages 244-260. Descriptors: WATER -- 74.13; political reform; colonial period; peasant resistance;

forest management. Notes: Geographic: Burma. Abstract: Although contemporary forest politics in South-East Asia differs from the past in that it features new actors (that is NGOs) and a pronounced international dimension, there are important continuities with the past. Political reforms and peasant resistance combined to transform forest management in colonial Burma between 1923 and 1942. The essay addresses two issues of central importance during this period: peasant access to the plains reserves, and the Burmanisation of the forest sector. The former was an issue which largely pitted the peasantry against the forest department but which also implicated nationalist leaders who sought peasant political support. In contrast, the latter was primarily an affair of the urban middle class - not surprisingly, since it was this class which would benefit most from the employment opportunities in government and business that would occur with reform in this area. Together, these two issues dominated forest politics in the late colonial period, and contributed to the transformation of forest management. -from Author. Availability: Connect to the catalog at your library.

Bryant, R. L. 1994. "Shifting the Cultivator: The Politics of Teak Regeneration in Colonial Burma." *Modern Asian Studies*. 2005 Elsevier Ltd. All rights reserved.: Volume 28, Issue 2, Pages 225-250. Descriptors: HISTORICAL GEOGRAPHY -- 70.5; WATER -- 74.13; cultural conflict; political process; colonial period; economic control; plantation forestry; forest policy; shifting cultivators; teak production; taungya forestry; state control; teak plantation. Notes: Geographic: Burma. Abstract: One of the most innovative aspects of forest policy in colonial Burma was the employment of shifting cultivators in order to create teak plantations. As developed in the 19th and early 20th centuries, this system of plantation forestry (taungya forestry) represented a far-sighted attempt to establish teak production on a long-term basis. In considering the politics of taungya forestry in colonial Burma, this paper challenges the view, popularized by such colonial forest officials as Nisbet and Stebbing, that the system developed without conflict, and was somehow above politics. Rather, the author starts from the premise that taungya forestry was a highly political process, and examines the different considerations that shaped its contested introduction. Whereas colonial officials hoped to derive important political and economic advantage from taungya forestry, the hill Karen whose labour was primarily in contention feared (accurately as it turned out) the erosion of their traditional shifting lifestyle. Not surprisingly, these differing interests and perceptions made conflict inevitable. -from Author. ISSN/ISBN: 0026-749X.

Bryant, R. L. 1994. "The Rise and Fall of Taungya Forestry: Social Forestry in Defence of the Empire." *Ecologist*. 2005 Elsevier Ltd. All rights reserved.: Volume 24, Issue 1, Pages 21-26. Descriptors: Forest Resources -- 70.4.4; WATER -- 74.13; social system; sustainable development; forestry production; developing country; taungya system; agroforestry; taungya forestry; colonialism; sustainable forestry; indigenous people; social forestry. Notes: Geographic: Burma. Abstract: The taungya system of agroforestry developed by the British in the teak forests of Burma has been extolled by some foresters as a model for a modern sustainable forestry system which is compatible with shifting agriculture. However, taungya forestry was not the result of premeditated "scientific" design, but the outcome of an antagonistic relationship between an acquisitive colonial power and a threatened indigenous people whose reactions varied from covert resistance to defensive compliance. Applications of taungya forestry within present-day social contexts are likely to manifest the same tensions. -Author. ISSN/ISBN: 0261-3131.

Buffetaut, E. 1978. "A Dyrosaurid (Crocodylia, Mesosuchia) from the Upper Eocene of Burma." *Neues Jahrbuch Fuer Geologie Und Palaeontologie. Monatshefte*. E. Schweizerbart'sche

Verlagsbuchhandlung, Stuttgart, Federal Republic of Germany (DEU): Federal Republic of Germany (DEU). May. Issue 5, Pages 273-281. Descriptors: Archosauria; Asia; biogeography; biostratigraphy; bones; Burma; Cenozoic; Chordata; Crocodylia; Diapsida; Dyrosauridae; environment; Eocene; Far East; fresh-water environment; morphology; paleoecology; Paleogene; paleontology; Pondaung Formation; Reptilia; teeth; Tertiary; Tetrapoda; upper Eocene; Vertebrata. Notes: CD: NJGMA2; FE: References: 19; plate; LL: Latitude:N090000,N284500 Longitude:E1014500,E0920000; CY: GeoRef, Copyright 2007, American Geological Institute. Database: GeoRef. ISSN/ISBN: 0028-3630.

Bunce GE Affiliation: Department of Biochemistry, Virginia Polytechnic Institute and State University, Blacksburg, VA 24061, USA., gebunce@vt.edu. 2005. "Nutrition Surveys in Burma and Northeast Brazil." J. Nutr. ; J. Nutr. May. Volume 135, Issue 5, Pages 1281-2 Additional Info: United States. Descriptors: Nutrition Surveys; Brazil; Crops, Agricultural; Developing Countries; Humans; Interprofessional Relations; Myanmar. Notes: Citation: Status: MEDLINE Owner: NLM; Date of Entry: 20050503; Date Completed: 20050706. Abstract: Participation of the author in the Interdepartmental Committee on Nutrition for National Defense sponsored nutrition surveys of Burma and northeast Brazil is described. These surveys not only collected important data on nutritional status but also guided the subsequent research interests of the author. The Brazil survey results contributed to the creation of legislation that mandated the addition of water-dispersible vitamin A to skimmed-milk powder products. This additive has greatly diminished the likelihood of vitamin A deficiency syndrome occurring in children after famine relief efforts. ISSN/ISBN: 0022-3166 (Print); 1541-6100 (Electronic).

Bunce, George E. 2005. "Nutrition Surveys in Burma and Northeast Brazil." J. Nutr. May. Volume 135, Pages 1281-1282. Descriptors: NAL: 389.8 J82; Military personnel; Humans; Dietary surveys; History; Governmental programs and projects; Malnutrition; Nutritional status; International policy and programs; Dried skim milk; Vitamin A; Deficiency diseases; Nutrient deficiencies; Xerophthalmia; Interdepartmental Committee on Nutrition for National Defense; Civilians Subj Category: T000 HUMAN NUTRITION, GENERAL; T300 DIET AND DISEASES; X380 HUMAN MEDICINE. Notes: Geographic: Myanmar Brazil. Abstract: Participation of the author in the Interdepartmental Committee on Nutrition for National Defense sponsored nutrition surveys of Burma and northeast Brazil is described. These surveys not only collected important data on nutritional status but also guided the subsequent research interests of the author. The Brazil survey results contributed to the creation of legislation that mandated the addition of water-dispersible vitamin A to skimmed-milk powder products. This additive has greatly diminished the likelihood of vitamin A deficiency syndrome occurring in children after famine relief efforts. ISSN/ISBN: 0022-3166.

Bunce, George E. 2005. "Nutrition Surveys in Burma and Northeast Brazil1." J. Nutr. American Institute of Nutrition May 2005: May. Volume 135, Issue 5, Pages 1281-1282. Descriptors: Polls & surveys; Nutrition; Vitamin A; Famine; Public health. Notes: Details: References; Geographic: Burma Brazil. Abstract: Participation of the author in the Interdepartmental Committee on Nutrition for National Defense sponsored nutrition surveys of Burma and northeast Brazil is described. These surveys not only collected important data on nutritional status but also guided the subsequent research interests of the author. The Brazil survey results contributed to the creation of legislation that mandated the addition of water-dispersible vitamin A to skimmed-milk powder products. This additive has greatly diminished the likelihood of vitamin A deficiency syndrome occurring in children after famine relief

efforts. [PUBLICATION ABSTRACT] KEY WORDS: \* nutrition surveys \* ICNND \* Burma \* Brazil \* retinal deficiency. ISSN/ISBN: 0022-3166.

Bunce, George E. "Nutrition Surveys in Burma and Northeast Brazil." Thomson 2005: Notes: Source: Journal of Nutrition 135, no. 5 (MAY 05): 1281-1282 Cover Date: MAY 05; Concept: 10063, Biochemistry studies - Vitamins 13202, Nutrition - General studies, nutritional status and methods 25000, Pediatrics; Major Concepts: Nutrition; Super Taxa: Primates Mammalia Vertebrata Chordata; Diseases: vitamin A deficiency; Affiliation: nutritional disease; Chemicals: vitamin A; CAS Registry Number: 11103-57-4; Detail: water-dispersible; Geographic: Brazil; Geopolitical Location(s): South America; Zoogeographical Region: Neotropical region Burma; Geopolitical Location(s): Asia; Zoogeographical Region: Oriental region; Misc Descript: nutritional status nutrition survey skimmed-milk powder; Entry: 20050803. Abstract: Participation of the author in the Interdepartmental Committee on Nutrition for National Defense sponsored nutrition surveys of Burma and northeast Brazil is described. These surveys not only collected important data on nutritional status but also guided the subsequent research interests of the author. The Brazil survey results contributed to the creation of legislation that mandated the addition of water-dispersible vitamin A to skimmed-milk powder products. This additive has greatly diminished the likelihood of vitamin A deficiency syndrome occurring in children after famine relief efforts. ISSN/ISBN: 0022-3166.

BUREAU OF INTELLIGENCE AND RESEARCH (STATE) WASHINGTON DC. 1970. "International Boundary Study. Series A. Limits in the Seas. Number 14, Straight Baselines: Burma." 14 MAR. Descriptors: BOUNDARIES; GEOGRAPHIC AREAS; BURMA; COASTAL REGIONS; INTERNATIONAL; GEOGRAPHY SOCIOLOGY AND LAW. Abstract: The following declaration by the Chairman of the Revolutionary Council of the Union of Burma is published for general information: WHEREAS International Law has always recognised that the sovereignty of a State extends to a belt of sea adjacent to its coast, AND WHEREAS international practice is not uniform as regards the extent of this sea belt commonly known as the territorial sea of the State, and consequently it is necessary to make a declaration as to the extent of the territorial sea of the Union of Burma, the Chairman of the Revolutionary Council of the Union of Burma hereby declares-- That notwithstanding any rule of law or practice to the contrary which may have been observed in the past relating to the Union of Burma or any part thereof, the territorial sea of the Union of Burma shall extend into the sea to a distance of twelve nautical miles measured from the appropriate base line. Except as provided for in paragraph 3, the low-water line along the coast, as marked on large-scale charts officially recognised by the Government of the Union of Burma, shall be the base line for measuring the breadth of the territorial sea of the Union of Burma. That where it is necessary by reason of the geographical conditions prevailing on the Union of Burma coasts, and for the purpose of safeguarding the vital economic interest of the inhabitants of the coastal regions, to establish the system of straight base lines drawn between fixed points on the mainland, on islands or rocks, the breadth of the territorial sea shall be measured from such base lines. The fixed points between which such straight base lines shall be drawn are indicated in detail in the schedule annexed to this declaration. Notes: Distribution Statement: APPROVED FOR PUBLIC RELEASE. OCLC Accession Number: ADA090816.

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*Myanmar Water*

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- Burma. 1968. The Inland Steam-Vessels Manual : Containing the Notifications in Force Issued Under the Inland Steam-Vessels Act, 1917 (as Modified Upto 6th October 1956) : Corrected Upto 8th may 1964. Rangoon: Central Press. Descriptors: Steamboats -- Law and legislation - - Burma; Inland water transportation -- Law and legislation -- Burma; Government publication (gpb); National government publication (ngp). Notes: ill. (some col.), forms ; 25 cm.; Note(s): Includes index.; Entry: 19940119; Update: 20060207. OCLC Accession Number: 63539791.
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Descriptors: Areindamar; Hopper dredgers. Abstract: The Deggendorfer Werft und Eisenbau GmbH (DWE) handed over a second HYDROTRAIL-dredger to the Myanma Port Authority (previously known as the Burma Port Authority) at the beginning of May 1991. The HYDROTRAIL 1000 AREINDAMAR is the DWE's 237th longitudinally split vessel built on the firm's "HYDROKLAPP" principle. General arrangement drawings are given. Notes: Schiff & Hafen Seewirtschaft, v 43 n 6, June 1991, p 28 [5 p, 6 fig]. OCLC Accession Number: 00700905. URL: Transportation Research Board.

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Descriptors: Hydrologic budget; Water vapor; Monsoons; Indian Ocean; Climatology; Meteorology; Weather patterns; Arabian Sea; Bay of Bengal; Evaporation; Rainfall; Southern Hemisphere; India; Burma; Malaysia. Abstract: Over the Arabian Sea the different terms of the moisture balance equation, except evaporation, strongly fluctuate depending on the activity of the monsoon. The relative contribution to the monsoon moisture supply by water vapor transport across the equator and Arabian Sea evaporation varies as the monsoon intensity changes from active through break and back to revival stages; however, it is shown that water vapor from the Southern Hemisphere is the major source of moisture for Indian rainfall. Total evaporation during the active period following the onset of the monsoon was 30-40% of the total eastward flux across the west coast of India. This ratio increases to 40-45% during break conditions, but falls below 20% during a revival phase. Moisture budgets over the Bay of Bengal depend strongly on the monsoon intensity and the amount of moisture advected across the western coast of India and into the Bay of Bengal by the monsoon circulation. Moisture supply from the Southern Hemisphere via cross-equatorial flux at the longitude of the Bay of Bengal is very weak. Compared to weak monsoon periods a much larger percentage of the water vapor supplied by evaporation and boundary fluxes is transported towards Burma and Malaysia during active monsoon periods, fueling the heavy rainfall there. (Author 's abstract). Database: Environmental Sciences and Pollution Mgmt.

Cadet, D. L. and Greco, S. 1987. "Water Vapor Transport Over the Indian Ocean during the 1979 Summer Monsoon. Part I: Water Vapour Fluxes." Mon. Weather Rev. 2005 Elsevier Ltd. All rights reserved.: Volume 115, Issue 3, Pages 653-663. Descriptors: HYDROLOGY -- 71.6; METEOROLOGY AND CLIMATOLOGY -- 71.7. Abstract: The analysis is based on wind fields from the European Centre for Medium Range Weather Forecasts and humidity fields derived from a 3-layer precipitable water dataset. After the onset of the monsoon the cross-equatorial water vapor flux  $W$  of 50oE does not vary much; it undergoes significant fluctuations  $E$  of that longitude. The bulk of water vapor crossing the  $W$  coast of India comes from the Southern Hemisphere. The latitude band between 10o and 20oS appears as a major source of moisture during the  $N$  summer. The major moisture supply for the  $W$  coast of Burma and Thailand is advected over the Bay from the Arabian Sea branch of the monsoon. The early retreat of the 1979 monsoon is associated with a decreasing trend in moisture transport over the Arabian Sea. In the Bay of Bengal, the cross-equatorial flux is not affected

by the break/active cycle of the monsoon.-from Authors. ISSN/ISBN: 0027-0644.

Availability: FirstSearch indicates your institution subscribes to this publication. Libraries worldwide that own item: 759 US ARMYCOPRS OF ENG RES DEV CT Connect to the catalog at your library.

Carr, Jo and Petie, Haris. 1970. *Trouble with Tikki*. New York: Lantern Press. Descriptors: Water buffalo -- Fiction; Burma -- Fiction; Fiction (fic); Juvenile (no specific ages) (jau). Abstract: A young Burmese boy tries to get his water buffalo to work but all his efforts are in vain. Notes: [29] p. col. illus. 24 cm.; Responsibility: Illustrated by Haris Petie. Vendor Info: Baker and Taylor (BTCP); Entry: 19700609; Update: 20061201. ISSN/ISBN: LCCN: 71-115459. OCLC Accession Number: 79584.

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Chai, J. Y., Han, E. T., Shin, E. H., et al. 2003. "An Outbreak of Gnathostomiasis among Korean Emigrants in Myanmar." *Am. J. Trop. Med. Hyg.* ; *Am. J. Trop. Med. Hyg.* Jul. Volume 69, Issue 1, Pages 67-73 Additional Info: United States. Descriptors: Disease Outbreaks; Emigration and Immigration; Adult; Animals; Child; Child, Preschool; Eosinophilia -- complications; Female; Fishes -- parasitology; Food Parasitology; Gnathostoma -- isolation & purification; Humans; Infant; Korea -- ethnology; Male; Middle Aged; Myanmar -- epidemiology; Recurrence; Spirurida Infections -- complications; Spirurida Infections -- drug therapy; Spirurida Infections -- epidemiology; Spirurida Infections -- pathology. Notes: Citation: Status: MEDLINE Owner: NLM; Date of Entry: 20030822; Date Completed: 20030908; Date of Update: 20061115. Abstract: Thirty-eight (designated as cases) of 60 Korean emigrants who consumed raw fresh water fish in Yangon, Myanmar developed migratory swellings and creeping eruptions on the back, abdomen, flank, and other cutaneous areas 1-10 weeks later. The symptoms included itching, nodule formation, fatigue, urticaria, fever, pain on the skin, and erythematous plaques. Skin biopsies of two cases revealed no parasites. However, the mean +/- SD peripheral blood eosinophilia among the cases was 6.3 +/- 6.5% (n = 29) and 9.0 +/- 9.8% (n = 26) in two examinations. An enzyme-linked immunosorbent assay of their serum samples, using *Gnathostoma doloresi* adult worms as the antigen, showed mean +/- SD optical densities of 0.47 +/- 0.29 (n = 28) and 0.32 +/- 0.20 (n = 30) in two examinations and 0.12 +/- 0.09 (n = 50) in healthy controls. Two advanced third-stage larvae of *G. spinigerum* were found in two of six catfish purchased at a local market in Yangon. The outbreak of the human infection is suggested to have been due to *G. spinigerum*, which is known to live out its life cycle in the Yangon area of Myanmar. ISSN/ISBN: 0002-9637 (Print); 1476-1645 (Electronic).

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- progress has been made but results still fall short of the ideal. The primary reasons for this includes the lack of institutional capacity of the multi-jurisdictional cooperative authority and its counterpart organizational in each of the participating countries, together with a lack of political drive to develop integrated management as a priority. ISSN/ISBN: 0790-0627.
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History. Notes: ill. ; 30 cm.; Responsibility: by H.J. Chubb and C.L.D. Duckworth.; Entry: 19770425; Update: 20080315. ISSN/ISBN: LCCN: 77-355705. OCLC Accession Number: 2985073.

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“Hydrocarbon Plays in Tertiary S.E. Asia Basins.” *Oil Gas J. PennWell*, Tulsa, OK, United States (USA): United States (USA). 21 Jul. Volume 78, Issue 29, Pages 90-96. Descriptors: Asia; Barito Basin; Cenozoic; Central Burma Basin; detection; East Java Sea Basin; economic geology; hydrocarbons; Indonesian Seas; Java Sea; Kutei Basin; middle Tertiary; Northwest Palawan Basin; oil and gas fields; organic compounds; organic materials; Pacific Ocean; petroleum; petroleum exploration; production; reserves; reservoir rocks; Sabah-Sarawak Basin; South Sumatra Basin; Southeast Asia; subsurface reservoirs; Talang Akar Formation; Tertiary; West Java Sea Basin; West Pacific. Notes: CD: OIGJAV; FE: illus. incl. sketch maps; LL: Latitude:S100000,N200000 Longitude:E1400000,E0950000; CY: GeoRef, Copyright 2007, American Geological Institute. Database: GeoRef. ISSN/ISBN: 0030-1388.

cities service company, Exploration staff and Beddoes, Leslie R. 1981. “Hydrocarbon Plays in Tertiary Basins of Southeast Asia.” *Energy*, 11. Volume 6, Issue 11, Pages 1141-1163. Abstract: Oil and gas fields in Tertiary basins of Southeast Asia are catalogued into a pattern of hydrocarbon occurrence related to regional cycles of sedimentation. Eight basin areas, peripheral to the Sunda Shield—from Burma through Indonesia and East Malaysia to northwest Palawan—are cited as exhibiting a general continuity of sedimentary cycles during Tertiary time. However, each of these basins has its unique structural, stratigraphic and temperature gradient character, reflecting its individual plate tectonic setting. Magnitudes of oil and gas reserves, in both clastic and carbonate facies, show a pattern of distribution within these sedimentary cycles of deposition. Empirically, this relationship forms a basis for improved exploration predictability in other Tertiary basin areas of Southeast Asia. Detailed examples of Tertiary depositional cycles and hydrocarbon occurrences are cited from exploration areas in the East Java Sea (Indonesia) and northwest Palawan (Philippines).

Cocks, L. R. M., Fortey, R. A. and Lee C.P. Affiliation: L.R.M. Cocks, Department of Palaeontology, The Natural History Museum, Cromwell Road, London SW7 5BD Country: United Kingdom E-mail: r.cocks@nhm.ac.uk. 2005. “A Review of Lower and Middle Palaeozoic Biostratigraphy in West Peninsular Malaysia and Southern Thailand in its Context within the Sibumasu Terrane.” *Journal of Asian Earth Sciences*. 2005 Elsevier Ltd. All rights reserved.: Volume 24, Issue 6, SPEC. ISS., Pages 703-717 Additional Info: United Kingdom. Descriptors: Palaeozoic -- 72.6.2; biostratigraphy; Paleozoic. Notes: References: Number: 93; Geographic: West Malaysia Thailand Malaysia Southeast Asia Asia Eurasia Eastern Hemisphere World. Abstract: Fossils from the Cambrian to Devonian rocks of southern Thailand, the Langkawi Islands, mainland Kedah, Perlis, north Perak and central West Peninsular Malaysia are listed and reviewed, and their stratigraphy and correlation reassessed. The hitherto anomalous record of the trilobite *Dalmanitina* from Malaysia is reviewed and found to be of latest Ordovician (Hirnantian) age, rather than Lower Silurian age as previously reported, and is considered a probable synonym of the widespread *Mucronaspis mucronata*. A new stratigraphical nomenclature is erected for part of the Langkawi, mainland Kedah and Perlis area successions, in which the term Setul Limestone (which stretched from the Ordovician to the Devonian) is abandoned and replaced by the Middle Ordovician Kaki Bukit Limestone, the late Ordovician and early Silurian Tanjong Dendang Formation, the Silurian Mempelam Limestone, and the early Devonian Timah Tasoh Formation, all

underlying the paraconformity with the late Devonian Langgun Red Beds. There was a single depositional basin in the generally shallow-water and cratonic areas of southern Thailand, Langkawi, and mainland Kedah and Perlis, in contrast to the deeper-water basin of north Perak. Only Silurian rocks are dated with certainty within another basin in central West Malaysia, near Kuala Lumpur, which were also cratonic and shallow-water, although to the east in west Pahang there are basal Devonian deeper-water sediments with graptolites. The area is reviewed in its position within the Sibumasu Terrane, which, in the Palaeozoic, also included central and northern Thailand, Burma (Myanmar) and southwest China (part of Yunnan Province). (c) 2004 Elsevier Ltd. All rights reserved. ISSN/ISBN: 1367-9120.

Cocks, L. R. M., Fortey, R. A. and Lee, C. P. 2005. "A Review of Lower and Middle Palaeozoic Biostratigraphy in West Peninsular Malaysia and Southern Thailand in its Context within the Sibumasu Terrane." *Journal of Asian Earth Sciences*,. 3. Volume 24, Issue 6, Pages 703-717. Descriptors: Lower Palaeozoic; Devonian; Malaysia; Thailand; Sibumasu; Brachiopods; Trilobites. Abstract: Fossils from the Cambrian to Devonian rocks of southern Thailand, the Langkawi Islands, mainland Kedah, Perlis, north Perak and central West Peninsular Malaysia are listed and reviewed, and their stratigraphy and correlation reassessed. The hitherto anomalous record of the trilobite *Dalmanitina* from Malaysia is reviewed and found to be of latest Ordovician (Hirnantian) age, rather than Lower Silurian age as previously reported, and is considered a probable synonym of the widespread *Mucronaspis mucronata*. A new stratigraphical nomenclature is erected for part of the Langkawi, mainland Kedah and Perlis area successions, in which the term Setul Limestone (which stretched from the Ordovician to the Devonian) is abandoned and replaced by the Middle Ordovician Kaki Bukit Limestone, the late Ordovician and early Silurian Tanjong Dendang Formation, the Silurian Mempelam Limestone, and the early Devonian Timah Tasoh Formation, all underlying the paraconformity with the late Devonian Langgun Red Beds. There was a single depositional basin in the generally shallow-water and cratonic areas of southern Thailand, Langkawi, and mainland Kedah and Perlis, in contrast to the deeper-water basin of north Perak. Only Silurian rocks are dated with certainty within another basin in central West Malaysia, near Kuala Lumpur, which were also cratonic and shallow-water, although to the east in west Pahang there are basal Devonian deeper-water sediments with graptolites. The area is reviewed in its position within the Sibumasu Terrane, which, in the Palaeozoic, also included central and northern Thailand, Burma (Myanmar) and southwest China (part of Yunnan Province).

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weathering. Notes: CD: #03814; FE: References: 18; CY: GeoRef, Copyright 2007, American Geological Institute. Reference includes data from PASCAL, Institute de l'Information Scientifique et Technique, Vandoeuvre-les-Nancy, France. Abstract: Core MD77-169, located in the Andaman Sea, is characterized by epsilon (sub Nd) (0) ranging between -9.5 and -11, implying that the Irrawaddy River is the main contributor of detrital material. The pedogenic clays (smectite and kaolinite) to primary mineral (feldspar, quartz, illite and chlorite) ratios show strong precessional cycles, suggesting that they are controlled by past changes in the monsoon intensity. Wet periods of summer monsoon reinforcement are characterized by the increase of chemical weathering and/or physical erosion of the Irrawaddy plain soils. Database: GeoRef. ISSN/ISBN: 1251-8050.

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Cummins PR Affiliation: Geoscience Australia, GPO Box 378, Canberra ACT 2601, Australia., phil.cummins@ga.gov.au. 2007. "The Potential for Giant Tsunamigenic Earthquakes in the Northern Bay of Bengal." Nature; Nature. Sep 6. Volume 449, Issue 7158, Pages 75-8 Additional Info: England. Descriptors: Models, Theoretical; Natural Disasters -- history; Water Movements; History, 18th Century; Myanmar; Oceans and Seas; Time Factors. Notes: Note(s): Comment In: Nature. 2007 Sep 6; 449 (7158): 33 PMID: 17805283; Citation: Status: MEDLINE Owner: NLM; Date of Entry: 20070906; Date Completed: 20071002. Abstract: The great Sumatra-Andaman earthquake and Indian Ocean tsunami of 2004 came as a surprise to most of the earth science community. Although it is now widely recognized that the risk of another giant earthquake is high off central Sumatra, just east of the 2004 earthquake, there seems to be relatively little concern about the subduction zone to the north, in the northern Bay of Bengal along the coast of Myanmar. Here I show that similar indicators suggest a high potential for giant earthquakes along the coast of Myanmar. These indicators include the tectonic environment, which is similar to other subduction zones that experience giant megathrust earthquakes, stress and crustal strain observations, which indicate that the seismogenic zone is locked, and historical earthquake activity, which indicates that giant tsunamigenic earthquakes have occurred there in the past. These are all consistent with active subduction in the Myanmar subduction zone and I suggest that the seismogenic zone extends

beneath the Bengal Fan. I conclude therefore that giant earthquakes probably occur off the coast of Myanmar, and that a large and vulnerable population is thereby exposed to a significant earthquake and tsunami hazard. ISSN/ISBN: 0028-0836 (Print); 1476-4687 (Electronic). Availability: FirstSearch indicates your institution subscribes to this publication. Libraries worldwide that own item: 2818 US ARMYCOPRS OF ENG RES DEV CT Connect to the catalog at your library.

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resinous source rocks; coaly source rocks; Eocene source rocks; compound specific isotope analysis; biodegradation. Abstract: Geochemical characteristics of 31 Miocene through Eocene oils/seeps, an Eocene coal and an Eocene resin from the central Myanmar (Burma) basin system are examined. The oils/seeps vary widely in API gravity ( $8^{\circ}$ - $52^{\circ}$ ), sulfur concentration (26-3550 ppm),  $d_{13}C$  (-27.6% to -23.4%) and molecular composition. This variability is caused by varying amounts of biodegradation superimposed upon a single genetic oil family, and the difference between aliphatic and aromatic hydrocarbon carbon isotope ratios (i.e.  $d_{13}C_{arom} - d_{13}C_{aliph}$ ) provides a useful gauge of the extent of biodegradation. The projected geochemical characteristics of unaltered central Myanmar oils are as follows: (a) API gravity =  $35^{\circ}$ - $37^{\circ}$ ; (b) [S] = 0.05-0.10%; (c)  $d_{13}C_{aliph} = -27.8\%$  to -27.6%; (d) 24-ethylcholestanes are the dominant steranes; and (e) 20S-24-ethylidiacholestane, various bicadinanes and oleanane are present. The ratio of 18a(H)-22,29,30-trisnorhopane to 17a(H)-22,29,30-trisnorhopane (Ts/Tm) is postulated as a maturity parameter and, on this basis, relative bicadinane concentration increases (and the trans-trans-trans/cis-cis-trans bicadinane ratio decreases) with increasing thermal maturity in this oil set. Geologic arguments suggest a deep Paleogene source for these oils. Two geochemical arguments that support this inference are (a) the occurrence of saturated and unsaturated C15 and C30 cadinane monomers and dimers in pyrolyzates of an Eocene resin and the kerogen from an Eocene coal, and (b) identical compound-specific carbon isotope ratios for selected isoprenoids and n-alkanes in a typical central Myanmar oil and the hydrous pyrolyzate expelled from an Eocene coal. We propose an Eocene resinous shale/coal source for these oils, with the oldest (Eocene) reservoirs filling first and the youngest (Miocene) reservoirs filling last, consistent with the observation that the least mature oils are present in the oldest reservoirs. According to this model, surface seepage and near-surface oil could result from subsurface traps that are filled to spillpoint.

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changes; sedimentary basins; sedimentary rocks; sedimentary structures; sedimentation; Surma Basin; Surma Group; syntectonic processes; tectonic units; tectonics; Tertiary; Tethys; Tipam Formation; trenches; turbidite. Notes: FE: References: 52; illus. incl. 1 table, geol. sketch maps; LL: Latitude:N150000,N250000 Longitude:E1000000,E0900000; Latitude:N243000,N260000 Longitude:E0930000,E0923000; Latitude:N200000,N270000 Longitude:E0960000,E0890000; CY: GeoRef, Copyright 2008, American Geological Institute. Abstract: The problems of “Tethyan Paradox”, Palaeo-Tethys, Neo-Tethys interlinked in time, Cimmerian-and Himalayan Orogenies are addressed to understand the geodynamic background in which the large remnant ocean basin from Neo-Tethys termed as Assam-Arakan Basin (AAB) originated in the eastern part of India that extended from Myanmar to Chhotonagpur Gneiss and bounded in the north by Indus-Tsangpo suture. Oceanic crust in the northeast was subjected to an oblique collision (Andean Type) involving three plates: Asian, Myanmar and Indian. A back arc configuration was postulated from Eocene to Miocene to the east of Indo-Myanmar Range. The sedimentation in the entire AAB through the Tertiary was under an overall control of Arc-trench system. Western part of the basin is named as Bengal Basin and in the north of AAB existed foreland basinal set-ups with petroliferous subcrops. The remnant AAB got modified through the Tertiary and gave rise to several sub-basins such as the Indo-Myanmar-, Oligocene Barail-Sylhet- and Mio-Pliocene Surma. On the basis of facies analysis and basinal evolution of AAB, it has been envisaged that the Barail- and Surma turbidite sub basins were opened up successively owing to the action of listric faulting in phases during the Tertiary near the active margin of Indo-Myanmar plate convergence. Thrust sheets from the fore arc side in the east were gradually piled up in the west to form rising accretionary prism complexes and adjacent to Naga Schuppen Zone to the west with the northern continental blocks was the main provenance. Sedimentation styles appear to have continued from Palaeogene to Neogene with an angular unconformity in between. The sub-basins were gradually filled up by Palaeogene-Neogene synorogenic turbidite- and associated deep-water facies complexes, punctuated by shallow marine facies associations. Subsequently periodic shallowing of the basin during the closing phases of Bhuban, Bokabil and Tipam caused sedimentation to continue in narrow shelf, tidal- and fluvial set-ups. Moreover, basal Tipam witnessed a pulse of terrestrial acid- to intermediate volcanism. Such sedimentation patterns as suggested from the spatio-vertical juxtaposition of different synorogenic turbidite-, shallow marine- and fluvial facies indicate an overall basinward progradation of time transgressive wedges punctuated by minor transgressive pulses during the Oligocene, Miocene and Pliocene. Salient aspects of post-depositional tectonics such as folding, repetitive underthrusting and overthrusting, crustal shortening and duplex formation similar to Rocky Mountain type are documented in the Oligo-Mio-Pliocene deformed rock strata. Database: GeoRef. ISSN/ISBN: 0971-1481.

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Denyer, J. E. 1945. “Burma; Miscellaneous Notes on Water Supply.” India, Geol.Surv., Strategic Branch, Tech.Note. Strategic Branch, Tech. Note. Volume 58, Pages 28. Descriptors: Asia; Burma; Far East; water supply; water, ground and surface. Notes: FE: (processed), illus.; CY:

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- Douville, H. and Royer J.-F. Affiliation: H. Douville, Météo-France/CNRM, 42 Avenue Coriolis, Toulouse Cedex 31057 Country: France. 1996. "Sensitivity of the Asian Summer Monsoon to an Anomalous Eurasian Snow Cover within the Météo-France GCM." *Clim. Dyn.* 2005 Elsevier Ltd. All rights reserved.: Volume 12, Issue 7, Pages 449-466. Descriptors: Synoptic meteorology -- 71.7.6; Asian monsoon; ARPEGE model; monsoon; snow cover; GCM. Notes: Geographic: Asia. Abstract: An updated version of the ARPEGE climate model of Météo-France, including a simple but physically-based snow parameterization, is used to test the impact of an increased snow mass prescribed at the beginning of March on the simulated summer monsoon circulation and rainfall. The large-scale features of the Asian monsoon are reproduced in a realistic way in the control integration, which is a necessary premise of such a sensitivity test. In the heavy snow cover experiment, the anomalous persistence of the winter snow pack delays the springtime continental heating. This weakens the thermal low over northern India and Persia as well as the southwesterly winds over the monsoon area. There is also a significant decrease in the rainfall over western India and Bengal-Burma, which usually represent the centers of maximum precipitation, Radiative, turbulence transfer and hydrological processes seem to be involved in the snow-monsoon relationship. The changes in the monsoon precipitation are strongly related to changes in the atmospheric circulation and are not reinforced by a local evaporation/convection feedback in the experiment. ISSN/ISBN: 0930-7575. Availability: FirstSearch indicates your institution subscribes to this publication. Libraries worldwide that own item: 485 US ARMYCOPRS OF ENG RES DEV CT Connect to the catalog at your library.
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of climatic stations are also included. The maps are drawn in considerable detail having been based not only on the available climatic data but also on the distribution of mountain ranges, major water bodies, and other geographic features. A brief text discusses the preparation of the maps and describes a few of the important distributional aspects of climate shown by the maps. (Author). Notes: Distribution Statement: APPROVED FOR PUBLIC RELEASE. OCLC Accession Number: AD0632878.

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19970130; Date of Update: 20061115. Abstract: Massive refugee movements continue due to conflicts between and within nations. To combat the major causes of mortality in refugee camps--undernutrition, measles, diarrhoea, pneumonia and malaria--nurses are following the principles of primary health care and are promoting adequate food, safe drinking water, shelter, environmental sanitation and immunization. ISSN/ISBN: 0020-8132 (Print); 1466-7657 (Electronic).

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environments and included ways to address not only weeds, but also poor soil physical properties, water deficit and excess, and poor plant stand. Among others, farmers used pigmented rice cultivars to be able to rogue wild rice and rotated or switched from dry seeded to transplanted rice because of weeds or a too rapid onset of rains. Redistribution of seedlings and manual weeding were used to improve plant stand and soil physical properties in addition to reducing weeds. Farmers' dry-seeding systems did not necessarily reduce labor, but could increase cropping intensity, result in stable yields using low material inputs, or distribute labor demands where some fields are dry seeded and others transplanted. Because of difficult and uncertain environmental conditions, research on direct seeding must build upon farmer practices and knowledge.

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- Green J. Affiliation: J. Green, 17 King Edwards Grove, Teddington, Middx TW11 9LY Country: United Kingdom E-mail: jgreen711@btinternet.com. 2007. "Morphological Variation of *Keratella Cochlearis* (Gosse) in Myanmar (Burma) in Relation to Zooplankton Community Structure." *Hydrobiologia*. 2007 Elsevier B.V., All rights reserved.: Volume 593, Issue 1, Pages 5-12 Additional Info: Netherlands. Descriptors: Freshwater ecology: community structure and function -- 73.3.4.6; community structure; crustacean; flatworm; morphology; morphometry; zooplankton Species Term: Copepoda; Crustacea; Cyclopoida; Diaptomidae; Heliodiaptomus; *Keratella cochlearis*; *Keratella*; Lorica; Rotifera. Notes: References: Number: 19; Geographic: Asia England Eurasia Europe Myanmar Southeast Asia Thames River [England] United Kingdom Western Europe. Abstract: *Keratella cochlearis* was present in 27 of 35 water bodies sampled in Myanmar, and was the most abundant rotifer in 10. Measurements of lorica length and posterior spine length from 20 localities showed that posterior spine length varied both with lorica length and with the composition of the crustacean zooplankton. Long spines were associated with dominance by *Heliodiaptomus*. The shortest spines were found in samples dominated by cladocerans or cyclopoid copepods. Posterior spine length was positively correlated with the number of diaptomid copepods. Forms without posterior spines were found in 17 localities. The lorica lengths of these spineless forms were generally similar to those of co-occurring spined forms ( $r = 0.68$ ), but in a few samples the loricas of the spineless forms were significantly larger. These larger forms are similar to the 'aspina' forms recently recognised in the River Thames in England. These samples were dominated by cladocerans or cyclopoid copepods. In one locality spineless forms were found without spined forms. The crustacean zooplankton in this locality was also dominated by cladocerans. (c) 2007 Springer Science+Business Media B.V. ISSN/ISBN: 0018-8158 E- 1573-5117. Availability: FirstSearch indicates your institution subscribes to this publication. Libraries worldwide that own item: 615 US ARMYCOPRS OF ENG RES DEV CT Connect to the catalog at your library.

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- Green, J. 2007. "Morphological Variation of *Keratella Cochlearis* (Gosse) in Myanmar (Burma) in Relation to Zooplankton Community Structure." *Hydrobiologia*.no. Nov. Volume 1, Pages 5-12. Additional Info: Dordrecht : Springer Netherland. Descriptors: NAL: 410 H992; Community structure; *Keratella*; Spine length. Notes: Geographic: Myanmar. Abstract: *Keratella cochlearis* was present in 27 of 35 water bodies sampled in Myanmar, and was the most abundant rotifer in 10. Measurements of lorica length and posterior spine length from 20 localities showed that posterior spine length varied both with lorica length and with the composition of the crustacean zooplankton. Long spines were associated with dominance by *Heliodiaptomus*. The shortest spines were found in samples dominated by cladocerans or cyclopoid copepods. Posterior spine length was positively correlated with the number of

diaptomid copepods. Forms without posterior spines were found in 17 localities. The lorica lengths of these spineless forms were generally similar to those of co-occurring spined forms ( $r = 0.68$ ), but in a few samples the loricas of the spineless forms were significantly larger. These larger forms are similar to the 'aspina' forms recently recognised in the River Thames in England. These samples were dominated by cladocerans or cyclopoid copepods. In one locality spineless forms were found without spined forms. The crustacean zooplankton in this locality was also dominated by cladocerans. ISSN/ISBN: 0018-8158.

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- Grundy-Warr, C. 1993. "Coexistent Borderlands and Intra-State Conflicts in Mainland Southeast Asia." *Singapore Journal of Tropical Geography.* 2005 Elsevier Ltd. All rights reserved.: Volume 14, Issue 1, Pages 42-57. Descriptors: Political -- 70.7.4; WATER -- 74.13; geopolitical relations; border area; developing region; political geography; intra-state conflict; borders; conflict; state control. Notes: Geographic: Burma Thailand Cambodia Asia --

- (Southeast). Abstract: This paper examines recent developments in two distinct borderlands of mainland Southeast Asia, namely Burma-Thailand and Thailand-Cambodia. It aims to show how an analysis of cross-border space provides a better understanding of the political and military conflicts within Burma and Cambodia and the international dimensions of these conflicts. In both cases the intra-state conflicts have at times become externalized involving considerable inter-state tension. Borderlands reflect the inter-state and transnational dimensions of these mostly intra-state level conflicts. -Author. ISSN/ISBN: 0129-7619.
- Gugliotta, Guy; Sawyer, Kathy; Weiss, Rick; Sawyer, Kathy and Weiss, Rick. 1999. Science Notebook. WP. Oct 18. page(s): A, 9:1. Descriptors: Paleontology; Moon; Breast cancer; Water; Drug therapy. Abstract: Paleontologists have discovered a new species of early primate in central Burma, offering fresh evidence that the ancestor of all monkeys and apes may have been from Asia, rather than Africa. The Burmese-French scientific team found fossilized teeth and jawbone fragments from Bahinia in Burma's Pondaung Formation, along with the jawbone of a more advanced primate. The fossils are about 40 million years old. Team leader Jean-Jacques Jaeger, of the Universite Montpellier- II, said the new fossil was definitely anthropoid--an ancestor of modern monkeys and apes--and showed strong similarities to a more fragmentary fossil found in China. ISSN/ISBN: 0190-8286.
- Gupta, S. M. and Srinivasan, M. S. 1992. "Late Miocene Radiolarian Biostratigraphy and Paleooceanography of Sawai Bay Formation, Neill Island, Andamans, India." Micropaleontology. 2005 Elsevier Ltd. All rights reserved.: Volume 38, Issue 3, Pages 209-235. Descriptors: Micropalaeontology -- 72.8.7; Geochronology, stratigraphy and palaeontology -- 76.4.6; radiolaria; palaeoceanography; palaeogeography; palaeoclimate; Miocene; biostratigraphy; radiolarian; Sawai Bay Formation Species Term: Radiolaria (protozoans); Didymocyrtis; Bacillariophyta; Botryostrobus; Peregrina. Notes: Geographic: India -- Andaman Islands -- Neill Island India -- Andamans -- Neill Island. Abstract: Stichocorys peregrina, Didymocyrtis penultima and Didymocyrtis antepenultima Late Miocene radiolarian zones are encountered from mudstone strata of Sawai Bay Formation, Neill Island, Andamans. Percentage data of 45 coarser taxonomic groups of radiolarians were subjected to Q-mode cluster analysis. Based on the ecology of the modern homeomorphs of the dominant radiolarian groups, it is suggested that the resulting clusters indicate colder and warmer periods due to the monsoonal upwelling during warmer periods. This finding is also substantiated with diatom/radiolaria ratio. Presence and absence of deep (1200-2000m) and intermediate (700-1200m) water dwelling radiolarians like the Plectopyramids, Botryostrobus and Sethoperinids groups indicate basinal shallowing during Late Miocene. It may be due to subduction of the Indian plate below the Asian plate, coupled with huge sediment discharged from the Irrawaddy River of Burma during monsoon dominated warmer periods (5.0-6.3 and 8.5-7.7 Ma) in Late Miocene. -from Authors. ISSN/ISBN: 0026-2803. Availability: FirstSearch indicates your institution subscribes to this publication. Libraries worldwide that own item: 593 US ARMYCOPRS OF ENG RES DEV CT Connect to the catalog at your library.
- Han, A. M. and Myint, T. M. 1986. "Knowledge, Attitudes and Behaviour in Relation to Diarrhoea in a Rural Community in Burma." Southeast Asian J. Trop. Med. Public Health; Southeast Asian J. Trop. Med. Public Health. Mar. Volume 17, Issue 1, Pages 59-62 Additional Info: THAILAND. Descriptors: Adult; Behavior; Child, Preschool; Defecation; Diarrhea -- prevention & control; Female; Food Contamination; Handwashing; Humans; Infant; Male; Myanmar; Rural Health; Soaps; Water Supply. Notes: Chemical Subst: Soaps [0]; Citation:

Status: MEDLINE Owner: NLM; Date of Entry: 19860917; Date Completed: 19860917; Date of Update: 20041117. Abstract: A study was conducted in a rural community in Burma, to determine how people perceive the importance of food, water and defecation in the causation of diarrhoea and to determine whether people wash hands or use soap after defecation or before preparing and eating food. 90% of mothers with under-five children in the community were interviewed. 53 to 86% of people were aware of the importance of food, water and defecation in the causation of diarrhoea. Although 34 to 88% practised hand washing before eating/food handling or after defecation, only 5 to 12% regularly used soap. Furthermore, drinking water for under-five children was obtained by dipping the drinking mug or cup into the drinking water pot (83%) which could result in contamination of drinking water. ISSN/ISBN: 0125-1562 (Print).

Han, A. M., Oo, K. N., Aye, T. and Hlaing T Affiliation: Epidemiology Division, Department of Medical Research, Yangon, Myanmar. 1991. "Bacteriologic Studies of Food and Water Consumed by Children in Myanmar: 2 Lack of Association between Diarrhoea and Contamination of Food and Water." *J. Diarrhoeal Dis. Res. ; J. Diarrhoeal Dis. Res. Jun.* Volume 9, Issue 2, Pages 91-3 Additional Info: BANGLADESH. Descriptors: Food Microbiology; Water Microbiology; Child, Preschool; Diarrhea, Infantile -- epidemiology; Enterobacteriaceae -- isolation & purification; Humans; Incidence; India -- epidemiology; Infant; Risk Factors. Notes: Citation: Status: MEDLINE Owner: NLM; Date of Entry: 19911121; Date Completed: 19911121; Date of Update: 20061115. Abstract: The association between contamination of morning samples of food and water of 208 children aged 6-29 months and the incidence of diarrhoea was investigated for 3 months in Yangon, Myanmar. Contamination of the samples was determined by isolation of faecal coliforms (FC) by standard methods. The children were divided into three groups, high, medium and low, according to the proportion of food and water samples found to be contaminated. The incidence of diarrhoea was recorded by weekly recall. Of the 779 food samples, 504 (65%), and of the 860 drinking water samples, 187 (22%) were positive for FC. The association between food and water contamination and the incidence of diarrhoea was assessed by comparing the cumulative incidences in the high and medium groups with that in the low group which served as reference. Diarrhoea risk ratios (RR) for children in the medium and high contamination groups (food, RR = 1.04 in medium and 0.78 in high vs 1 in low; water, RR = 0.73 and 0.73 vs 1) were not significantly different from those who were in the low-contamination group even after controlling for the confounding variables. ISSN/ISBN: 0253-8768 (Print).

Han, A. M., Oo, K. N., Midorikawa, Y. and Shwe S Affiliation: Epidemiology Division, Department of Medical Research, Rangoon, Burma. 1989. "Contamination of Drinking Water during Collection and Storage." *Trop. Geogr. Med. ; Trop. Geogr. Med. Apr.* Volume 41, Issue 2, Pages 138-40 Additional Info: NETHERLANDS. Descriptors: Water Microbiology; Water Pollution -- prevention & control; Water Supply; Bacillus -- isolation & purification; Feces -- microbiology; Hygiene; Myanmar. Notes: Citation: Status: MEDLINE Owner: NLM; Date of Entry: 19890913; Date Completed: 19890913; Date of Update: 20001218. Abstract: Drinking water contamination during abstraction, storage and use was determined in a suburban community in Rangoon, Burma, by detecting faecal coliforms (FC) with membrane filtration method. Increasing contamination during water collection, from the source to home storage, was found in all the studied households using 4 different types of drinking water. The implications of the findings are discussed. ISSN/ISBN: 0041-3232 (Print).

- Haupt, M., Leithoff, H., Meier, D., Puls, J., Richter, H. G. and Faix, O. 2003. "Heartwood Extractives and Natural Durability of Plantation-Grown Teakwood (*Tectona Grandis* L.) - A Case Study." *Holz Als Roh - Und Werkstoff*. Springer Verlag: Volume 61, Issue 6, Pages 473-474. Descriptors: Wood; Extraction; Durability; Plants (botany); Growth kinetics; Composition; Enzyme inhibition; Biosynthesis; Fungi; Gas chromatography; High performance liquid chromatography. Notes: Compilation and indexing terms, Copyright 2008 Elsevier Inc. Abstract: The causes of the exceptionally low natural durability of one individual plantation-grown teak tree from Panama were investigated. In durability tests with *Coriolus versicolor* (Leithoff et al. 2001) the heartwood of this tree had shown a mass loss between 32% and 43% while the reference material of a durable teak from Myanmar revealed only 2.3% up to 12.1% mass losses. Further studies on the antifungal effects of extractives of this specimen have been performed and the results compared with those of durable teak woods from the same plantation and from natural forests in Myanmar as well. As highest antifungal activity was found in the acetone/water extract, this extract will be analysed here in relation to the inhibitor effect of fractionated substances on mycelium growth of *Coriolus versicolor* (white rot) and *Coniophora puteana* (brown rot). In parallel studies Windeisen et al. (2003) surveyed the chemical composition of plantation-grown teakwood from the same origin in Panama. ISSN/ISBN: 0018-3768.
- Hawkes, Rebecca B., Franzmann, Peter D., O'Hara, Graham and Plumb, Jason J. 2006. "Ferroplasma Cupricumulans Sp. Nov., a Novel Moderately Thermophilic, Acidophilic Archaeon Isolated from an Industrial-Scale Chalcocite Bioleach Heap." *Extremophiles : Life Under Extreme Conditions*, 2006 Dec. 10(6):525-30. Epub: 2006 May 24: Germany. Volume 10, Issue 6, Pages 525-530. Descriptors: Biodegradation, Environmental; Copper; DNA, Archaeal: analysis; Environmental Remediation; Ferric Compounds: metabolism; Ferrous Compounds: metabolism; Hydrogen-Ion Concentration; Industrial Waste: analysis; Kinetics; Metallurgy; Myanmar; Oxidation-Reduction; Phylogeny; RNA, Ribosomal, 16S: genetics; Ribotyping; Sequence Homology, Nucleic Acid; Temperature; Thermoplasma: classification; Thermoplasma: genetics; Thermoplasma: growth & development; Thermoplasma: isolation & purification; Thermoplasma: metabolism. Notes: RN: 0 (DNA, Archaeal); 0 (Ferric Compounds); 0 (Ferrous Compounds); 0 (Industrial Waste); 0 (RNA, Ribosomal, 16S); 10028-22-5 (ferric sulfate); 7440-50-8 (Copper); 7720-78-7 (ferrous sulfate). Abstract: A new species of Archaea was isolated from an industrial mineral sulphide bioleach heap. Strain BH2, a non-motile pleomorphic coccus, was capable of chemomixotrophic growth on ferrous sulphate and yeast extract. Growth was not supported in the absence of yeast extract. Phylogenetic analysis based on the 16S rRNA gene showed that strain BH2 was most closely related to the species *Ferroplasma acidiphilum*; however, it showed only 95% sequence similarity with this species. Strain BH2 had a temperature optimum of 53.6 degrees C and a temperature range for growth between 22 and 63 degrees C. Thus, it is the first moderately thermophilic member of the genus *Ferroplasma*. The optimum pH for the growth of the strain occurred between pH 1.0 and 1.2 and the lowest pH at which growth was observed was 0.4. Based on 16S rRNA gene sequence analysis and other physiological characteristics, strain BH2 constitutes a new species within the genus *Ferroplasma*. The name *Ferroplasma cupricumulans* is proposed for the new species and strain BH2 (DSM 16651) is proposed as the type strain. Database: TOXLINE. ISSN/ISBN: 1431-0651. Availability: Print-Electronic.
- Hawkes, Rebecca B., Franzmann, Peter D. and Plumb, Jason J. 2006. "Moderate Thermophiles Including "Ferroplasma Cupricumulans" Sp. Nov. Dominate an Industrial-Scale Chalcocite

Heap Bioleaching Operation.” Hydrometallurgy. Elsevier, Amsterdam, 1000 AE, Netherlands: Volume 83, Issue 1-4, Pages 229-236. Descriptors: Leaching; Microorganisms; Cell culture; Metabolism; Molecular structure; Microbiology; Genes. Notes: Compilation and indexing terms, Copyright 2008 Elsevier Inc. Abstract: This study describes the microbiology of the MICCL Monywa chalcocite heap bioleaching operation. Microorganisms were detected in the heap using culture-based techniques and culture-independent PCR-DGGE analysis of the 16S rRNA gene. The metabolic requirements, temperature and pH optima were determined for selected strains isolated from the heap material. Six strains (BH1-BH6) were enriched and isolated from heap solids and leachate samples. Phylogenetic analysis of the 16S rRNA genes showed that strains BH3 and BH4 were closely related to the acidophilic bacterium *Acidithiobacillus caldus* and strains BH5 and BH6 were closely related to *Leptospirillum ferriphilum*. The optimum growth temperature for one of the *L. ferriphilum* strains was 41.3 °C and the optimum pH range was 1.1 to 1.5. A new species of Archaea was isolated from the heap samples. Cells of the proposed species, “*Ferroplasma cupricumulans*” (formerly “*Ferroplasma cyprexacervatum*”), were non-motile pleomorphic cocci, capable of chemomixotrophic growth with ferrous sulphate and yeast extract. Cells grew anaerobically on potassium tetrathionate and yeast extract as electron donors with ferric iron as the electron acceptor. Growth occurred from 22 °C to 63 °C, with an optimum temperature of 53.6 °C. The optimal pH for growth was 1.0-1.2. Phylogenetic analysis based on the 16S rRNA gene showed the most closely related described species to strain BH2 was *Ferroplasma acidiphilum* YT (95% sequence similarity). Molecular analysis of mine samples (16S rRNA PCR-DGGE) detected the above-mentioned cultured strains as well as species of *Sulfobacillus* and unknown representatives of the Proteobacteria. The microbial community of the Myanmar bioleach heaps contained similar levels of diversity to a dump bioleach operation in Chile, but contained greater amounts of biomass than another heap bioleach operation in Australia. The operating parameters of the Myanmar heaps have selected for the growth of moderately thermophilic microorganisms that are more commonly found in extremely low pH acidic mine drainage sites than in heap bioleach systems. The novel species of *Ferroplasma* is considered to be involved in the aerobic and anaerobic cycling of iron within the heap bioleaching environment. © 2006 Elsevier B.V. All rights reserved. ISSN/ISBN: 0304-386X.

He Yuanqing, Zhang Zhonglin, Theakstone, Wilfred H., et al. 2003. “Recent Variability of the Climate and Glaciers in China's Monsoon Region; Water Resources Systems; Water Availability and Global Change; Proceedings of an International Symposium (Symposium HSO2a).” IAHS-AISH Publication. International Association of Hydrological Sciences, International (III): International (III). Volume 280, Pages 104-114. Descriptors: Arabian Sea; Asia; atmosphere; atmospheric precipitation; Azha Glacier; Baishui Glacier; Bay of Bengal; Burma; Cenozoic; China; circulation; climate; climate change; Dasuopu Glacier; Far East; fluctuations; glaciers; global change; global warming; Hailuoguo Glacier; Himalayas; Holocene; hydrologic cycle; hydrology; ice cores; Indian Ocean; Indian Peninsula; Melang Glacier; meteorology; monsoons; Mount Yulong; Neoglacial; Pacific Ocean; Quaternary; rainfall; relative age; storms; temperature; tree rings; Zhongdian China. Notes: CD: PIHSD9; FE: References: 32; illus. incl. 2 tables, sketch map; LL: Latitude:N250000,N300000 Longitude:E1000000,E0950000; CY: GeoRef, Copyright 2007, American Geological Institute. Abstract: Climatic data, ice core records, the tree-ring index and recorded glacier variations have been compared, and used to reconstruct a history of climatic and glacial

changes in the monsoonal temperate-glacier region of southwestern China during the last 400 years. The results indicate that the region's temperature has increased in a fluctuating manner during the 20th century, after the two cold stages of the Little Ice Age of the 17th-19th centuries, with a corresponding retreat of most of the glaciers during the 20th century, against a background of global warming. Rates of retreat accelerated after the 1980s. The few advancing glaciers that did exist have started to retreat in recent years. The amount, trend and amplitude of variation of precipitation have differed in different parts of the region. The climatic records in the Dasuopu ice core, from the Himalaya area in the western part of the region, show a decreasing trend in precipitation, the converse of the trend in temperature. However, in the Hengduan Mountains and other areas of the eastern part of the region, a rising trend in rainfall has accompanied increasing temperatures, a result of the variable atmospheric circulations from different sources. The data indicate that the Southwest Monsoon, which is the principal controlling factor in the Chinese monsoonal temperate-glacier region, can be classified into two parts. One is the Indian Monsoon from the Arabian Sea, passing across the Indian Peninsula. This transports the vapour for precipitation in the Himalaya area, the western part of the monsoonal temperate-glacier region. The other part is the Bengal Monsoon originating in the Bay of Bengal, passing over Bengal and Burma. This is the major source of precipitation in the Hengduan Mountains and other areas in the eastern part of the region. In addition, the eastern part is influenced by the Southeast Monsoon arriving from the western Pacific, whilst the western part is affected in winter by the southern branch of the westerly circulation. This complex atmospheric situation results in differing patterns of precipitation in the western and eastern zones. Although it is clear that both temperature and precipitation affect the glaciers, further work is needed to confirm which is the major factor influencing present glacier change. Database: GeoRef. ISSN/ISBN: 0144-7815.

He, Yuanqing, Zhang, Zhongli n., Theakstone, Wilfred H., et al. 2003. "Recent Variability of the Climate and Glaciers in China's Monsoon Region." IAHS-AISH Publication. IAHS Press, Wallingford, Oxfordshire, OX10 8BB, United Kingdom: Issue 280, Pages 104-116. Descriptors: Global warming; Glaciers; Ice; Precipitation (chemical). Notes: Compilation and indexing terms, Copyright 2008 Elsevier Inc. Abstract: Climatic data, ice core records, the tree-ring index and recorded glacier variations have been compared, and used to reconstruct a history of climatic and glacial changes in the monsoonal temperate-glacier region of southwestern China during the last 400 years. The results indicate that the region's temperature has increased in a fluctuating manner during the 20th century, after the two cold stages of the Little Ice Age of the 17th-19th centuries, with a corresponding retreat of most of the glaciers during the 20th century, against a background of global warming. Rates of retreat accelerated after the 1980s. The few advancing glaciers that did exist have started to retreat in recent years. The amount, trend and amplitude of variation of precipitation have differed in different parts of the region. The climatic records in the Dasuopu ice core, from the Himalaya area in the western part of the region, show a decreasing trend in precipitation, the converse of the trend in temperature. However, in the Hengduan Mountains and other areas of the eastern part of the region, a rising trend in rainfall has accompanied increasing temperatures, a result of the variable atmospheric circulations from different sources. The data indicate that the Southwest Monsoon, which is the principal controlling factor in the Chinese monsoonal temperate-glacier region, can be classified into two parts. One is the Indian Monsoon from the Arabian Sea, passing across the Indian Peninsula. This transports the vapour for precipitation

in the Himalaya area, the western part of the monsoonal temperate-glacier region. The other part is the Bengal Monsoon originating in the Bay of Bengal, passing over Bengal and Burma. This is the major source of precipitation in the Hengduan Mountains and other areas in the eastern part of the region. In addition, the eastern part is influenced by the Southeast Monsoon arriving from the western Pacific, whilst the western part is affected in winter by the southern branch of the westerly circulation. This complex atmospheric situation results in differing patterns of precipitation in the western and eastern zones. Although it is clear that both temperature and precipitation affect the glaciers, further work is needed to confirm which is the major factor influencing present glacier change. ISSN/ISBN: 0144-7815.

Health Unlimited. 2006. *She Qu Huan Jing Wei Sheng Yu Gai Shui Gai Ce = Yingguo Wu Guo Jie Wei Sheng Zu Zhi (HU) Miandian Shan Bang Dong Bu Di 4 Te Qu Wei Sheng He Zuo Xiang Mu Pei Xun Jiao Cai*. Eastern Shan State, Myanmar: HU-Special Region 4 Project Office. page(s): 36. Descriptors: Public health -- Burma; Water-supply -- Burma; Toilets -- Burma. Notes: ill. ; 29 cm.; Other Titles: Community's environmental sanitation manual; Responsibility: [Health Unlimited].; Entry: 20070125; Update: 20070125. OCLC Accession Number: 80018831.

Heymann, Johannes. 2000. "Mapping and Land-use Planning for Watershed Management and Land Degradation Assessment in Myanmar." *Petermanns Geographische Mitteilungen*. VEB Hermann Haack Geographisch-Kartographische Anstalt Gotha/Leipzig, Gotha-Leipzig, Federal Republic of Germany (DEU): Federal Republic of Germany (DEU). Volume 144, Issue 4, Pages 4-5. Descriptors: aerial photography; Asia; Burma; drainage basins; erosion; Far East; image analysis; land management; land use; remote sensing; satellite methods; soil erosion; soils; thematic mapper; water management. Notes: CD: PGGMA3; FE: geol. sketch maps; CY: GeoRef in Process, Copyright 2008, American Geological Institute. After editing and indexing, this record will be added to Georef. Reference includes data from Geoline, Bundesanstalt für Geowissenschaften und Rohstoffe, Hanover, Germany. Database: GeoRef In Process. ISSN/ISBN: 0031-6229.

Heymann, Johannes and Loeffler, Ernst. 1997. "Mangrove Degradation in the Ayeyarwady Delta, Myanmar." *Petermanns Geographische Mitteilungen*. VEB Hermann Haack Geographisch-Kartographische Anstalt Gotha/Leipzig, Gotha-Leipzig, Federal Republic of Germany (DEU): Federal Republic of Germany (DEU). Volume 141, Issue 5-6, Pages 291-306. Descriptors: Asia; Burma; conservation; degradation; deltas; ecosystems; erosion; Far East; land use; littoral erosion; mangrove swamps; mires; remote sensing; satellite methods; shore features; swamps; vegetation; water erosion. Notes: CD: PGGMA3; FE: References: 21; illus. incl. geol. sketch maps; CY: GeoRef in Process, Copyright 2008, American Geological Institute. After editing and indexing, this record will be added to Georef. Reference includes data from Geoline, Bundesanstalt für Geowissenschaften und Rohstoffe, Hanover, Germany. Database: GeoRef In Process. ISSN/ISBN: 0031-6229.

HILA-GYAW, S., SANN-MYINT, K., CHEN, H. and TU, M. 1971. "Bacteriological Findings in Lake, River and Well Water Supplies of Rangoon." *Union Burma J Life Sci.* Vol 4, no 1. P 95-103. 1971. ILLUS. Descriptors: ALCALIGENES-FAECALIS; BAXILLUS-SP; BACTERIOLOGICAL STUDIES; BURMA(RANGOON); CITROBACTER-FREUNDII; CLOSTRIDIUM-PERFRINGENS; ENTEROBACTER-AEROGENES; ESCHERICHIA-COLI; KLEBSIELLA-AEROGENES; PROTEUS-MIRABILIS; PROTEUS-MORGANII; PROTEUS-VULGARIS; PROVIDENCIA; PSEUDOMONAS-AERUGINOSA; PSEUDOMONAS-FLUORESCENS; STREPTOCOCCUS-FAECALIS; WATER SUPPLY.

Abstract: WATER SAMPLES, BOTH UNCHLORINATED AND CHLORINATED, FROM 20 NATURAL WATER SOURCES IN RANGOON TOWNS COMPRISING LAKES, RIVER AND WELLS WERE EXAMINED DURING THE PERIOD JULY 1966 TO JULY 1968 FOR THE PRESUMPTIVE COLIFORM COUNT, THE PRESUMPTIVE ENTEROCOCCUS COUNT AND THE PRESENCE OF PRESUMPTIVE CLOSTRIDIUM PERFRINGENS. BACTERIA ISOLATED FROM MACCONKEY BILE SALT LACTOSE PEPTONE WATER AND SODIUM AZIDE MEDIUM PRIMARY CULTURES WERE IDENTIFIED. USING AS CRITERIA THE PRESUMPTIVE COLIFORM COUNT, THE PRESUMPTIVE ENTEROCOCCUS COUNT AND THE ISOLATION OF ESCHERICHIA COLI AND/OR KLEBSIELLA AEROGENES AND/OR STREPTOCOCCUS FAECALIS, 18 OUT OF 20 SAMPLES WERE FOUND UNSATISFACTORY FOR DRINKING PURPOSES. THE BACTERIA ISOLATED WERE E. COLI, K. AEROGENES, CITROBACTER FREUNDII, ENTEROBACTER AEROGENES, ALCALIGENES FAECALIS, A BACILLUS SP., PROTEUS MIRABILIS, P. MORGANII, P. VULGARIS, A PROVIDENCIA STRAIN, PSEUDOMONAS AERUGINOSA, P. FLUORESCENS AND S. FAECALIS.--COPYRIGHT 1972, BIOLOGICAL ABSTRACTS, INC. Database: Environmental Sciences and Pollution Mgmt.

Hirsch, Philip Affiliation: U Sydney. 2006. "Water Governance Reform and Catchment Management in the Mekong Region." J. Environ. Dev. June. Volume 15, Issue 2, Pages 184-201. Descriptors: Economic Development: Agriculture; Natural Resources; Energy; Environment; Other Primary Products -- O130; Economic Development: Regional, Urban, and Rural Analyses -- O180; Socialist Systems and Transitional Economies: Urban, Rural, and Regional Economics -- P250; Socialist Systems and Transitional Economies: Natural Resources; Environment -- P280; Renewable Resources and Conservation: Water -- Q250; Environmental Economics: Government Policy -- Q580; Rivers; Water. Notes: Geographic: Cambodia China Laos Myanmar Thailand Vietnam Region: Asia; Added: 200612. Abstract: This article investigates complexities and dynamics of water governance reforms at a number of levels in the Mekong Region. It looks comparatively at countries within the region and at the Mekong as a transboundary basin. The study takes catchment management processes as a focus for reform agendas related to water and relates water management in a river basin context to wider issues of governance reform. A central argument is that the effectiveness of water governance cannot be assessed in terms of simple environmental, economic, or social outcomes, or even against a more comprehensive "triple bottom line." Governance agendas and definitions are too diverse, and stakeholder interests too complex, to come up with a straightforward "best practice" of catchment-oriented water governance toward which policy reform should aspire. Rather, catchment governance in the Mekong is an arena for negotiating more sustainable, equitable, and productive use and management of water at multiple scales. ISSN/ISBN: 1070-4965. Availability:

<http://www.sagepub.co.uk/journalsProdDesc.nav?prodId=Journal200786>.

Hong Kong, Fugro Scott Wilson Joint Venture, Hong Kong, China (CHN) and Hong Kong, Fugro Scott Wilson Joint Venture, Hong Kong, China (CHN). 2001. "Section 1; Detailed Study of Slope Distress at Queen's Hill, Burma Lines Camp, Fanling; Investigation of some Selected Landslides in 1998; Volume 5." China (CHN): The Government of the Hong Kong Special Administrative Region, Civil Engineering Department, Geotechnical Engineering Office, Hong Kong, China (CHN). GEO Report. Aug 2001. Volume: 112, page(s): 5-106. Descriptors: Asia; Burma Lines Camp; China; erosion; Fanling China; Far East; geologic

- hazards; Hong Kong; landslides; mass movements; Queen's Hill; slope stability; slopes; stability; water erosion. Notes: CD: #03519; FE: References: 6; illus. incl. 4 tables, sects.; LL: Latitude:N220500,N223500 Longitude:E1143000,E1135000; CY: GeoRef, Copyright 2007, American Geological Institute. Database: GeoRef. OCLC Accession Number: 2003-050510.
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- Horwitz, Jane. 1995. Orky, the Friendly Water Monster. WP. Sep 7. page(s): D, 7:4. Descriptors: Motion pictures. Abstract: Jane Horwitz reviews the movies "Magic in the Water," "Beyond Rangoon," "Lord of Illusions," "Desperado" and "The Prophecy" in regard to their appropriateness for children. ISSN/ISBN: 0190-8286.
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Southeast Asia, peripheral to mainland Asia. This may or may not have been the eastern continuation of the microcontinent Sibumasu (Siam (Thailand)-Burma-Malaysia-Sumatra). The collision of Dongnanya and Asia gave rise not only to the Gunanhai Melange of coastal Fujian, but also to the ophiolite melanges, parts of which are present in Taiwan (Tailuko), the Philippines and western Malaysia.

Hurley, Patrick J. 1900-1956. Papers, 1900-1956. Descriptors: Air mail service -- United States; Airports -- Oklahoma; Ambassadors -- United States; Argonne, Battle of the, 1918; Autographs; Bombers; Bonus Expeditionary Force, 1932; Canals -- Florida; Choctaw Indians -- Arbitration and award; Choctaw Indians -- Claims; Choctaw Indians -- Courts; Choctaw Indians -- Land tenure; Choctaw Indians -- Legal status, laws, etc; Choctaw Indians -- Property; Choctaw Indians -- Treaties; Communism -- China; Communism -- Japan; Fighter planes -- United States; Forest reserves -- Oklahoma; Forests and forestry -- Oklahoma; Judges -- Philippines; Pensions, Military -- United States; Petroleum industry and trade; Philippine Sea, Battles of the, 1944; Railroads -- Oklahoma; Reconstruction (1914-1939) -- United States; Republican Party -- United States; Schools -- Indian Territory; Schools -- Oklahoma; Sewage disposal in rivers, lakes, etc. -- Oklahoma; Sino-Japanese War, 1937-1945; Veterans -- United States; Water -- Pollution -- Oklahoma; World War, 1939-1945 -- Australia; World War, 1939-1945 -- Palestine; World War, 1939-1945 -- New Zealand; World War, 1939-1945 -- Soviet Union; World War, 1939-1945 -- Campaigns -- Burma; World War, 1939-1945 -- Campaigns -- China; World War, 1939-1945 -- Campaigns -- India; World War, 1939-1945 -- Campaigns -- Philippines; World War, 1939-1945 -- Naval operations, French. Abstract: Correspondence, reports and articles (1900-1956) from Hurley's service as National Attorney for the Choctaw Nation, regarding tribal enrollment, land tenure, and the Mississippi Choctaw; as United States Assistant Secretary of War and as a special presidential representative to the Soviet Union, Great Britain, Afghanistan and the Middle East; and as United States Ambassador to China during World War II, including correspondence regarding American and Allied war efforts in the Far Eastern theatre. Correspondents include Winston Churchill, Franklin D. Roosevelt, Lord Louis Mountbatten, Mao Tse-tung, Chiang Kai-shek, Herbert Hoover, Douglas MacArthur, Henry A. Wallace, Joseph Stilwell, Helen Keller and Cordell Hull, as well as numerous officials of the U.S. diplomatic corps, including Averell Harriman and Harry Hopkins. Notes: 188 ft; Named Person: Aguinaldo, Emilio, 1869-1964. Arosemena, Juan Demostenes. Ballinger, Richard Achilles, 1858-1922. Barrett, David D. (David Dean), 1892-1977. Baruch, Bernard M. (Bernard Mannes), 1870-1965. Benedict, Omer K. Canton, Frank M., 1849-1927. Carter, Amon. Chiang, Kai-shek, 1887-1975. Chennault, Claire Lee, 1890-1958. Cheves, Gilbert X. Chiang, May-ling Soong, 1897- Chou, En-lai, 1898-1976. Churchill, Winston, Sir, 1871-1965. Creel, George, 1876-1953. DePass, Morris B. Doak, William Nickles. Donovan, William J. (William Joseph), 1890-1969. Douglas, Clarence B. Drumwright, Everett F. Eisenhower, Dwight D. (Dwight David), 1890-1969. Fish, Hamilton, 1926- Fraser, Peter. Gauss, Clarence E. Geissler, Arthur. Gore, Thomas P. (Thomas Pryor), 1870-1949. Groseclose, Elgin Earl, 1899- Halifax, Edward Frederick Lindley Wood, Earl of, 1881-1959. Harriman, W. Averell (William Averell), 1891-1986. Harrison, Walter M. Hastings, William Wirt. Hearn, Thomas G. Hoover, Herbert, 1874-1964. Hopkins, Harry Lloyd, 1890-1946. Huffman, Roy. Hull, Cordell, 1871-1955. Hurley, Patrick J. (Patrick Jay), 1883-1963. Johnson, Royal C. Jones, Richard Lloyd, 1873-1868. Judd, Walter H. Keller, Helen, 1880-1968. Kelsey, Dana H. Landon, Alfred M. (Alfred Mossman), 1887-1987. La Follette, Robert

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Husaini, S. H. 1964. Report on Fellowship to Study Conditions in Inland Water Transport in Burma, the United Kingdom, the Federal Republic of Germany and the Netherlands, March to August, 1964. Geneva: Descriptors: Inland water transportation -- Burma; Inland water transportation -- Great Britain; Inland water transportation -- Germany (West); Inland water transportation -- Netherlands. Notes: iii, 84 l. 28 cm.; Responsibility: by S.H. Husaini.; Entry:

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- India, Geological Survey, Strategic Branch. 1944. "Burma; the Rangoon Area." *India, Geol. Surv., Strategic Branch, Tech. Note*. Strategic Branch, Tech. Note. Volume 39, Pages 11. Descriptors: Asia; Burma; Far East; geology; military geology; Rangoon region; road materials; water supply. Notes: FE: (processed), geol. sketch map; CY: GeoRef, Copyright 2007, American Geological Institute. Reference includes data from Bibliography and Index of Geology Exclusive of North America, Geological Society of America, Boulder, CO, United States. Abstract: Brief notes on Tertiary and younger formations, soils, physical features, water supply, and road materials of the Rangoon region, Burma. Database: GeoRef.
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- Jancloes M Affiliation: Division of Intensified Cooperation with Countries and Peoples in Greatest Need, World Health Organization, Geneva, Switzerland.,jancloesm@who.ch. 1998. "The Poorest First: WHO's Activities to Help the People in Greatest Need." World Health Forum; World Health Forum. Volume 19, Issue 2, Pages 182-7 Additional Info: SWITZERLAND. Descriptors: Poverty; Delivery of Health Care, Integrated -- organization & administration; Developing Countries; Humans; World Health Organization -- organization & administration; Guinea-bissau; Health; International Cooperation; Low Income Population; Primary Health Care; Social Development; Social Policy; Viet Nam; Who Africa; Africa South Of The Sahara; Americas; Angola; Arab Countries; Asia; Bangladesh; Bolivia; Burkina Faso; Central America; China; Delivery Of Health Care; Developed Countries; Eastern Asia; Eastern Europe; Economic Factors; Europe; French Speaking Africa; Guatemala; Health Services; International Agencies; Latin America; Middle Africa; Moldova; Myanmar; New Independent States; North America; Organizations; Policy; Portuguese Speaking Africa; Social Class; Socioeconomic Factors; Socioeconomic Status; South America; Southeastern Asia; Southern Asia; Un; Western Africa; Western Asia; Yemen. Notes: Note(s): TJ: WORLD HEALTH FORUM.; Citation: Status: MEDLINE Owner: NLM Other ID: PIP:

134628; POP: 00279890; Date of Entry: 19980903; Date Completed: 19980903; Date of Update: 20041117. Abstract: Through its Division of Intensified Cooperation with Countries and Peoples in Greatest Need, WHO is giving special attention to the relationship between poverty and ill-health. The work of the Division is outlined in the present article. Poverty is the main reason why babies are not vaccinated, clean water and sanitation are not provided, curative drugs and other treatments are not available, and mothers die in childbirth. It is the main cause of low life expectancy, handicap, disability, and starvation, and a major factor in mental illness, stress, suicide, family disintegration, and substance abuse. Poverty is spreading, just as the gap between rich and poor is growing in both developed and developing countries. In 1989, the World Health Assembly asked the World Health Organization (WHO) to pay attention to the special needs of the most poor countries, a request which led to the development and launching of the Intensified Cooperation with Countries and Peoples in Greatest Need initiative. The goals of the initiative are to enable poor countries to develop public policies and implement strategies for improving the health status of their populations, to promote innovative intersectoral action, and to make the best possible use of international cooperation in health matters. The main task has been to develop and implement community-based strategies for primary care in approximately 30 countries. In-country actions are described for Angola, Bangladesh, Bolivia, Burkina Faso, China, Guatemala, Guinea-Bissau, Moldova, Myanmar, Vietnam, and Yemen. Lessons learned are presented and future requirements considered. ISSN/ISBN: 0251-2432 (Print).

Jayaram, K. C. 1981. *The Freshwater Fishes of India, Pakistan, Bangladesh, Burma and Sri Lanka : A Handbook*. Calcutta: The Survey. page(s): xxii, 475. Descriptors: Fishes, Fresh-water -- India; NAL: SH299.J35; Bibliography Subj Category: M310 AQUATIC BIOLOGY AND ECOLOGY, ANIMALS. Notes: 14 leaves of plates : ill. (some col.) ; 24 cm. Availability: Connect to the catalog at your library. OCLC Accession Number: CAT83787315.

Jayawardena, A. W. and Mahanama S.P.P. Affiliation: Prof. A.W. Jayawardena, Dept. of Civil Engineering, The Univ. of Hong Kong Country: Hong Kong E-mail: hrecjaw@hkucc.hku.hk. 2002. "Meso-Scale Hydrological Modeling: Application to Mekong and Chao Phraya Basins." *J. Hydrol. Eng.* 2005 Elsevier Ltd. All rights reserved.: Volume 7, Issue 1, Pages 12-26 Additional Info: United States. Descriptors: Runoff, streamflow and basins -- 71.6.5; hydrological modeling; river flow; river discharge; atmospheric forcing. Notes: References: Number: 32; Geographic: Asia -- Mekong Basin Asia -- Chao Phraya Basin. Abstract: In this paper, an attempt has been made to predict river flow in meso-scale basins using the general circulation model generated atmospheric forcing by coupling a land surface model and a river routing model. Several versions of the variable infiltration capacity model were used as the land surface model, including one that incorporates a double parabolic curve to describe the infiltration capacity of the soil. In the runoff routing model, which uses a much finer grid, backward distribution of observed river discharges to upstream cells as well as flood plain inundation are introduced. The proposed models and the procedures are applied to two major river basins in the Southeast Asian Region-the Mekong and the Chao Phraya. The Mekong is an international river that runs through China, Myanmar, Lao, Thailand, Cambodia, and Vietnam, and the Chao Phraya River is contained within Thailand. Despite the limitations in the data availability, the results of daily river discharge predictions seem to be reasonable in the scale concerned. ISSN/ISBN: 1084-0699. Availability: FirstSearch indicates your institution subscribes to this publication. Libraries worldwide that own item: 329 US ARMYCOPRS OF ENG RES DEV CT Connect to the catalog at your library.

- Jayawardena, A. W. and Mahanama, S. P. P. 2002. "Meso-Scale Hydrological Modeling: Application to Mekong and Chao Phraya Basins." *J. Hydrol. Eng.* Jan-Feb. Volume 7, Issue 1, Pages 12-26. Descriptors: Article Subject Terms: Basins; Hydrologic models; Hydrology; Infiltration; Model Studies; River Flow; River discharges; River flow forecasting; Runoff; Watersheds; Article Geographic Terms: Cambodia, Mekong R.; China, People's Rep., Lancang Jiang R.; Laos, Menam Khong R.; Myanmar, Mekong R.; Southeast Asia, Mekong R.; Thailand, Chao Phraya R.; Thailand, Mekong R. Abstract: In this paper, an attempt has been made to predict river flow in meso-scale basins using the general circulation model generated atmospheric forcings by coupling a land surface model and a river routing model. Several versions of the variable infiltration capacity model were used as the land surface model, including one that incorporates a double parabolic curve to describe the infiltration capacity of the soil. In the runoff routing model, which uses a much finer grid, backward distribution of observed river discharges to upstream cells as well as flood plain inundation are introduced. The proposed models and the procedures are applied to two major river basins in the Southeast Asian Region - the Mekong and the Chao Phraya. The Mekong is an international river that runs through China, Myanmar, Lao, Thailand, Cambodia, and Vietnam, and the Chao Phraya River is contained within Thailand. Despite the limitations in the data availability, the results of daily river discharge predictions seem to be reasonable in the scale concerned. Database: Environmental Sciences and Pollution Mgmt. ISSN/ISBN: 1084-0699.
- Kadushkin, Anatoly, Siddiqui, Zuhaib and Shipin, Oleg. 2004. "Groundwater Quality Assessment and Management in Selected Countries of East and South-East Asia." *Water Resour. J.* United Nations, Economic and Social Commission for Asia and the Pacific, New York, NY, International (III): International (III). Dec. Volume 216, Pages 83-108. Descriptors: aquifer vulnerability; aquifers; arsenic; Asia; Bangladesh; Burma; cadmium; Cambodia; carcinogens; China; chromium; copper; decision-making; drinking water; ecosystems; Far East; fluorine; fresh-water environment; geologic hazards; ground water; halogens; heavy metals; India; Indian Peninsula; international cooperation; Iran; Laos; lead; mercury; metals; Middle East; Nepal; nickel; numerical models; Pakistan; policy; pollutants; pollution; public health; risk assessment; soils; Southeast Asia; surface water; Thailand; toxicity; water management; water quality; water resources; water supply; West Bengal India; zinc. Notes: FE: References: 51; illus. incl. 5 tables, sketch map; CY: GeoRef, Copyright 2008, American Geological Institute. Abstract: Supply of fresh and clean drinking water is a basic need for all human beings the Earth, yet it has been observed that millions of people worldwide are deprived of this service. An estimated 668 million people in Asia and the Pacific still lack access to safe drinking water, while an estimated 1,888 million lack adequate sanitation, representing 18 per cent and 52 per cent of the region's population, respectively. In the Millennium Declaration 2000, Governments across the world pledged to "reduce by half of the proportion of people without sustainable access to safe drinking water" by 2015. The Johannesburg Plan of Implementation (JPOI) of the World Summit on Sustainable Development in September 2002 called for the water supply goal to be extended to include sanitation. In simple numerical terms, over Asia as a whole this implies that improved water and sanitation services should be provided for an additional 40 million people each year, or more that 100,000 people each day for the next 15 years. This represents a highly significant challenge. Despite some notable achievements, the Asia and Pacific region, as well as some individual countries, have not, so far, done too well in making significant progress towards achieving water-related MDG and JPOI goals. The

contamination of soil, groundwater and surface water by heavy metals/metalloids has become a major environmental and public health hazard and a major constraint to sustainable development in many countries of Asia and the Pacific. Many rivers, lakes and groundwater resources are becoming increasingly polluted. The main source of freshwater pollution can be attributed to discharge of untreated waste, dumping of industrial effluent, mineral mining, and run-off from agricultural fields. Industrial growth, urbanization and the increasing use of synthetic organic substances have serious and adverse impacts on freshwater bodies. It is a generally accepted fact that the developing countries of East and South-East Asia are facing problems of agriculture run-off into water sources, toxic chemical discharges from industries polluting drinking water, which leads to water-borne diseases and affects the human health. The levels of suspended solids in Asian rivers have risen by a factor of four over the last three decades. Millions of people worldwide are consuming water from groundwater sources that contain arsenic above safe levels. Long-term exposure to such poisoned water can lead to serious health problems, collectively called arsenicosis, which include skin lesions, skin cancers, internal cancers affecting the bladder, kidney and lungs, and hypertension. The total exposed population in various parts of world is estimated at approximately 100 million, which makes it a disaster of global dimensions. The research on arsenic contamination of groundwater in the region during the last decade confirmed its existence in the groundwater resources of Bangladesh, Cambodia, China, the Islamic Republic of Iran, Lao PDR, Myanmar, Nepal, Pakistan, Thailand, Viet Nam and the West Bengal Province of India. Bangladesh, Nepal and the West Bengal Province of India are believed to be among the most affected areas in Asia. The severity and dimensions of the arsenic crisis in Asia, however, are only now becoming fully understood. Conservative estimates put the total number of people drinking arsenic-contaminated water from 60 to 75 million in the Asia region. Overall, arsenic contamination of the groundwater threatens at least 20 million people in the East and South-East Asia region. Arsenic contamination is a complex problem, involving both technological and policy challenges, and its solution requires clear thinking and a comprehensive strategic response. A number of critical technological, institutional and policy-related problems are still to be overcome. There exists an urgent necessity for much stronger regional cooperation of such international organisations as ESCAP, UNICEF, WHO etc., local NGOs, governments and other relevant stakeholders. It appears the current situation is such that only the urgent measures will prevent a crisis situation in the East and South-East Asia to occur on the scale of the current calamity in Bangladesh. The paper overviews status quo of the problem in the light of the past and future human risk dynamics in the East and South-East Asian region and puts forward recommendations for proper mitigation measures. Database: GeoRef. ISSN/ISBN: 0377-8053.

Kajisa, T., Oo, A. T. and Fujiki, K. 2005. "Data Generation of Daily Rainfall Time Series for Myanmar's Water Resources Planning." *Int. Agric. Eng. J.* Volume 14, Issue 1, Pages 29-34. Descriptors: Article Subject Terms: Agricultural Engineering; Hydrologic Data; Planning; Precipitation; Rain; Rainfall; Structural Engineering; Water Resources; Article Geographic Terms: Japan; Myanmar. Abstract: The time stochastic structure of daily precipitation in Japan and Myanmar were analyzed using data for 30 years from 1962 to 1991. In this analysis, the daily precipitation data generation method, which consisted of two components of the rain characteristics, the occurrence and rain intensity, was applied for Japan where there is no rainy season, making it possible to be used for Myanmar, which has a rainy season. It was expected that the data generation of daily precipitation for the dry season in

Myanmar could be the same as Japan, because simulation of continuous dry days is more reasonable than the simulation of continuous rainy days for the dry season in Myanmar. On the other hand, simulation of continuous rainy days is more reasonable than the simulation of continuous dry days for the rainy season in Myanmar. In addition, the time independency of daily precipitation of the rainy season in Myanmar was found to be as large as that in Japan. Therefore, the effect of daily precipitation on the next day's precipitation was confirmed to be small in both places. Database: Environmental Sciences and Pollution Mgmt. ISSN/ISBN: 0858-2114.

Kajisa, T., Oo, A. T. and Fujiki, K. 2005. "Data Generation of Daily Rainfall Time Series for Myanmar's Water Resources Planning." *Int. Agric. Eng. J. Asian Association for Agricultural Engineering, Bangkok, 10501, Thailand: Volume 14, Issue 1, Pages 29-34.* Descriptors: Rain; Water resources; Strategic planning; Water conservation; Precipitation (chemical); Climate change; Decision making; Data acquisition; Civil engineering; Probability; Algorithms. Notes: Compilation and indexing terms, Copyright 2008 Elsevier Inc. Abstract: The time stochastic structure of daily precipitation in Japan and Myanmar were analyzed using data for 30 years from 1962 to 1991. In this analysis, the daily precipitation data generation method, which consisted of two components of the rain characteristics, the occurrence and rain intensity, was applied for Japan where there is no rainy season, making it possible to be used for Myanmar, which has a rainy season. It was expected that the data generation of daily precipitation for the dry season in Myanmar could be the same as Japan, because simulation of continuous dry days is more reasonable than the simulation of continuous rainy days for the dry season in Myanmar. On the other hand, simulation of continuous rainy days is more reasonable than the simulation of continuous dry days for the rainy season in Myanmar. In addition, the time independency of daily precipitation of the rainy season in Myanmar was found to be as large as that in Japan. Therefore, the effect of daily precipitation on the next day's precipitation was confirmed to be small in both places. &copy; 2005 AAAE. ISSN/ISBN: 0858-2114.

Karen Rivers Watch (Organization). 2004. *Damming at Gunpoint : Burma Army Atrocities Pave the Way for Salween Dams in Karen State.* Kawthoolei: Karen Rivers Watch. page(s): 78. Descriptors: Human rights -- Burma -- Karen State; Hydroelectric power plants -- Burma -- Salween River. Notes: iv; ill. (chiefly col.), col. maps ; 21 cm.; Note(s): "November 2004."; Other Titles: Burma army atrocities pave the way for Salween dams in Karen State; Entry: 20050121; Update: 20080327. OCLC Accession Number: 57551837.

Karenni Development Research Group. 2006. *Dammed by Burma's Generals : The Karenni Experience with Hydropower Development--from Lawpita to the Salween.* Burma: Karenni Development Research Group (KDRG). page(s): 69. Descriptors: Water-power -- Political aspects -- Burma -- Kayah State; Water-power -- Social aspects -- Burma -- Kayah State; Water-power -- Economic aspects -- Burma -- Kayah State. Notes: ill., col. maps ; 25 cm.; Note(s): "A report by the Karenni Development Research Group"--Cover./ Includes bibliographical references.; Entry: 20070523; Update: 20070523. OCLC Accession Number: 133996207.

Karmanov, I. I. 1997. "A Characterization of Dark Tropical Vertisols." *Eurasian Soil Sci. Scripta Technica, Silver Spring, MD, United States (USA): United States (USA). Jun. Volume 30, Issue 6, Pages 587-594.* Descriptors: Asia; Burma; Calcareous soils; characterization; chemical properties; Far East; granulometry; homogeneity; leaching; physicochemical properties; sediment-water interface; size distribution; soil group; soils; Vertisols. Notes: FE:

References: 17; 3 tables; CY: GeoRef, Copyright 2007, American Geological Institute.  
Database: GeoRef. ISSN/ISBN: 1064-2293.

KENNEY, R. A. 1956. "Physiology of Water and Electrolyte Regulation." *Burma Med. J.* Jul. Volume 4, Issue 3, Pages 33-5 Additional Info: Not Available. Descriptors: Body Fluids. Notes: Citation: Status: MEDLINE Owner: NLM Other ID: CLML: 5731:2224; Date of Entry: 19571201; Date Completed: 20020501; Date of Update: 20061115. ISSN/ISBN: 0007-6295 (Print).

Khaing M. Affiliation: M. Khaing, Design and Technology Branch, Department of Hydropower Implementation, Ministry of Electric Power. 2006. "Development of Hydropower in Myanmar." *SHP News*. 2007 Elsevier B.V., All rights reserved.: Volume 23, Issue WINTER, Pages 21-24 Additional Info: China. Descriptors: Fuel and Energy: Others -- 70.4.2.2; ENERGY -- 74.16; electricity supply; hydroelectric power; natural gas; power generation; power plant. Notes: Geographic: Asia Eurasia Myanmar Southeast Asia. Abstract: Water is the source of life and electricity is the symbol of modern civilization. The topography combined with heavy rainfall from the South-West monsoon endows the country with abundant hydropower resources. In the last two-decades, country's power supply system mainly depends on a number of gas turbine and combined cycle power plants, which requires relatively shorter implementation time and lower investment cost. Presently, on-shore natural gas available for domestic utilization become insufficient and so power generation from gas turbine and combined cycle power plants gradually declined and become power shortage in the country. In order to overcome the present insufficient power supply situation and to meet the future power demand, the Ministry of Electric Power had developed many hydropower stations throughout the country. Since 1988, (28) Nos. of small and medium size hydropower stations were put into operation. At present, about 16 Nos. off medium to large-scale hydropower projects are in various stages of implementation and several more are under planning. This report describes the status of the projects under implementation and in planning. ISSN/ISBN: 0256-3118. Availability: Connect to the catalog at your library.

Khan, M. U. and Munshi, M. H. 1983. "Clinical Illnesses and Causes of Death in a Burmese Refugee Camp in Bangladesh." *Int. J. Epidemiol.* ; *Int. J. Epidemiol.* Dec. Volume 12, Issue 4, Pages 460-4 Additional Info: ENGLAND. Descriptors: Morbidity; Mortality; Refugees; Adolescent; Adult; Aged; Bangladesh; Child; Diarrhea -- epidemiology; Diarrhea -- microbiology; Diarrhea -- mortality; Female; Humans; Infant; Male; Myanmar -- ethnology. Notes: Citation: Status: MEDLINE Owner: NLM; Date of Entry: 19840214; Date Completed: 19840214; Date of Update: 20041117. Abstract: In 1978 almost 200 000 Burmese refugees entered Bangladesh. Thirteen camps were set up for refugees. Data for the camp at Leda is presented here. There were four medical clinics; including a diarrhoea clinic operated by the International Centre for Diarrhoeal Disease Research, Bangladesh. The four clinics recorded a total of 174 201 visits by the refugees, of which 28% were for watery diarrhoea, 32% for dysentery and 40% for other illnesses. Of 2321 diarrhoea stools cultured, 29.2% yielded pathogens of which 22% were Shigellae alone. Coliform count of water was extremely high. The death rate (89/1000/year) was higher than the birth rate (28/1000/year). Most of the deaths were among infants (640), children (357) and old people (131). Main causes of death were clinical diarrhoea (11.8%), fever (23%) and poor nutrition (52%). Prompt arrangements for food, identifying the vulnerable groups, and proper sanitation perhaps could have reduced the number of deaths considerably. ISSN/ISBN: 0300-5771 (Print); 1464-3685 (Electronic).

- Khin Maung, U., Thein Thein, Myint, Butler, T., Myo, Khin, Nyunt Nyunt, Wai and Nyi Win, Hman. 1992. "Risk Factors for the Development of Persistent Diarrhoea and Malnutrition in Burmese Children." *Int. J. Epidemiol.* 2005 Elsevier Ltd. All rights reserved.: Volume 21, Issue 5, Pages 1021-1029. Descriptors: WATER -- 74.13; persistent diarrhoea; malnutrition; hygiene; risk factors; diarrhoeal disease. Notes: Geographic: Burma. Abstract: To identify socioeconomic and behavioural risk factors for development of persistent diarrhoea and malnutrition in children, a case-control study was carried out in Burma. Results indicated that persistent diarrhoea and malnutrition in Burma is caused by a complex of several interrelated socioeconomic factors, unsanitary behaviour pertaining to personal hygiene, the practice of demand breastfeeding and lack of certain weaning foods, and low education of mothers. -from Authors. ISSN/ISBN: 0300-5771.
- Khin, M. M. and Than, K. A. 1983. "Transovarial Transmission of Dengue 2 Virus by *Aedes Aegypti* in Nature." *Am. J. Trop. Med. Hyg.* ; *Am. J. Trop. Med. Hyg.* May. Volume 32, Issue 3, Pages 590-4 Additional Info: UNITED STATES. Descriptors: *Aedes* -- microbiology; Animals; Dengue -- transmission; Dengue Virus -- growth & development; Female; Larva -- microbiology; Male; Ovum -- microbiology. Notes: Citation: Status: MEDLINE Owner: NLM; Date of Entry: 19830708; Date Completed: 19830708; Date of Update: 20031114. Abstract: Dengue 2 virus was recovered from three of 123 pools of naturally infected *Aedes aegypti* larvae (6,200 insects) collected from water containers in Rangoon. The virus was also isolated from two of 76 pools (7,730 mosquitoes) of male *Ae. aegypti*, collected as larvae and reared in the laboratory to adults. Minimum field infection rates among these two groups of mosquitoes were 1:2,067 and 1:3,865, respectively. Insect pools were inoculated into *Toxorhynchites splendens* mosquitoes and dengue viral antigen was subsequently detected in headsquash preparations by direct fluorescent antibody technique. Identification of the dengue serotype was done by complement-fixation test. This is the first report of dengue virus isolation from naturally infected mosquito larvae. These findings suggest that transovarial transmission of dengue virus occurs in nature. ISSN/ISBN: 0002-9637 (Print); 1476-1645 (Electronic).
- Khin-Maung-Naing, Cho-Nwe-OO, Tin-Tin-OO and Thane-Toe. 1989. "A Study of the Aetiology of Endemic Goitre in Lowland Burma." *Eur. J. Clin. Nutr. Oct.* Volume 43, Issue 10, Pages 693-698. Additional Info: Basingstoke : The Macmillan Press Ltd. Publishing Agencies: Non-US Imprint, not FAO. Descriptors: NAL: QP141.A1J68; Endemic goiter; Etiology; Iodine; Deficiency; Excretion; Thyroid gland; Water quality; Soil; Incidence; Nutrient intake. Notes: Geographic: Burma Subj Category: T300 DIET AND DISEASES. ISSN/ISBN: 0954-3007.
- Khin-Maung-Naing, Cho-Nwe-Oo, Tin-Tin-Oo and Thane-Toe Affiliation: Nutrition Research Division, Department of Medical Research, Rangoon,,Burma. 1989. "A Study on the Aetiology of Endemic Goitre in Lowland Burma." *Eur. J. Clin. Nutr.* ; *Eur. J. Clin. Nutr. Oct.* Volume 43, Issue 10, Pages 693-8 Additional Info: ENGLAND. Descriptors: Adolescent; Adult; Cross-Sectional Studies; Environment; Female; Goiter, Endemic -- etiology; Humans; Iodine -- deficiency; Iodine -- urine; Male; Myanmar. Notes: Chemical Subst: Iodine [7553-56-2]; Citation: Status: MEDLINE Owner: NLM; Date of Entry: 19900228; Date Completed: 19900228; Date of Update: 20041117. Abstract: The prevalence and aetiology of lowland endemic goitre was studied in Bawlle Village, Htan-ta-bin Township, Rangoon Division. The total goitre rate was found to be 40.9 per cent. Low urinary iodine excretion and high 24-h uptake of <sup>131</sup>I by the thyroids of the subjects indicated iodine deficiency which was further confirmed by direct chemical analysis of diet samples. The serum thiocyanate level of non-

smokers from this area was found to be low, which indicates that dietary goitrogens do not appear to play a role in the aetiology of endemic goitre in this area. The iodine content of water was also very low and the iodine content of soil was also about 10 times lower than soil samples from urban Rangoon. Thus, the present study indicates that the aetiology of endemic goitre in lowland Burma is due to environmental iodine deficiency, the same aetiological factor as in hilly regions of Burma. ISSN/ISBN: 0954-3007 (Print).

Khin-Maung-U, , Myo-Khin, , Nyunt-Nyunt-Wai, , et al. 1990. "Effect of Short-Term Intermittent Antibiotic Treatment on Growth of Burmese (Myanmar) Village Children." *The Lancet*, 11/3. Volume 336, Issue 8723, Pages 1090-1093.

Khin-Maung-U, Nyunt-Nyunt-Wai, Myo-Khin, Mu-Mu-Khin, Tin-U and Thane-Toe. 1986. "Effect of Boiled-Rice Feeding in Childhood Cholera on Clinical Outcome." *Hum. Nutr. Clin. Nutr.* Jul. Volume 40, Issue 4, Pages 249-54 Additional Info: ENGLAND. Descriptors: *Oryza sativa*; Body Weight; Child, Preschool; Cholera -- complications; Cholera -- therapy; Clinical Trials as Topic; Dehydration -- etiology; Dehydration -- therapy; Diarrhea -- diet therapy; Diarrhea -- etiology; Female; Fluid Therapy; Humans; Male; Myanmar; Random Allocation; Water-Electrolyte Balance. Notes: Citation: Status: MEDLINE Owner: NLM; Date of Entry: 19861006; Date Completed: 19861006; Date of Update: 20071115. Abstract: Forty-eight children, aged 2-5 years, presenting with watery diarrhoea of less than 48 h duration at home prior to hospitalization, were admitted into a randomized controlled clinical trial, 24 children being treated during the first 24 h of admission with oral rehydration solution (ORS) alone and 24 children being given 'ORS plus boiled-rice feeding'. The latter group received boiled-rice to supply at least 55 kcal/kg/d (about 150 g boiled-rice per feed, given four times daily). *Vibrio cholerae* were isolated by stool culture on admission from all children. No antibiotics were given. Clinical characteristics of children in the two treatment groups were comparable. Among children given 'ORS plus boiled rice', there was a significant increase in volume of diarrhoea stools (P less than 0.05), duration of diarrhoea in hospital (P less than 0.01), and more frequent diarrhoea motions (not significant statistically). However, the children fed boiled rice absorbed and retained 176 ml more fluid, and had gain in body weight comparable to that observed in children who were not fed during the first 24 h of hospitalization. ISSN/ISBN: 0263-8290 (Print).

Khin-Maung-U, Tin-Aye, Myo-Khin, Nyunt-Nyunt-Wai and Thane-Toe. 1986. "Composition and Contamination of Oral Rehydration Solutions Prepared with Well Water by Village Mothers in Burma." *Transactions of the Royal Society of Tropical Medicine and Hygiene*,. Volume 80, Issue 2, Pages 329-332. Abstract: A field study was carried out at Htaukkyant village in Burma to assess (i) whether village mothers could use condensed milk tins to measure one litre of water with reasonable accuracy for the preparation of oral rehydration solutions (ORS) and (ii) whether the extent of bacterial contamination of well water was serious and if this affected the bicarbonate content of the ORS solution. Empty condensed milk tins have a fairly uniform volume around 330 ml and using three condensed milk tins full of water mothers made up one litre quite consistently. Mothers also proved capable of preparing ORS solution by dissolving one packet of oral rehydration salt (ORS) in three condensed milk tins full of water to obtain solutions which contained acceptable and safe concentrations of sodium and potassium. Contamination of well water with faecal coliforms was present. Both storing water in domestic vessels and boiling water reduced the coliform count. Storing could be a good way of reducing the risk of infection if repeated contamination from dipping in to the water could be avoided. The counts on coliforms and faecal coliforms in ORS both increased by

about 1 log per day over the first and second 24 hours after the preparation with contaminated well water. Despite this the bicarbonate content of ORS remained stable. In the absence of boiled water, ORS solution can be made using the cleanest available water and using it within 24 hours.

Khin-Maung-U, Tin-Aye, Myo-Khin, Nyunt-Nyunt-Wai and Thane-Toe. 1986. "Composition and Contamination of Oral Rehydration Solutions Prepared with Well Water by Village Mothers in Burma." *Trans. R. Soc. Trop. Med. Hyg.*; *Trans. R. Soc. Trop. Med. Hyg.* Volume 80, Issue 2, Pages 329-32 Additional Info: ENGLAND. Descriptors: Fluid Therapy; Water Microbiology; Bicarbonates -- analysis; Bicarbonates -- therapeutic use; Dehydration -- therapy; Enterobacteriaceae -- isolation & purification; Feces -- microbiology; Female; Glucose -- analysis; Glucose -- therapeutic use; Humans; Myanmar; Potassium -- analysis; Potassium Chloride -- therapeutic use; Sodium -- analysis; Sodium Chloride -- therapeutic use; Water Supply -- analysis. Notes: Chemical Subst: Bicarbonates [0] World Health Organization oral rehydration solution [0] Glucose [50-99-7] Potassium [7440-09-7] Sodium [7440-23-5] Potassium Chloride [7447-40-7] Sodium Chloride [7647-14-5]; Citation: Status: MEDLINE Owner: NLM; Date of Entry: 19870122; Date Completed: 19870122; Date of Update: 20041117. Abstract: A field study was carried out at Htaukkyant village in Burma to assess whether village mothers could use condensed milk tins to measure one litre of water with reasonable accuracy for the preparation of oral rehydration solutions (ORS) and whether the extent of bacterial contamination of well water was serious and if this affected the bicarbonate content of the ORS solution. Empty condensed milk tins have a fairly uniform volume around 330 ml and using three condensed milk tins full of water mothers made up one litre quite consistently. Mothers also proved capable of preparing ORS solution by dissolving one packet of oral rehydration salt (ORS) in three condensed milk tins full of water to obtain solutions which contained acceptable and safe concentrations of sodium and potassium. Contamination of well water with faecal coliforms was present. Both storing water in domestic vessels and boiling water reduced the coliform count. Storing could be a good way of reducing the risk of infection if repeated contamination from dipping in to the water could be avoided. The counts on coliforms and faecal coliforms in ORS both increased by about 1 log per day over the first and second 24 hours after the preparation with contaminated well water. Despite this the bicarbonate content of ORS remained stable. In the absence of boiled water, ORS solution can be made using the cleanest available water and using it within 24 hours. ISSN/ISBN: 0035-9203 (Print).

Kite G. Affiliation: G. Kite, Hydrologic-Solutions, Bryn Eithin, Cefn Bychan Rd., Pantymwyn, Flintshire CH7 SEN Country: United Kingdom E-mail: geoffkite@hydrologic-solutions.com. 2001. "Modelling the Mekong: Hydrological Simulation for Environmental Impact Studies." *Journal of Hydrology*. 2005 Elsevier Ltd. All rights reserved.: 15 NOV. Volume 253, Issue 1-4, Pages 1-13 Additional Info: Netherlands. Descriptors: Runoff, streamflow and basins -- 71.6.5; environmental impact assessment; hydrological cycle; Internet; hydrological modeling. Notes: References: Number: 28; Geographic: China -- Mekong River Laos -- Mekong River Myanmar -- Mekong River Thailand -- Mekong River Cambodia -- Mekong River Viet Nam -- Mekong River. Abstract: The Mekong, with a basin area of almost 800,000 km<sup>2</sup> and a length of 4500 km, is one of the most important rivers of the world. The many lakes and wetlands along the river, including Cambodia's Tonle Sap (Grand Lac), are major sources of fish for the riparian peoples and form an important part of the regional economy. This resource may be affected by proposed developments in the basin. Using climatic,

topographic and land cover data from the Internet, the semi-distributed land-use runoff process (SLURP) hydrological model was used to simulate the complete hydrological cycle of the Mekong and its tributaries, Information on dam locations and reservoir characteristics were obtained from local sources. The model was verified by comparing simulated flows with recorded daily flows for the Mekong River and by comparing simulated levels of the Tonle Sap lake with recorded daily levels. The daily computed levels of the Tonle Sap lake were then converted into flooded areas for each land cover around the lake which were then used in a fish production model to evaluate the possible impacts of basin development on the fisheries. Model outputs may also be used to investigate issues such as water allocations and the effects of land use change or climate change on water resources and the aquatic and riparian environments. (c) 2001 Elsevier Science B.V. All rights reserved. ISSN/ISBN: 0022-1694. Availability: FirstSearch indicates your institution subscribes to this publication. Libraries worldwide that own item: 578 US ARMYCOPRS OF ENG RES DEV CT Connect to the catalog at your library.

Kojicic, Bozidar; Berggren, Gretchen Glode; Khin Maung U; UNICEF and International Nutrition Communication Service. 1979-1986. [Nutrition Policy and Children in Burma Materials]. Descriptors: Nutrition -- Burma; Nutrition policy -- Burma; Children -- Burma -- Nutrition; Diarrhea in children -- Burma; Public health -- Burma; Water-supply -- Burma. Abstract: Guidelines for drilling water wells / Bozidar Kojicic, UNICEF. 1979 -- Consultant report for Burma : policy recommendations for alleviating national maternal and infant nutrition problems / Gretchen Glodé; INCS. 1980 (v.2) -- Interactions in diarrhoea, intestinal absorption and child growth, nutrition / Khin Maung U. 1986. Notes: 3 pieces : ill. ; 28-36 cm.; Note(s): Includes bibliographical references.; Entry: 20041010; Update: 20060217. OCLC Accession Number: 64057348.

Kraññ` Khan`, U". 1997. Nam` Kinnari Jat` Lam`. Ran` kun`: Ca pe Biman`. page(s): 270. Descriptors: Hydroelectric power plants -- Burma. Abstract: Reminiscences of the author about the project to set up the hydroelectric power plant in Burma. Notes: ill. ; 19 cm.; Note(s): "1996 khu nhac`, a myui` sa" chon` pud` mya" ca pe pruin` pvai, kyam`" ca mu, tatiya chu ra."/ Includes bibliographical references (p. 263).; Responsibility: Kraññ` Khan`.; Entry: 19981224; Update: 20080331. ISSN/ISBN: LCCN: 98-903216. OCLC Accession Number: 40550995.

Kumar, Arun and Sanoujam, Manichandra. 2007. "Landslide Studies Along the National Highway (NH 39) in Manipur; Hazards and Disaster Mitigation." Nat. Hazards. Kluwer Academic Publishers, Dordrecht, Netherlands (NLD): Netherlands (NLD). Mar. Volume 40, Issue 3, Pages 603-614. Descriptors: Asia; atmospheric precipitation; Burma; Churachandpur-Mao Thrust; creep; displacements; failures; Far East; faults; fluctuations; geologic hazards; ground water; India; Indian Peninsula; Indo-Myanmar subduction zone; kinematics; landslides; Manipur India; mass movements; National Highway 39; Northeastern India; pressuremeters; rain; slip rates; slope stability; slopes; strike-slip faults; subduction zones; transportation; water table. Notes: FE: References: 22; illus. incl. 6 tables, sketch map; LL: Latitude:N252900,N252900 Longitude:E0940800,E0940800; CY: GeoRef in Process, Copyright 2008, American Geological Institute. After editing and indexing, this record will be added to Georef. Database: GeoRef In Process. ISSN/ISBN: 0921-030X.

Kundal, Pradeep and Wanjarwadkhar, K. M. 2003. "Dasycladacean Algae from Late Paleocene Limestone of Middle Andaman Island, Andaman, India; Implication to Paleoenvironments, Paleobathymetry and Stratigraphy; Recent Developments in Indian Micropaleontology."

- Gondwana Geological Magazine. Gondwana Geological Society, Nagpur, India (IND): India (IND). Aug. Volume Special volume 6, Pages 277-288. Descriptors: Acroporella indica; algae; Andaman Islands; Asia; Baratang Formation; Bengal Islands; biostratigraphy; Burma Dera Member; Cenozoic; Chlorophyceae; Chlorophyta; Cymopolia; Dactylopora minuta; Dasycladaceae; depositional environment; floral studies; Furcuporella diplopora; India; Indian Peninsula; marine environment; microfossils; Middle Andaman Island; morphology; new taxa; paleobathymetry; Paleocene; paleoenvironment; Paleogene; Plantae; shallow-water environment; taxonomy; Tertiary; Trinocladus bellus; upper Paleocene. Notes: FE: References: 52; illus. incl. strat. cols., 3 plates, geol. sketch map; LL: Latitude:N120000,N130000 Longitude:E0930000,E0923000; CY: GeoRef, Copyright 2007, American Geological Institute. Abstract: The Cenozoic Dasycladales include about 40 genera and 200 species and the rich Cenozoic assemblages have been found during Paleocene and Paleocene-Eocene in different parts of the world while from Indian Paleocene-Eocene sedimentary sequences only 15 Dasycladacean species are known. The greyish white algal limestone belonging to Burma Dera Member (Late Paleocene) of Baratang Formation is exposed at Burma Dera and Budha Nala localities of Middle Andaman Island, Andaman, India. Thin sections of this limestone show a rich assemblage of Dasycladacean algae comprising six species, namely Acroporella indica sp. nov., Cymopolia elongata (Defrance) Monier-Chalmas, C. mayaense Johnson and Kaska, Dactylopora minuta sp. nov., Furcuporella diplopora Pia and Trinocladus bellus Yu-Jing. The species have Tethyan affinities and indicate that the limestone of Burma Dera Member of Baratang Formation was deposited in shallow marine tropical water at a depth of about 10-12 m below low tide level. Database: GeoRef. ISSN/ISBN: 0970-261X.
- Kuo, Albert; Lewis, J. K. and Fang, C. S. 1976. Hydrography and Hydrodynamics of Virginia Estuaries : VII. Mathematical Model Studies of Water Quality of the Pagan Estuary. Gloucester Point, Va: VIMS. page(s): 78. Descriptors: Water quality -- Burma -- Pagan Estuary. Notes: ill. ; 28 cm.; Responsibility: A.Y. Kuo, J.K. Lewis and C.S. Fang.; Entry: 19780314; Update: 20041128. OCLC Accession Number: 3716178.
- Kyaw Myint. 1957. Freight Rates of the Inland Water Transport Board of Burma. Rangoon: Departments of Economics, Statistics & Commerce University of Rangoon. page(s): 38. Descriptors: Shipping -- Rates -- Burma; Burma (Union). Inland Water Transport Board. Notes: ii; ; 27 cm.; Note(s): Bibliography: p. 38.; Responsibility: Kyauw Myint. Vendor Info: Baker and Taylor (BTCP); Entry: 19790912; Update: 20080412. ISSN/ISBN: LCCN: 79-313259. OCLC Accession Number: 5445421.
- Kyaw, U. W., Zaw, U. M., Dredge, A., Fischer, P. and Steiger, K. 2007. "Myanmar's Yeywa RCC Dam." Int. J. Hydro. Dams. Volume 14, Issue 4, Pages 77-82. Descriptors: Article Subject Terms: Dam Construction; Dam Design; Dams; Hydroelectric Plants; Materials Testing; Pozzolans; Article Geographic Terms: Myanmar. Abstract: This article provides an overview of the development and design of Myanmar's largest dam and hydro project, Yeywa, with emphasis on the RCC dam. Details are included of the investigations for, and testing of, natural pozzolans located near the site, as well as and ongoing progress with construction. Database: Environmental Sciences and Pollution Mgmt. ISSN/ISBN: 1352-2523.
- Lahiri, S. and Chanthaphone S Affiliation: Water and Sanitation Program, Vientiane, Lao PDR.,Slahiri@worldbank.org. 2003. "Water, Sanitation and Hygiene: A Situation Analysis Paper for Lao PDR." Int. J. Environ. Health Res. ; Int. J. Environ. Health Res. Jun. Volume 13 Suppl 1: S107-14 Additional Info, Pages England. Descriptors: Hygiene; Sanitation; Water

Supply; Community-Institutional Relations; Decision Making; Humans; Laos; Public Health; Rural Population. Notes: Citation: Status: MEDLINE Owner: NLM; Date of Entry: 20030530; Date Completed: 20030923; Date of Update: 20041117. Abstract: The Lao People's Democratic Republic (Lao PDR) is located in the Greater Mekong sub-region in East Asia, neighbouring with China, Cambodia, Myanmar, Thailand and Vietnam, with a land area of 236,800 square kilometres, and an average population density of 22 persons per square kilometre. The population of Lao PDR is 5.5 million with 49 ethnic groups. Most of the population is located in rural areas, with a significant number of the neediest villages in remote localities. In the past decade, there have been many positive developments in the rural water supply and sanitation (RWSS) sector. Despite improved coverage in latrine and water supply services, health remains a serious problem. The improved services were often not sustained or poorly maintained, while hygiene received inadequate attention. In Lao PDR, as in many other countries, the provision of a safe and reliable water supply and appropriate sanitation services, based on sustainable approaches, therefore, remains a challenge. This paper will provide an overview of the Lao PDR's RWSS Sector. Special emphasis is placed on actual field level application of informed choices for water supply, sanitation and hygiene awareness. ISSN/ISBN: 0960-3123 (Print); 1369-1619 (Electronic).

Lahiri, S. and Chanthaphone S. Affiliation: S. Lahiri, Water and Sanitation Program, World Bank, Pathou Xay, Vientiane Country: Laos E-mail:,Slahiri@worldbank.org. 2003. "Water, Sanitation and Hygiene: A Situation Analysis Paper for Lao PDR." International Journal of Environmental Health Research 13, SUPPL. 2005 Elsevier Ltd. All rights reserved.: Volume 1, Pages S107-S114 Additional Info: United Kingdom. Descriptors: Water supply and sanitation -- 74.13.2; Social Planning -- 70.10.4; water supply; health policy; sanitation; hygiene; rural population. Notes: References: Number: 6; Geographic: Lao People's Democratic Republic. Abstract: The Lao People's Democratic Republic (Lao PDR) is located in the Greater Mekong sub-region in East Asia, neighbouring with China, Cambodia, Myanmar, Thailand and Vietnam, with a land area of 236,800 square kilometres, and an average population density of 22 persons per square kilometre. The population of Lao PDR is 5.5 million with 49 ethnic groups. Most of the population is located in rural areas, with a significant number of the neediest villages in remote localities. In the past decade, there have been many positive developments in the rural water supply and sanitation (RWSS) sector. Despite improved coverage in latrine and water supply services, health remains a serious problem. The improved services were often not sustained or poorly maintained, while hygiene received inadequate attention. In Lao PDR, as in many other countries, the provision of a safe and reliable water supply and appropriate sanitation services, based on sustainable approaches, therefore, remains a challenge. This paper will provide an overview of the Lao PDR's RWSS Sector. Special emphasis is placed on actual field level application of informed choices for water supply, sanitation and hygiene awareness. ISSN/ISBN: 0960-3123.

Lahiri, S. and Chanthaphone, S. 2003. "Water, Sanitation and Hygiene: A Situation Analysis Paper for Lao PDR." Int. J. Environ. Health Res. S107-S114. Jun. Volume 13, Issue Suppl. 1, Pages S107-S114. Descriptors: Article Subject Terms: Environmental Quality; Environmental health; Ethnic groups; Hygiene; Population Density; Public Health; Rural Areas; Sanitation; Sustainable development; Water Supply; Water supplies; villages; Article Geographic Terms: Cambodia; China, People's Rep.; Lao, People's Dem. Rep.; Myanmar; Thailand; Vietnam. Abstract: The Lao People's Democratic Republic (Lao PDR) is located in the Greater Mekong sub-region in East Asia, neighbouring with China, Cambodia, Myanmar, Thailand and

Vietnam, with a land area of 236,800 square kilometres, and an average population density of 22 persons per square kilometre. The population of Lao PDR is 5.5 million with 49 ethnic groups. Most of the population is located in rural areas, with a significant number of the neediest villages in remote localities. In the past decade, there have been many positive developments in the rural water supply and sanitation (RWSS) sector. Despite improved coverage in latrine and water supply services, health remains a serious problem. The improved services were often not sustained or poorly maintained, while hygiene received inadequate attention. In Lao PDR, as in many other countries, the provision of a safe and reliable water supply and appropriate sanitation services, based on sustainable approaches, therefore, remains a challenge. This paper will provide an overview of the Lao PDR's RWSS Sector. Special emphasis is placed on actual field level application of informed choices for water supply, sanitation and hygiene awareness. Database: Environmental Sciences and Pollution Mgmt. ISSN/ISBN: 0960-3123.

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Extracts -- pharmacology; Rats; Rats, Inbred Strains; Thailand. Notes: Chemical Subst: Drugs, Chinese Herbal [0] Plant Extracts [0]; Citation: Status: MEDLINE Owner: NLM; Date of Entry: 19901211; Date Completed: 19901211; Date of Update: 20061115. Abstract: *Andrographis paniculata* (Burma) Wall. ex Ness (AP) is a herbal medicine and has been used for therapy of upper respiratory tract infection (URI) as well as acute diarrhea with reported efficacy of 75-100 per cent. To investigate whether anti-bacterial activity was responsible for the reported therapeutic success of AP, we carried out a number of studies. The first study was a direct assay of anti-bacterial activity of AP suspended in water. The tested pathogens included *Salmonella*, *Shigella*, *E.coli*, gr. A *Streptococci* and *S.aureus*. Anti-bacterial activity was not demonstrable even in a solution containing 25,000 mg per litre of crude powder. The second was designed to detect serum bactericidal activity after oral intake of stem and leaves of AP. Ten healthy volunteers were enrolled in the study. They received a single oral dose of AP (1, 2, 3 and 6 g) in a randomized, cross-over manner. The washout period was one week. Blood samples were taken at 0, 1, 2, 4, 8 and 24 hours after ingestion. Serum bactericidal activity was assayed by agar diffusion technique using *Bacillus* spores and five strains of each pathogen (*Shigella*, *Salmonella typhi*, *S.aureus* and gr. A *Streptococci*) incubated for 24 hours. Again serum bactericidal activity was not detected in any of the sera tested. In a third study, ninety-six rats were daily fed with high doses of AP ranging 0.12-24 g per kg body wt. for six months before sacrifice. Antibacterial activity was still undetectable when lung parenchyma and liver tissue was placed on culture media containing bacteria tested. In conclusion, anti-bacterial activity of AP is undetectable in our study. ISSN/ISBN: 0125-2208 (Print).

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used, different types of organic matter may have been confused. In Maine estuaries, organic material from fucoids was discerned even though the  $(\delta)^{13}\text{C}$  values of those plants resembled other local organic inputs. Support for the model of the Baffin Bay algal mat mud layers originating from catastrophic events resulted from  $(\delta)^{15}\text{N}$  analyses of them. Diagenetic processes may result in an increase in  $(\delta)^{15}\text{N}$  of the residual material on the order of 3 to 5‰. This enrichment was observed in both blue-green algal mats and seagrass beds of South Texas. A broad range of  $(\delta)^{15}\text{N}$  values and the conservative nature of  $(\delta)^{15}\text{N}$  during weathering of oil enabled this study to distinguish sources of tarballs on the beaches of Port Aransas, Texas. Principal sources of tarballs were two major oil spills in the Gulf of Mexico: the Ixtoc I well blow-out of June, 1979, and the breakup of the tanker BURMAH AGATE in November, 1979 ( $(\delta)^{15}\text{N} = +0.6$  and  $+5.5$ , respectively). When in conjunction with  $(\delta)^{13}\text{C}$ , the  $(\delta)^{15}\text{N}$  values of oil aid in determining the source of the petroleum. Animal-diet relationships have been mapped by  $(\delta)^{15}\text{N}$  analyses. Amphipods (*Ampithoe valida*) grown on different diets have shown the same fractionation (-0.3 per mil) while *Parhyale hawaiiensis*, raised on the same diets has shown a different fractionation (+2.3 per mil). Natural populations of the same animals had similar fractionations. Naturally occurring tetrapyrrole  $(\delta)^{15}\text{N}$  values (chlorophylls) have been observed to be variable with respect to whole plant  $(\delta)^{15}\text{N}$  values. Marine plants associated with sediments tended to have  $(\delta)^{15}\text{N}$  enriched tetrapyrroles while water column and terrestrial tetrapyrroles were similar to whole plant  $(\delta)^{15}\text{N}$  values. Notes: Degree: PH.D. OCLC Accession Number: AAG8128657.

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Manimaran, G. and Ravindran A. Affiliation: G. Manimaran, School of Tectonics, Department of Geology, V.O. Chidambaram College, Tuticorin 628 008 Country: India E-mail: acugemmani@yahoo.co.in. 2007. "A Caution on Forthcoming Volcanogenic Tsunami in Indian Ocean." Res. J. Chem. Environ. 2007 Elsevier B.V., All rights reserved.: Volume 11, Issue 1, Pages 19-22 Additional Info: India. Descriptors: Coastal protection -- 76.11.4; Earthquakes -- 72.12.4; Indian Ocean tsunami 2004; aftershock; earthquake event; island arc; landslide; marine sediment; nuclear explosion; submarine volcano; tsunami; volcanic eruption. Notes: References: Number: 11; Geographic: Andamans and Nicobars Andamans Asia Eurasia Greater Sunda Islands India Indian Ocean islands Indian Ocean Indonesia Java Malay Archipelago Myanmar South Asia Southeast Asia Sunda Isles. Abstract: Tsunamis are generated due to sudden displacement of vertical sea water column during the events of earthquakes [Magnitude > 7], eruptions of submarine and coastal volcanoes, sudden slumping of marine sediments, land slides near the coast, the large meteor impact on sea from space and

manmade nuclear explosion in the sea. Recently on 26 December 2004, a destructive Tsunami of Indian Ocean was generated due to the second largest earthquake of the world ever recorded (Magnitude 9.3) which occurred at off the west coast of Northern Sumatra. Subsequently on 28 March 2005 a weak tsunamigenic but great earthquake of magnitude 8.7 occurred at western shelf region of Northern Sumatra. Northernly moving thousands of aftershocks of December 2004 earthquake up to Burma border and Southeasternly moving hundreds of aftershocks of March 2005 earthquakes occurred upto Java are still going on and releasing tremendous energy along this seismic belt. The couplet of the great earthquakes and their aftershocks were triggered eruptions of inland volcanoes like Talang volcano of Central Sumatra and of Barren Volcano of Andaman. A chain of hundreds of active volcanoes are seen along the Andaman - Indonesian Volcanic Arc System. It is a right time to remember the tsunamigenic, violent explosion of Krakatau Volcano on 27 August 1883, which was triggered due to the Tsunamigenic Car Nicobar earthquake (Magnitude 7.9) occurring on 31 December 1881 and had its aftershocks upto August 1883. On considering the above scenario, it is possible for a consecutive great earthquake of December 2004 and March 2005 with their ongoing aftershocks to trigger and explode any one of the submarine volcanoes of the Andaman - Indonesian Arc System. As a result, a Volcanogenic Tsunami may be generated in Indian Ocean probably before the end of the year 2007 or in near future. ISSN/ISBN: 0972-0626. Availability: Connect to the catalog at your library.

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MARYLAND UNIV BALTIMORE DEPT OF MICROBIOLOGY and Wisseman, Jr, Charles L. 1978. "Clinical and Epidemiological Studies on Rickettsial Infections." 01 OCT. Descriptors: INFECTIOUS DISEASES; TICKBORNE DISEASES; RICKETTSIA; RATS; RODENTS; ETHIOPIA; BURMA; EPIDEMIOLOGY; TABLES(DATA); MEDICINE AND MEDICAL RESEARCH. Abstract: The observations reported confirm and extend the material previously reported. Thus, in Ethiopia and Burma, as in other areas we are studying, murine typhus is intimately associated with introduced commensal rodents (*Rattus*, *Mus musculus*, etc.) and shrews (*Suncus*) and their ectoparasites, indoors. In Ethiopia, native rodents, like *Praomys* and *Mastomys*, that may act like commensals do not seem to play a role in the ecology of this rickettsiosis in the absence of concurrent infestation with *Rattus*, even though they may be common in domiciles and parasitized by *Xenopsylla cheopis*, the presumed vector. If *Rattus* coexist indoors with *Praomys*, then the latter (and probably other native murines as well) may become secondarily infected on a limited scale. In Rangoon, 5 species of small mammals are peridomestic and all have been frequently found naturally infected with *Rickettsia mooseri*, the etiological agent. Among the naturally infected fleas found in this study are *X. bantorum*,

*Leptopsylla segnis* and *Ctenocephalides felis*. Rat-lice in Ethiopia and Rangoon have also been found to harbor *R. mooseri*. Rats from shops in Kuching, Sarawak, were demonstrated to have a high rate of natural infection with this rickettsiosis. Infection with the spotted fever-group of rickettsiae was shown to be widespread in Ethiopian rodents, including some 'wild' rodents that entered domiciles. Notes: Distribution Statement: APPROVED FOR PUBLIC RELEASE. Database: DTIC. OCLC Accession Number: ADA061952. URL: <http://handle.dtic.mil/100.2/ADA061952>.

Mastny, Lisa. 2003. "Messing with the Mekong." *World Watch*. Nov./Dec. Volume 16, Issue 6, Pages 21-28. Descriptors: Regional economic development -- Southeast Asia; Water resources development -- Southeast Asia. Notes: Details: il map tab.; Geographic: Mekong River valley. China -- Foreign relations -- Southeast Asia. Southeast Asia -- Foreign relations -- China.; Date of Entry: 20031119. Abstract: A number of concerns have been raised about planned development by China on the Mekong River, Southeast Asia. China aims to open up northern segments of the Mekong River to year-round navigation by large cargo ships. If fully implemented, dredging and subsequent channelization would more than double the annual shipping capacity of the Mekong. Laos, which, together with Burma and Thailand, has formally agreed to the plans, hopes the development will bring economic rewards. However, villagers fear that incoming Chinese vessels will flood local markets with inexpensive goods and undermine local shopkeepers and farmers. There are also concerns about the potential environmental effects of blasting and channeling the river. Resistance, although slow to emerge, is underway. ISSN/ISBN: 0896-0615.

Matsui S Affiliation: Graduate School of Global Environmental Studies, Kyoto University, Yoshida-honmachi, Sakyo-ku, Kyoto City, Japan., [matsui@eden.env.kyoto-u.ac.jp](mailto:matsui@eden.env.kyoto-u.ac.jp). 2005. "Protecting Human and Ecological Health Under Viral Threats in Asia." *Water Sci. Technol.* Volume 51, Issue 8, Pages 91-7 Additional Info: England. Descriptors: Disease Outbreaks; Public Health; Social Conditions; Agriculture; Animals; Animals, Domestic; Animals, Wild; Asia, Southeastern -- epidemiology; Birds; Feces -- virology; Housing; Humans; Influenza Vaccines; Influenza in Birds -- epidemiology; Influenza in Birds -- transmission; Influenza, Human -- epidemiology; Influenza, Human -- prevention & control; Influenza, Human -- transmission; Mammals; Risk Factors; Severe Acute Respiratory Syndrome -- epidemiology; Severe Acute Respiratory Syndrome -- transmission; Waste Disposal, Fluid -- methods; Zoonoses. Notes: Chemical Subst: Influenza Vaccines [0]; Citation: Status: MEDLINE Owner: NLM; Date of Entry: 20050712; Date Completed: 20050823; Date of Update: 20051122. Abstract: Severe acute respiratory syndrome (SARS) outbreak in 2003, and the avian influenza A (H5N1) also outbreak in 2003 and continued to 2004. These pandemic viral diseases originated in South East Asia. Many human and animal lives were lost. Economic damages due to the pandemics were also very large. The question arises of why did the pandemics originate from South East Asian areas. Human influenza A consists of many subtypes of coronaviruses including the SARS virus and the avian influenza (H5N1) that are all variants of RNA of avian coronavirus. Variants are formed during infection of a coronavirus through not only birds but also mammals, including human beings. There are hot spots where viral infection rates are accelerated among birds, mammals and human beings. Suspicious areas are in South East Asia, where living conditions of birds, mammals and human beings are so close that there are always risks of viral infection. When we see the living conditions of farmers in southern China, northern Vietnam, Laos and northern Myanmar, they commonly raise ducks/chickens with pigs sharing ponds into which they discharge household

wastewater, including human excreta, and pig excreta that are significant carriers of viruses. Bird faeces are also key carriers of the viruses. In the ponds, they raise ducks and conduct fish culture. Other important players are migrating birds from North Asia, which are principal vectors of avian influenza viruses. There is an urgent necessity of improving human and ecological health in South East Asia to control viral infection among birds, mammals and human beings. We can hinder the vicious cycle of virus infection through water contamination in ponds by providing good human, pig and chicken sanitation. It is easy to provide good sanitation practices for human, pigs and chickens, introducing collection and treatment of excreta. Our modern water technology can find good solutions for the problem. ISSN/ISBN: 0273-1223 (Print). Availability: FirstSearch indicates your institution subscribes to this publication. Libraries worldwide that own item: 280 US ARMYCOPRS OF ENG RES DEV CT Connect to the catalog at your library.

Matsui S. Affiliation: S. Matsui, Graduate School of Global Environmental Studies, Kyoto University, Yoshida-honmachi, Sakyo-ku, Kyoto City 606-8501 Country: Japan E-mail: matsui@eden.env.kyoto-u.ac.jp. 2005. "Protecting Human and Ecological Health Under Viral Threats in Asia." *Water Science and Technology*. 2005 Elsevier Ltd. All rights reserved.: Volume 51, Issue 8, Pages 91-97 Additional Info: United Kingdom. Descriptors: HEALTH, HEALTH SYSTEMS AND SERVICES -- 74.22; health and disease; severe acute respiratory syndrome; viral disease Species Term: Animalia; Aves; Mammalia; Coronavirus; Anas; Gallus gallus; Sus scrofa; SARS coronavirus; Avian influenza virus. Notes: References: Number: 3; Geographic: Asia Eurasia Eastern Hemisphere World. Abstract: Severe acute respiratory syndrome (SARS) outbreaked in 2003, and the avian influenza A (H5N1) also outbreaked in 2003 and continued to 2004. These pandemic viral diseases originated in South East Asia. Many human and animal lives were lost. Economic damages due to the pandemics were also very large. The question arises of why did the pandemics originate from South East Asian areas. Human influenza A consists of many sub-types of coronaviruses including the SARS virus and the avian influenza (H5N1) that are all variants of RNA of avian coronavirus. Variants are formed during infection of a coronavirus through not only birds but also mammals, including human beings. There are hot spots where viral infection rates are accelerated among birds, mammals and human beings. Suspicious areas are in South East Asia, where living conditions of birds, mammals and human beings are so close that there are always risks of viral infection. When we see the living conditions of farmers in southern China, northern Vietnam, Laos and northern Myanmar, they commonly raise ducks/chickens with pigs sharing ponds into which they discharge household wastewater, including human excreta, and pig excreta that are significant carriers of viruses. Bird faeces are also key carriers of the viruses. In the ponds, they raise ducks and conduct fish culture. Other important players are migrating birds from North Asia, which are principal vectors of avian influenza viruses. There is an urgent necessity of improving human and ecological health in South East Asia to control viral infection among birds, mammals and human beings. We can hinder the vicious cycle of virus infection through water contamination in ponds by providing good human, pig and chicken sanitation. It is easy to provide good sanitation practices for human, pigs and chickens, introducing collection and treatment of excreta. Our modern water technology can find good solutions for the problem. (c) IWA Publishing 2005. ISSN/ISBN: 0273-1223. Availability: FirstSearch indicates your institution subscribes to this publication. Libraries worldwide that own item: 280 US ARMYCOPRS OF ENG RES DEV CT Connect to the catalog at your library.

- Matsui, S. 2005. Protecting Human and Ecological Health Under Viral Threats in Asia. Alliance House 12 Caxton Street London SW1H 0QS UK: IWA Publishing. Water Sci. Technol. Volume: 51, 8, page(s): 91-97. Descriptors: Article Subject Terms: Avian physiology; Birds; Catchment Areas; Contamination; Cultures; Damage; Diseases; Drainage; Ducks; Fish; Fish culture; Infection; Mammals; Ponds; Public health; Risk; River basins; Sanitation; Symptoms; Viral diseases; Viruses; Water management; Article Taxonomic Terms: SARS coronavirus; Article Geographic Terms: China, People's Rep.; Myanmar; Sweden, Stockholm; Vietnam. Abstract: Severe acute respiratory syndrome (SARS) outbreak in 2003, and the avian influenza A (H5N1) also outbreak in 2003 and continued to 2004. These pandemic viral diseases originated in South East Asia. Many human and animal lives were lost. Economic damages due to the pandemics were also very large. The question arises of why did the pandemics originate from South East Asian areas. Human influenza A consists of many sub-types of coronaviruses including the SARS virus and the avian influenza (H5N1) that are all variants of RNA of avian coronavirus. Variants are formed during infection of a coronavirus through not only birds but also mammals, including human beings. There are hot spots where viral infection rates are accelerated among birds, mammals and human beings. Suspicious areas are in South East Asia, where living conditions of birds, mammals and human beings are so close that there are always risks of viral infection. When we see the living conditions of farmers in southern China, northern Vietnam, Laos and northern Myanmar, they commonly raise ducks/chickens with pigs sharing ponds into which they discharge household wastewater, including human excreta, and pig excreta that are significant carriers of viruses. Bird faeces are also key carriers of the viruses. In the ponds, they raise ducks and conduct fish culture. Other important players are migrating birds from North Asia, which are principal vectors of avian influenza viruses. There is an urgent necessity of improving human and ecological health in South East Asia to control viral infection among birds, mammals and human beings. We can hinder the vicious cycle of virus infection through water contamination in ponds by providing good human, pig and chicken sanitation. It is easy to provide good sanitation practices for human, pigs and chickens, introducing collection and treatment of excreta. Our modern water technology can find good solutions for the problem. Notes: TR: CS0727406. ISSN/ISBN: 1843394944. Database: ASFA: Aquatic Sciences and Fisheries Abstracts. OCLC Accession Number: 6585392.
- Matsui, S. 2005. "Protecting Human and Ecological Health Under Viral Threats in Asia." Water Science and Technology. IWA Publishing, London, SW1H 0QS, United Kingdom: Volume 51, Issue 8, Pages 91-97. Descriptors: Medical problems; Health care; Ecology; Diseases; Disease control; Viruses; Sanitation; Contamination; Wastewater. Notes: Compilation and indexing terms, Copyright 2008 Elsevier Inc. Abstract: Severe acute respiratory syndrome (SARS) outbreak in 2003, and the avian influenza A (H5N1) also outbreak in 2003 and continued to 2004. These pandemic viral diseases originated in South East Asia. Many human and animal lives were lost. Economic damages due to the pandemics were also very large. The question arises of why did the pandemics originate from South East Asian areas. Human influenza A consists of many sub-types of coronaviruses including the SARS virus and the avian influenza (H5N1) that are all variants of RNA of avian coronavirus. Variants are formed during infection of a coronavirus through not only birds but also mammals, including human beings. There are hot spots where viral infection rates are accelerated among birds, mammals and human beings. Suspicious areas are in South East Asia, where living conditions of birds, mammals and human beings are so close that there are always risks of viral

infection. When we see the living conditions of farmers in southern China, northern Vietnam, Laos and northern Myanmar, they commonly raise ducks/chickens with pigs sharing ponds into which they discharge household wastewater, including human excreta, and pig excreta that are significant carriers of viruses. Bird faeces are also key carriers of the viruses. In the ponds, they raise ducks and conduct fish culture. Other important players are migrating birds from North Asia, which are principal vectors of avian influenza viruses. There is an urgent necessity of improving human and ecological health in South East Asia to control viral infection among birds, mammals and human beings. We can hinder the vicious cycle of virus infection through water contamination in ponds by providing good human, pig and chicken sanitation. It is easy to provide good sanitation practices for human, pigs and chickens, introducing collection and treatment of excreta. Our modern water technology can find good solutions for the problem. &copy; IWA Publishing 2005. ISSN/ISBN: 0273-1223.

May, W. 2004. "Simulation of the Variability and Extremes of Daily Rainfall during the Indian Summer Monsoon for Present and Future Times in a Global Time-Slice Experiment." *Clim. Dyn.* Springer-Verlag: Mar. Volume 22, Issue 2-3, Pages 183-204. Descriptors: Article Subject Terms: Atmospheric convergences; Atmospheric precipitations; Climate; Climates; Climatology; Coasts; Convergence zones; Daily precipitation; Data reanalysis; Future climates; General circulation models; Global Precipitation Climatology Project (GPCP); Hydrologic Data; Monsoon rainfall variations; Monsoons; Oceans; Rainfall; Rainfall Intensity; Rainy season; Summer; Summer monsoon; Tropical meteorology; Variability; Article Geographic Terms: Bangladesh; China, People's Rep., Xizang; China, People's Rep., Xizang, Tibetan Plateau; ISW, Arabian Sea; ISW, Bangladesh, Bengal Bay; ISW, Indian Ocean, Bengal Bay; ISW, Myanmar; ISW, Pakistan; ISW, Tropical Indian Ocean; India; India, Himalaya Mts.; Myanmar; Pakistan; Pakistan, Himalayas; Marine. Notes: TR: CS0408979. Abstract: In this study the simulation of the variability and extremes of daily rainfall during the Indian summer monsoon for the present-day and the future climate is investigated. This is done on the basis of a global time-slice experiment (TSL) with the ECHAM4 atmospheric general circulation model (GCM) at a high horizontal resolution of T106. The first time-slice (period: 1970-1999) represents the present-day climate and the second (2060-2089) the future climate. Moreover, observational rainfall data from the Global Precipitation Climatology Project (GPCP, 1997-2002) and rainfall data from the ECMWF re-analysis (ERA, 1958-2001) are considered. ERA reveals serious deficiencies in its representation of the variability and extremes of daily rainfall during the Indian summer monsoon. These are mainly a severe overestimation of the frequency of wet days over the oceans and in the Himalayas, where also the rainfall intensity is overestimated. Further, ERA shows unrealistically heavy rainfall events over the tropical Indian Ocean. The ECHAM4 atmospheric GCM at a horizontal resolution of T106, on the other hand, simulates the variability and extremes of daily rainfall in good agreement with the observations. The only marked deficiencies are an underestimation of the rainfall intensity on the west coast of the Indian peninsula and in Bangladesh, an overestimation over the tropical Indian Ocean, due to an erroneous northwestward extension of the tropical convergence zone, and an overestimation of the frequency of wet days in Tibet. Further, heavy rainfall events are relatively strong in the centre of the Indian peninsula. For the future, TSL predicts large increases in the rainfall intensity over the tropical Indian Ocean as well as in northern Pakistan and northwest India, but decreases in southern Pakistan, in the centre of the Indian peninsula, and over the western part of the Bay of Bengal. The frequency of wet days is

- markedly increased over the tropical Indian Ocean and decreased over the northern part of the Arabian Sea and in Tibet. The intensity of heavy rainfall events is generally increased in the future, with large increases over the Arabian Sea and the tropical Indian Ocean, in northern Pakistan and northwest India as well as in northeast India, Bangladesh, and Myanmar.
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- Mekong River Commission. Mekong River Commission for Sustainable Development. Phnom Penh: Mekong River Commission. Descriptors: Environmental management; Sustainable development; Water quality management; Cambodia; Laos; Vietnam; Thailand; China; Burma; Mekong River Watershed; Development; Environment. Abstract: Web site of the UN-sponsored Mekong River Commission which promotes sustainable management and development of water and related resources among member countries. Provides background information about the organization and activities. The information resources page includes "Catch and culture" newsletter with back issues and publications. Extensive collection of information about the region includes maps and links to related Web sites. Notes: Named Corp: Mekong River Commission.; Genre/Form: Organization. Article/Paper/Report. Map.; System Info: Mode of access: World Wide Web.; Note(s): Description based on contents viewed Sept. 18, 2002; title from home page.; Date of Entry: 20020918; Update: 20050616. OCLC Accession Number: 50628429.
- Milton, D. A. and Chenery S.R. Affiliation: D.A. Milton, CSIRO Division of Marine Research, PO Box 129, Cleveland, QLD 4163 Country: Australia E-mail:,david.milton@marine.csiro.au. 2001. "Can Otolith Chemistry Detect the Population Structure of the Shad Hilsa *Tenualosa ilisha*? Comparison with the Results of Genetic and Morphological Studies." Mar. Ecol. Prog. Ser. 2005 Elsevier Ltd. All rights reserved.: 05 NOV. Volume 222, Pages 239-251 Additional Info: Germany. Descriptors: Fisheries and aquatic resources -- 73.9.4; Case studies -- 76.13.3; stock assessment; genetic structure; otolith; chemical composition; morphology; fishery management Species Term: *Tenualosa ilisha*; Hilsa; *ilisha*; *Tenualosa*. Notes: References: Number: 49; Geographic: Bay of Bengal. Abstract: The stock structure of the valuable tropical shad *Tenualosa ilisha* ('hilsa') has been studied in Bangladesh and India by analysing morphometric and genetic data. However, these studies had a narrow geographic scope and their results conflict. We made a comprehensive study of the stock structure of hilsa with otolith microchemistry in conjunction with complementary genetic and morphometric studies of the same fish. We examined the trace-element composition of the otolith cores of hilsa

with laser-ablation inductively coupled plasma mass spectrometry. The otoliths of fish from 19 collections at 13 sites in Bangladesh and 6 collections at 4 sites from elsewhere within the species' range (Kuwait, SE India, Myanmar and Sumatra) were analysed for 8 trace elements. Samples were collected from Bangladesh mainly during 2 comprehensive surveys (1996 and 1997). When these data were analysed separately, there were significant differences in otolith composition among sites. However, when both years' data were analysed together, there were few significant differences among sites, and some sites separated by hundreds of kilometres that were sampled in different seasons and years had very similar compositions. This was in spite of both large seasonal intra-site and between-site differences in water chemistry. Repeat samples from 5 sites (4 in Bangladesh) showed that differences in otolith composition at a single site were significant and of similar magnitude to that found among sites. Our results support the conclusion from allozyme studies that there is extensive movement and mixing of hilsa throughout Bangladesh, and therefore the population should be managed as a single stock. Genetic and otolith data both showed that hilsa from SE India and Myanmar were not significantly different from fish collected in coastal areas of Bangladesh, and suggest that hilsa in the Bay of Bengal were a single stock. Both methods also separated fish from Sumatra and Kuwait from other sites, providing strong evidence of separate stocks in those regions. In contrast, morphometric studies separate fish from several nearby sites in Bangladesh, but these differences are likely to be largely due to phenotypic variability and are unlikely to be genetically based. Our results suggest that otolith microchemistry may be a good proxy for genetic structure at large scales where differences in water chemistry are highly likely. However, for sedentary species and those without distinct spawning and non-breeding areas, it requires both comprehensive and repeated sampling at finer scales before any confidence should be placed in the results. ISSN/ISBN: 0171-8630. Availability: FirstSearch indicates your institution subscribes to this publication. Libraries worldwide that own item: 278 US ARMYCOPRS OF ENG RES DEV CT Connect to the catalog at your library.

Mirumachi, N. and Nakayama M. Affiliation: N. Mirumachi, Department of International Studies, Graduate School of Frontier Sciences, University of Tokyo, Tokyo Country:,Japan. 2007. "Improving Methodologies for Transboundary Impact Assessment in Transboundary Watercourses: Navigation Channel Improvement Project of the Lancang-Mekong River from China-Myanmar Boundary Marker 243 to Ban Houei Sai of Laos." *Int. J. Water Resour. Dev.* 2007 Elsevier B.V., All rights reserved.: Volume 23, Issue 3, Pages 411-425 Additional Info: United Kingdom. Descriptors: Concepts and issues in environmental planning -- 74.2.2; Environmental Assessment and Monitoring -- 70.11.1; economic impact; environmental impact assessment; environmental monitoring; underpinning. Notes: References: Number: 13; Geographic: Asia Eurasia Laos Mekong River Southeast Asia. Abstract: This paper analyzes the factors underpinning transboundary Environmental Impact Assessment (EIA) methodologies through an examination of the Navigation Channel Improvement Project of the Lancang-Mekong River from China-Myanmar Boundary Marker 243 to Ban Houei Sai of Laos. A comparison of the project's expected and reported transboundary impacts shows that the EIA failed to predict a number of adverse impacts, including social and economic impacts. The restricted scale and scope of the transboundary impact assessment (TIA) is probably due to certain fundamental restrictions on how the EIA was conducted. The case study highlights the importance of public involvement (including advance notification) and

- adequate regulatory frameworks or guidelines in the EIA and TIA processes. ISSN/ISBN: 0790-0627 E- 1360-0648.
- Mirumachi, Naho and Nakayama, Mikiyasu. 2007. "Improving Methodologies for Transboundary Impact Assessment in Transboundary Watercourses: Navigation Channel Improvement Project of the Lancang-Mekong River from China-Myanmar Boundary Marker 243 to Ban Houei Sai of Laos." *Int. J. Water Resour. Dev.* Routledge, Abingdon, Oxfordshire, OX14 4RN, United Kingdom: Volume 23, Issue 3, Pages 411-425. Descriptors: Rivers; Boundary layer flow; Economic and social effects; Environmental impact assessments; Laws and legislation; Navigation; Open channel flow. Notes: Compilation and indexing terms, Copyright 2008 Elsevier Inc. Abstract: This paper analyzes the factors underpinning transboundary Environmental Impact Assessment (EIA) methodologies through an examination of the Navigation Channel Improvement Project of the Lancang-Mekong River from China-Myanmar Boundary Marker 243 to Ban Houei Sai of Laos. A comparison of the project's expected and reported transboundary impacts shows that the EIA failed to predict a number of adverse impacts, including social and economic impacts. The restricted scale and scope of the transboundary impact assessment (TIA) is probably due to certain fundamental restrictions on how the EIA was conducted. The case study highlights the importance of public involvement (including advance notification) and adequate regulatory frameworks or guidelines in the EIA and TIA processes. ISSN/ISBN: 0790-0627.
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Geological Institute. After editing and indexing, this record will be added to Georef. Reference includes data from Geoline, Bundesanstalt für Geowissenschaften und Rohstoffe, Hanover, Germany. Database: GeoRef In Process. ISSN/ISBN: 1609-0144.

Miyama, Masashi and Hanagata, Nobutaka. 2007. "Microarray Analysis of 7029 Gene Expression Patterns in Burma Mangrove Under High-Salinity Stress." *Plant Science*. Elsevier Ireland Ltd, Limerick, Ireland: Volume 172, Issue 5, Pages 948-957. Descriptors: Gene expression; Plants (botany); Salinity measurement. Notes: Compilation and indexing terms, Copyright 2008 Elsevier Inc. Abstract: To identify genes of potential importance to salt tolerance in burma mangrove (*Bruguiera gymnorrhiza*), we analyzed the gene expression profiles in salt-stressed burma mangrove using cDNA microarray containing 7029 clones based on 14,842 expressed sequence tags (ESTs). Combined results from all hybridization, we identified 287 genes with a greater than 5-fold change at least 1 time point after salt treatment (500 mM) compared with control water-treated plant; 228 genes were up-regulated more than five-fold and 61 genes were suppressed less than one-fifth. Venn diagram analysis showed tissue-specific and -overlapping of these highly changed genes for up- and down-regulation, respectively. These highly up- and down- regulated genes were characterized using gene ontology. Based on these genes, we conducted a hierarchical clustering analysis to reveal the patterns of gene expression. The analysis identified 6 major co-expression clusters that support the interpretation of an adaptive process to high-salinity environment. The microarray results were validated by real-time quantitative PCR on 3 selected genes. © 2007 Elsevier Ireland Ltd. All rights reserved. ISSN/ISBN: 0168-9452.

Miyama, Masashi and Hanagata, Nobutaka. 2007. "Microarray Analysis of 7029 Gene Expression Patterns in Burma Mangrove Under High-Salinity Stress." *Plant Science* (Oxford). Thomson 2007: MAY 2007. Volume 172, Issue 5, Pages 948-957. Notes: DOI: <http://dx.doi.org/10.1016/j.plantsci.2007.01.004>; Concept: 03502, Genetics - General 03504, Genetics - Plant 10062, Biochemistry studies - Nucleic acids, purines and pyrimidines; Major Concepts: Methods and Techniques ; Molecular Genetics Broader Term(s): Biochemistry and Molecular Biophysics; Super Taxa: Dicotyledones Angiospermae Spermatophyta Plantae; Taxa Notes: Angiosperms, Dicots, Plants, Spermatophytes, Vascular Plants; Organism Classifier: Rhizophoraceae [26660]; Organism Name: *Bruguiera gymnorrhiza*; Type: species; Variant: burma mangrove; Type: common; Chemicals: cDNA; Variant: complementary DNA expressed sequence tag; Variant: EST gene; Process: expression, regulation; Methods & Equipment: microarray analysis; Role(s): laboratory techniques, genetic techniques; Misc Descript: high-salinity stress; Entry: 20070702. Abstract: To identify genes of potential importance to salt tolerance in burma mangrove (*Bruguiera gymnorrhiza*), we analyzed the gene expression profiles in salt-stressed burma mangrove using cDNA microarray containing 7029 clones based on 14,842 expressed sequence tags (ESTs). Combined results from all hybridization, we identified 287 genes with a greater than 5-fold change at least 1 time point after salt treatment (500 mM) compared with control water-treated plant; 228 genes were up-regulated more than five-fold and 61 genes were suppressed less than one-fifth. Venn diagram analysis showed tissue-specific and -overlapping of these highly changed genes for up- and down-regulation, respectively. These highly up- and down- regulated genes were characterized using gene ontology. Based on these genes, we conducted a hierarchical clustering analysis to reveal the patterns of gene expression. The analysis identified 6 major co-expression clusters that support the interpretation of an adaptive process to high-salinity

- environment. The microarray results were validated by real-time quantitative PCR on 3 selected genes. (c) 2007 Elsevier Ireland Ltd. All rights reserved. ISSN/ISBN: 0168-9452.
- Mogg R. Affiliation: Richard, Mogg. 1997. "China's Challenge." *Int. Water Power Dam Constr.* 2005 Elsevier Ltd. All rights reserved.: Volume 49, Issue 11, Pages 36-38. Descriptors: Dams and embankments -- 77.9.4; hydroelectric power plant. Notes: Geographic: China -- Mekong River. Abstract: Reports on challenges and controversy surrounding China's plans to build an extensive cascade of hydroelectric power stations on the Lancang Jiang (Upper Mekong) River. The 1500 MW Manwan run-of-river project was completed in 1994, and the 1350MW Dachaoshan project is currently under construction. Two further schemes totalling 5700MW are planned by 2020 and a further four projects totalling 7000 MW will follow. The effects of the cascade on the 5 downstream countries (Myanmar, Laos, Thailand, Cambodia and Vietnam) are discussed based on a 1996 document entitled *Downstream implications of China's dams on the Lancang Jiang (Upper Mekong) and their potential significance for greater regional co-operation basin-wide*. The various agencies involved in the scheme, associated studies, and China's role in co-ordinating the various political and technical aspects of the project are discussed. ISSN/ISBN: 0306-400X.
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- Mooley D.A. Editor: Ikeda, S. 1980. "Copyright 2005 Elsevier Ltd. all Rights Reserved.; Suitable Probability Model for Severe Cyclonic Storms Striking the Coast Around the Bay of Bengal." Elsevier Scientific. page(s): 349-357. Descriptors: HYDROLOGY -- 71.6; METEOROLOGY AND CLIMATOLOGY -- 71.7; cyclonic storms; Arakan Coast; Burma; Bangladesh; India;

Sri Lanka; Swed and Eisenhart's runs test; Mann Kendall Rank Statistic test; interval; random. Abstract: All the 141 severe cyclonic storms which struck the Arakan Coast of Burma and the coasts of Bangla Desh, E. India and Sri Lanka during the period 1877-1977 have been considered in this study. Swed and Eisenhart's runs test for runs above and below the median to detect trend or oscillation and Mann-Kendall Rank Statistic test for randomness were applied to the time interval between successive severe cyclonic storms which struck the coast. The results of these tests suggest that this interval can be generally taken to be random.-from Authors. Notes: Note(s): Special Features: 2 figs, 5 tables, 11 refs. Availability: Connect to the catalog at your library. OCLC Accession Number: 0031682.

Moore, E. and Win S. Affiliation: E. Moore, Department of Art and Archaeology, SOAS, University of London, London Country: United,Kingdom. 2007. "The Gold Coast: Suvannabhumi? Lower Myanmar Walled Sites of the First Millennium A.D." Asian Perspectives. 2007 Elsevier B.V., All rights reserved.: Volume 46, Issue 1, Pages 202-232 Additional Info: United States. Descriptors: The Holocene -- 71.3.7; The Holocene -- 72.7.7; Iron Age; archaeological evidence; architectural design; artifact; historical perspective; settlement history; water management. Notes: References: Number: 68; Geographic: Asia Eurasia Myanmar Southeast Asia. Abstract: The high rainfall of the Lower Myanmar coast is balanced by the aridity of the country's inland plains. The article profiles three sites in a laterite-rich area located in the northern part of the Lower Myanmar peninsula. The walls and moats of these sites underline their role in water management, one where control of water was the decisive catalyst. The sites of Kyaikkatha, Kelasa, and Winka illustrate how slight changes in topography signal critical junctures, the points where walls and moats were constructed. As a result, up to seven walls flank the higher edges of these sites; these protected the interior by diverting excess water to lower areas. Using large finger-marked bricks and terra-cotta artifacts such as votive tablets, plaques, and architectural elements, a broad chronology of c. the sixth to ninth centuries a.d. is proposed, although a majority of the pieces dated to the seventh century a.d. Attention is also drawn to evidence of Lower Myanmar prehistoric habitation in lowland areas close to the coast, where natural and man-made changes continue to alter the ecology and affect archaeological interpretation. The survey is used to encourage comparative studies, drawing in environmentally diverse but culturally related areas of South and Southeast Asia. (c) 2007 by the University of Hawai'i Press. ISSN/ISBN: 0066-8435.

Moravec, F., Taraschewski, H., Anantaphruti, M. T., Maipanich, W. and Laoprasert T Affiliation: Institute of Parasitology, Biological Centre, Academy of Sciences of the Czech Republic, Branisovská 31, 370 05 České Budejovice, Czech Republic.,moravec@paru.cas.cz. 2007. "Heliconema Longissimum (Ortlepp, 1923) (Nematoda: Physalopteridae) from Pisodonophis Boro (Teleostei: Ophichthidae) in Thailand, with Remarks on the Taxonomy of the Proleptinae Schulz, 1927." Syst. Parasitol. ; Syst. Parasitol. Jan. Volume 66, Issue 1, Pages 73-80 Additional Info: Netherlands. Descriptors: Animals; Eels -- parasitology; Microscopy, Electron, Scanning; Spirurida -- anatomy & histology; Spirurida -- classification; Spirurida -- isolation & purification; Spirurida -- ultrastructure; Stomach -- parasitology; Thailand. Notes: Citation: Status: MEDLINE Owner: NLM; Date of Entry: 20061207; Date Completed: 20070322. Abstract: Physalopterid nematodes identified as *Heliconema longissimum* (Ortlepp, 1923) were collected from the stomach of rice-paddy eels *Pisodonophis boro* (Hamilton) (Anguilliformes: Ophichthidae) from two brackish-water localities (mangroves) in Thailand: one in Phan-Nga Province, southwestern Thailand, northeast of Phuket Island, and

- one in Ranong Province, near the border with Myanmar. Study of the morphology of this hitherto insufficiently known nematode species, including its first SEM examination, enabled a detailed redescription of *H. longissimum*. Present taxonomic problems in the subfamily Proleptinae Schulz, 1927 are discussed, where a new delimitation of *Proleptus* Dujardin, 1845, *Heliconema* Travassos, 1919 and *Paraleptus* Wu, 1927 is proposed based on the cephalic dentation. *H. minnanensis* [sic] Damin & Heqing, 2001 is transferred to *Paraleptus* Wu, 1927 as *P. minnanensis* (Damin & Heqing, 2001) n. comb. and *Paraleptus chiloscyllyii* Yin & Zhang, 1983 transferred by Damin & Heqing (2001) to *Heliconema*, is retained in *Paraleptus*. *H. ahiri* Karve, 1941 is considered a junior synonym of *H. longissimum* (Ortlepp, 1923). The present finding of *H. longissimum* in *Pisodonophis boro* represents the first host record and the first record of this nematode from Thailand. ISSN/ISBN: 0165-5752 (Print).
- Morgan, Dan. 1996. Water Project Funding Drained in House Bill. WP. Jul 26. page(s): A, 4:1. Descriptors: Government spending; Federal legislation; Water supply; Foreign investment. Abstract: Congress moved ahead on more spending bills Jul 25, 1996, and in the process put its stamp on matters as close to home as a major water project in Colorado and as far-flung as US investment in military-ruled Burma. Notes: Details: Photograph; Named Corp: Congress; Geographic: Colorado Burma. ISSN/ISBN: 0190-8286.
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- Mukherjee, A., Sengupta, M. K., Hossain, M. A., et al. 2006. "Arsenic Contamination in Groundwater: A Global Perspective with Emphasis on the Asian Scenario." *J. Health, Popul. Nutr. Jun.* Volume 24, Issue 2, Pages 142-163. Descriptors: Article Subject Terms: Aquifers; Arsenic; Communication; Contamination; Drinking Water; Groundwater; Groundwater Pollution; Nutrition; Public health; Article Geographic Terms: Afghanistan; Bangladesh; Cambodia; China, People's Rep.; India; Myanmar; Pakistan. Abstract: The incidence of high concentrations of arsenic in drinking-water has emerged as a major public-health problem. With newer-affected sites discovered during the last decade, a significant change has been

observed in the global scenario of arsenic contamination, especially in Asian countries. This communication presents an overview of the current scenario of arsenic contamination in countries across the globe with an emphasis on Asia. Along with the present situation in severely-affected countries in Asia, such as Bangladesh, India, and China, recent instances from Pakistan, Myanmar, Afghanistan, Cambodia, etc. are presented. Database: Environmental Sciences and Pollution Mgmt. ISSN/ISBN: 1606-0997.

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- Myanmar; UNDP and FAO. 2000. Myanmar : Watershed Management for Three Critical Areas : Project Findings and Recommendations. Rome: UNDP : FAO. Descriptors: RIVER BASINS; RIVER BASIN DEVELOPMENT; WATER MANAGEMENT; SUSTAINABLE DEVELOPMENT; MYANMAR; PROJECT ACTIVITIES; UNDP -- Programme management; Government publication (gpb); International government publication (igp). Abstract: Conclusion: collaborative borders 111(2) Restricted Access: Carrying Cargo in the Borderlands 113(25) Introduction: independence and regulation 113(1) Long-distance truck and boat operations 114(10) Long-distance transport and the state 124(10) Conclusion: regulatory nonchalance? 134(4) Women, Space and History: Long-Distance Trade 138(25) Introduction: mobile women 138(2) From Chiang Khong to Oudomaxai and Mengla 140(10) A space of opportunity 150(9) Conclusion: travelling identities 159(4) Entrepreneurs, Bureaucrats and the Army: Sawmills and the Timber Trade 163(23) Introduction: incident at Sin Udom 163(3) Entrepreneurs: Thai investment in sawmilling 166(4) Bureaucrats: regulating the timber industry 170(7) The Army: changing the rules 177(5) Conclusion: a new regional resource economy? 182(4) Conclusion 186(8) Regulation and liberalisation 186(3) The future of the Economic Quadrangle 189(5) Epilogue: The Legend of the Golden Boat 194(2) Bibliography 196(29) Index 225 ( ). Notes: vii, 30 p.; Note(s): FO:DP/MYA/93/005./ Terminal report./ Report prepared for the Government of Myanmar by the Food and Agriculture Organization of the United Nations, acting as executing agency for UNDP./ Material type: Development projects./ Material type: Govt. documents/publications./ Material type: Specialized agencies (incl. GATT and IAEA) material.; General Info: Distribution: Restricted.; Entry: 20001212; Update: 20080122. OCLC Accession Number: 78363019.
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- Nelson B.W. Affiliation: B.W. Nelson, Department of Environmental Sciences, University of Virginia, Charlottesville, VA 22903 Country: United States E-mail: bwn@virginia.edu. 2001. "Sediment Dynamics in Rangoon River, Myanmar." Sci. Total Environ. 2005 Elsevier Ltd. All rights reserved.: 05 FEB. Volume 266, Issue 1-3, Pages 15-21 Additional Info: Netherlands. Descriptors: Sediments and sedimentary processes - transport -- 71.4.3; Sediments and sedimentary processes - transport -- 72.5.3; fine grained sediment; freshwater input; seasonal variation; sediment transport; tidal power. Notes: References: Number: 9; Geographic: Myanmar -- Rangoon River. Abstract: The behavior of fine-grained sediment in Rangoon River depends on seasonal variations in freshwater discharge and tidal amplitudes that range from 2 to 5 m. During the monsoon, freshwater with sediment concentrations of 1 g/l, or less, causes unidirectional, seaward flow. In the dry season, salinities reach 20‰; and sediment concentrations rise to 6 g/l. The saline intrusion advects large quantities of sediment landward from seaward sources. Near-surface sediment concentrations are very low during neap tides, while a layer of 'fluid mud' rests on the bottom. Current speeds greater than 0.2 m/s are needed to entrain sediment into the upper layer. Layered suspensions occur most commonly during decelerating phases of tidal flow and are dispersed by rapidly accelerating flow. When current speeds exceed 0.6 m/s, no 'fluid mud' forms, and sediment concentrations

as great as 6-8 g/l extend through the water column. Copyright (c) 2001 Elsevier Science B.V. ISSN/ISBN: 0048-9697.

- Nelson BW Affiliation: Department of Environmental Sciences, University of Virginia, Charlottesville 22903, USA., bwn@virginia.edu. 2001. "Sediment Dynamics in Rangoon River, Myanmar." *Sci. Total Environ.* ; *Sci. Total Environ.* Feb 5. Volume 266, Issue 1-3, Pages 15-21 Additional Info: Netherlands. Notes: Citation: Status: PubMed-not-MEDLINE Owner: NLM; Date of Entry: 20010321; Date Completed: 20010405; Date of Update: 20031031. Abstract: The behavior of fine-grained sediment in Rangoon River depends on seasonal variations in freshwater discharge and tidal amplitudes that range from 2 to 5 m. During the monsoon, freshwater with sediment concentrations of 1 g/l, or less, causes unidirectional, seaward flow. In the dry season, salinities reach 20‰ and sediment concentrations rise to 6 g/l. The saline intrusion advects large quantities of sediment landward from seaward sources. Near-surface sediment concentrations are very low during neap tides, while a layer of 'fluid mud' rests on the bottom. Current speeds greater than 0.2 m/s are needed to entrain sediment into the upper layer. Layered suspensions occur most commonly during decelerating phases of tidal flow and are dispersed by rapidly accelerating flow. When current speeds exceed 0.6 m/s, no 'fluid mud' forms, and sediment concentrations as great as 6-8 g/l extend through the water column. ISSN/ISBN: 0048-9697 (Print).
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- Nelson, Bruce W. 2001. "Clay Mineral Clues to Estuarine Sediment Provenance; Geological Society of America, 2001 Annual Meeting." Abstracts with Programs - Geological Society of America. Geological Society of America (GSA), Boulder, CO, United States (USA): United States (USA). Nov. Volume 33, Issue 6, Pages 407. Descriptors: Asia; Burma; clay mineralogy; climate; estuarine sedimentation; Far East; hydrology; Irrawaddy River; Malaysia; provenance; Rangoon River; rivers and streams; sediment transport; sedimentation; sediments; Selangor River; stream transport; suspended materials; tributaries; tropical environment; weathering. Notes: CD: GAAPBC; CY: GeoRef, Copyright 2007, American Geological Institute. Reference includes data supplied by the Geological Society of America, Boulder, CO, United States. Abstract: The clay mineral composition of estuarine sediments reflects tectonic and climatic conditions that exist in the source areas, modified by differential transportation and diagenesis. Rangoon River (Burma) and Selangor River (Malaysia) illustrate extremes that may be compared with mid-latitude estuaries elsewhere. Rangoon River is an estuarine distributary of the Irrawaddy River whose headwaters drain the Himalayas; the main stream then flows within an inter-arc trough adjacent to a Cenozoic volcanic arc. The river carries well-defined muscovite, chlorite, quartz, and feldspar above Mandalay. Below Mandalay and above the delta, the Cenozoic volcanics add significant amounts of fine-grained smectite. The estuary is macro-tidal. During the dry season, high sediment concentrations and multi-layered suspensions are found and the net transport is landward. Smectite is most abundant in the concentrated suspensions, while muscovite and chlorite dominate in the low concentration suspensions during average and neap tidal flows.

This leads to preferential concentration of smectite in estuarine deposits. High discharge during the monsoon often flushes much of the accumulated sediment load seaward. Selangor River drains granitic and metamorphic terrain of Paleozoic age. The deep, tropically weathered soils contain clays rich in kaolinite and gibbsite (and little mica or feldspar). These clay minerals become the most abundant components of the estuarine sediments. The Selangor is a mesotidal estuary where multi-layered suspensions have not been detected. Little differentiation in mineral composition exists between the suspended and deposited sediments. The clay minerals reflect their origin in a mature tropical landscape. The highest freshwater discharges rarely push the 0 ‰ isohaline beyond the mouth, so the sediment load is trapped within the estuary. The clay mineral composition of estuarine sediment in mid-latitude and temperate estuaries is usually intermediate in composition to those above, and it reflects intermediate tectonic and climatic conditions in their source areas. Database: GeoRef. ISSN/ISBN: 0016-7592.

Nelson, Bruce W. 2001. "Sediment Dynamics in Rangoon River, Myanmar." *The Science of the Total Environment*, 2/5. Volume 266, Issue 1-3, Pages 15-21. Descriptors: Sediment dynamics; Estuarine; Rangoon River. Abstract: The behavior of fine-grained sediment in Rangoon River depends on seasonal variations in freshwater discharge and tidal amplitudes that range from 2 to 5 m. During the monsoon, freshwater with sediment concentrations of 1 g/l, or less, causes unidirectional, seaward flow. In the dry season, salinities reach 20‰ and sediment concentrations rise to 6 g/l. The saline intrusion advects large quantities of sediment landward from seaward sources. Near-surface sediment concentrations are very low during neap tides, while a layer of 'fluid mud' rests on the bottom. Current speeds greater than 0.2 m/s are needed to entrain sediment into the upper layer. Layered suspensions occur most commonly during decelerating phases of tidal flow and are dispersed by rapidly accelerating flow. When current speeds exceed 0.6 m/s, no 'fluid mud' forms, and sediment concentrations as great as 6-8 g/l extend through the water column.

Ngo, Quoc-Trung. 1980. AN ECONOMIC ANALYSIS OF WATER RESOURCES DEVELOPMENT IN DELTAIC REGIONS OF ASIA: THE CASE OF CENTRAL THAILAND. The University of Wisconsin - Madison; 0262. DAI. Volume: 41, 05A, page(s): 301-2226. Descriptors: ECONOMICS, AGRICULTURAL. Abstract: This study analyzes the process of transforming a large deltaic basin, such as the Chao Phya Plain in central Thailand, into irrigated agricultural lands. The strategic role of infrastructure improvement in the process of agricultural modernization is well recognized. The historical experience of Japan, Taiwan, Korea, and more recent experience of the Philippines, indicate that increasing population pressure on agricultural land has provided a strong stimulus for irrigation construction, and also for the introduction of land-saving technologies in the form of modern fertilizer-responsive rice varieties and improved farm practices. But irrigation and drainage facilities, which are a basic condition for the diffusion of the new technology, can require capital investments so large as to overwhelm the financial capacity of many less developed countries. Rainfall patterns and topography are relevant considerations. Where rainfall is well distributed over the year and where the hydrography of the country consists of physically separate watersheds, water control can be achieved through individual projects generally of small or medium size. Such agroclimatic conditions have supported a relatively fast rate of land infrastructure improvement in the insular countries of Asia. In contrast, the deltaic regions of Burma, Thailand, and Viet Nam, which are the traditional rice exporting areas, face very different environmental conditions--sharply seasonal rainfall patterns and vast, flat

terrain--which require large scale basin-wide irrigation construction. The mobilization of enormous amounts of resources and complex and lengthy planning are necessary. The development of water resources in the Chao Phya Delta is analyzed, using conventional cost benefit analysis, as a case study to illustrate this problem. There, water control development had to be undertaken in successive phases, with the earliest phases of construction yielding low social returns. The early projects, however, constitute the backbone structure necessary to support the further development of the Delta. The analysis shows that the latent benefits of Phase One construction built in the 1950's and early 1960's were not captured until the intensive construction of Phase Three was completed in the late 1970's. The development of large alluvial deltas requires huge initial investments that can pay off only after an extensive gestation period. The need for international financial assistance is crucial. This pattern is in contrast with the experience of insular countries where irrigation can easily be started with small profitable projects at the earliest stage of agricultural development. Analysis of distribution of the social gains derived from irrigation investments in the Chao Phya Plain indicates that a large share of the benefits accrues to rice consumers in other food-deficit less developed countries. This effect gives added support to the argument calling for international assistance to support the development of large alluvial rice growing deltas in Asia. Finally, results from the analysis of Chao Phya Delta development are used to provide perspectives to the problem of developing of the Mekong Delta in Viet Nam. Notes: Degree: PH.D. OCLC Accession Number: AAG8015222.

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abroad, mainly in Africa and South America but also closer to home in Burma, Cambodia and Laos, attracted considerable attention from Western media in 2005.<sup>2</sup> From Guyana to Nigeria, China has emerged as a key source of state-led investment in infrastructure projects without the good-governance and human-rights strings that are attached to financing through international development structures, and Chinese companies have become a visible presence as major builders of roads, pipelines, bridges, hospitals, harbors, stadiums, water-supply facilities and so on.<sup>3</sup> In the Sudan, Chinese state-owned enterprises have invested US\$3 billion in the oil industry and helped to build a 1,540-kilometre pipeline and a refinery.<sup>4</sup> In July 2005, censured by the UN for evicting 700,000 people from their houses, Zimbabwe's President Robert Mugabe traveled to China for a US\$300 million loan (he was denied it). The authors' optimistic evaluation contrasts starkly with the view taken by international organizations and their advisors, who are wary of the risks posed by the sudden introduction of a cash economy, the displacement of slash-and-burn agriculturalists, and the commodification of sexual exchanges that accompany such projects, not to mention the smuggling of drugs and gems that finance the Burmese junta and the borderland ethnic armies allied to it.<sup>9</sup> The situation in Sudan (to which, as to Burma, China provides military aid) is similar: while Western-based NGOs blame the Chinese government for fuelling Khartoum's ethnic cleansing,<sup>10</sup> Chinese diplomats and managers portray their investment in the oil industry as a selfless contribution to development: When we started, they were an oil importer, and now they are an oil exporter.<sup>11</sup> A Western company couldn't have done what we did ... ISSN/ISBN: 1324-9347.

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- Obukhova, V. A. and Fedorov, K. N. 1974. "Micromorphology of the Hydromorphic Soils of the Irrawaddy Delta." Moscow University Soil Science Bulletin. Allerton Press, New York, NY, United States (USA): United States (USA). Volume 29, Issue 1-2, Pages 29-32. Descriptors: Asia; Burma; deltas; Far East; horizons; hydromorphic; Irrawaddy River; micromorphology; morphology; soils; tropical. Notes: CD: MUSBDU; CY: GeoRef, Copyright 2007, American Geological Institute. Database: GeoRef. ISSN/ISBN: 0147-6874.
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- Oo, K. N., Aung, K. S., Thida, M., Knine, W. W., Soe, M. M. and Aye T Affiliation: Bacteriology Research Division, Department of Medical Research, Yangon,,Myanmar. 1993. "Effectiveness of Potash Alum in Decontaminating Household Water." J. Diarrhoeal Dis.

Res. ; J. Diarrhoeal Dis. Res. Sep. Volume 11, Issue 3, Pages 172-4 Additional Info: BANGLADESH. Descriptors: Alum Compounds; Decontamination -- methods; Humans; Myanmar; Water Supply -- standards. Notes: Chemical Subst: Alum Compounds [0] aluminum sulfate [10043-01-3]; Citation: Status: MEDLINE Owner: NLM; Date of Entry: 19940124; Date Completed: 19940124; Date of Update: 20041117. Abstract: To evaluate the effectiveness of potash alum in purifying household water, this study was carried out in a suburban community in Yangon, Myanmar. It was designed to test whether the application of potash alum (0.05%) regularly into household water storage vessels during water replenishment was capable of decontaminating household water in homes using shallow well water. It was conducted in 100 households (50 each in intervention and control groups). After alum (0.05%) was added, the contamination level of water decreased on the 2nd and 3rd days. The alum-treated water was well tolerated by the users; only one member complained of a metallic taste. We conclude that potash alum was effective and acceptable in this community in decontaminating household water. ISSN/ISBN: 0253-8768 (Print).

Oo, K. N., Aung, W. W., Thida, M., Toe, M. M., Lwin, H. H. and Khin EE Affiliation: Department of Medical Research, Yangon Children Hospital,,Myanmar. 2000. "Relationship of Breast-Feeding and Hand-Washing with Dehydration in Infants with Diarrhoea due to Escherichia Coli." J. Health Popul. Nutr. ; J. Health Popul. Nutr. Sep. Volume 18, Issue 2, Pages 93-6 Additional Info: BANGLADESH. Descriptors: Breast Feeding; Escherichia coli Infections -- complications; Escherichia coli Infections -- microbiology; Cohort Studies; Dehydration -- etiology; Diarrhea, Infantile -- complications; Diarrhea, Infantile -- microbiology; Escherichia coli -- isolation & purification; Handwashing -- methods; Humans; Infant; Prospective Studies; Risk Factors; Severity of Illness Index. Notes: Citation: Status: MEDLINE Owner: NLM; Date of Entry: 20001207; Date Completed: 20001207; Date of Update: 20041117. Abstract: This prospective cohort study was carried out in the neonatal unit of the Yangon Children Hospital, Myanmar, to gather more information on the types of feedings and hand-washing practices of mothers as the determinant of severe dehydration in infants with acute diarrhoea due to Escherichia coli. The study subjects included 100 infants with diarrhoea, aged less than 4 months, admitted to the hospital from June 1997 to May 1998. Data on isolation of E. coli from rectal swab samples, types of feedings, hand-washing practices, and dehydration status were collected. Of the 100 cases, E. coli was isolated from rectal swab samples of 48 infants. Of these 48 cases, 28 had some dehydration and 20 had severe dehydration. Exclusive breast-feeding was observed only in the age group 1-2 month(s). The association of the severity of dehydration with other types of feedings compared to exclusive breast-feeding was not statistically significant. In this study, most mothers washed their hands with water only after cleansing their children's defaecation, and before and after feeding their children. The severity of dehydration was statistically significant in hand-washing practices when compared to washing with water only and washing with soap and water. This study has shown the association between types of feedings and hand-washing practices with dehydration in infants with acute diarrhoea due to E. coli. The results of the study suggest that there is a need for appropriate intervention programmes to promote exclusive breast-feeding and hand-washing practices with soap and water after cleansing children's defaecation, and before and after feeding children. ISSN/ISBN: 1606-0997 (Print).

Oo, K. N., Han, A. M., Hlaing, T. and Aye T Affiliation: Bacteriology Division, Department of Medical Research, Yangon,,Myanmar. 1991. "Bacteriologic Studies of Food and Water Consumed by Children in Myanmar: 1. the Nature of Contamination." J. Diarrhoeal Dis. Res.

- ; J. Diarrhoeal Dis. Res. Jun. Volume 9, Issue 2, Pages 87-90 Additional Info: BANGLADESH. Descriptors: Food Microbiology; Water Microbiology; Bacterial Toxins -- biosynthesis; Child, Preschool; Escherichia coli -- growth & development; Humans; India; Infant; Salmonella -- growth & development; Vibrio cholerae -- growth & development; Water Supply. Notes: Chemical Subst: Bacterial Toxins [0]; Citation: Status: MEDLINE Owner: NLM; Date of Entry: 19911121; Date Completed: 19911121; Date of Update: 20041117. Abstract: To isolate major bacterial pathogens from children's food and drinking water, a 3-month study was conducted in a suburban community in Yangon, Myanmar. From the morning meals and stored drinking water of 208 randomly selected children, 775 food and 113 water samples were collected and were cultured using standard methods. Escherichia coli, Vibrio cholerae non-01, and Salmonella were isolated from 505, 28 and 6 food samples respectively, and E. coli and V. cholerae non-01 were isolated from 29 and 5 water samples respectively. Among the E. coli isolates, 8 produced heat-stable toxin (ST) and 3 were enteroinvasive. Nine V. cholerae non-01 produced cholera-like toxin. Of the 29 E. coli isolates from the samples of drinking water, 3 produced ST. All water samples were negative for Salmonella. The study underscores the importance of bacterial contamination of children's food and drinking water and stresses the need to improve environmental sanitation. ISSN/ISBN: 0253-8768 (Print).
- Oo, K. N., Myint, T., Nwe, Y. Y. and Aye, T. 1993. "Vibrio Spp. Isolated from Natural Waters of the City of Yangon, Myanmar." J. Diarrhoeal Dis. Res. ; J. Diarrhoeal Dis. Res. Jun. Volume 11, Issue 2, Pages 105-7 Additional Info: BANGLADESH. Descriptors: Water Microbiology; Cholera -- transmission; Disease Reservoirs; Humans; Myanmar; Vibrio -- classification; Vibrio -- isolation & purification; Vibrio -- pathogenicity; Virulence. Notes: Citation: Status: MEDLINE Owner: NLM; Date of Entry: 19931110; Date Completed: 19931110; Date of Update: 20041117. Abstract: Virulence properties of the environmental isolate of vibrios from natural waters of Yangon, Myanmar were studied. Vibrio spp. were isolated for identification by the membrane filtration method and cultured on thio-sulphate-bile-sucrose media. No Vibrio cholerae O1 were isolated. V. cholerae non-O1 were the major vibrio species isolated from the samples. None of them were detected for cholera-toxin-like toxin, thermostable direct haemolysin, or heat-stable enterotoxin. Sixty-one isolates gave haemolytic activity; 27 V. cholerae non-O1 and 6 V. fluvialis isolates produced protease. ISSN/ISBN: 0253-8768 (Print).
- Oo, Nay Win, Robinson, Ruth A. J., Bird, Michael Ian, et al. 2007. "Re-Analysis of the Nineteenth Century Hydrology and Sediment Load Data for the Ayeyarwady River, Myanmar; Geographical Reports of Tokyo Metropolitan University; Special Issue in Honor of Professor Nobuyuki Hori." Geographical Reports of Tokyo Metropolitan University. Tokyo Metropolitan University, Faculty of Science, Department of Geography, Tokyo, Japan (JPN): Japan (JPN). Volume 42, Pages 71-84. Descriptors: Asia; Ayeyarwady River; bedload; Burma; concentration; denudation; discharge; drainage basins; errors; Far East; filters; flows; Gulf of Martaban; hydrographs; hydrology; Indian Ocean; land use; measurement; monsoons; regression analysis; statistical analysis; suspended materials; Thanlwin River; velocity. Notes: FE: References: 17; illus. incl. 1 table, sketch map; LL: Latitude:N150000,N280000 Longitude:E1000000,E0920000; CY: GeoRef in Process, Copyright 2008, American Geological Institute. After editing and indexing, this record will be added to Georef. Abstract: The Ayeyarwady (Irrawaddy) River of Myanmar (formerly Burma) is generally thought to have the 5th largest suspended load of any world river, and the 4th highest total dissolved

load. From these flux estimates, the combined systems of the Ayeyarwady and Thanlwin (Salween) rivers are regarded as contributing 20% of the total flux of material from the Himalayan-Tibetan orogen and deliver it over a short length of coastline into the Gulf of Martaban in the eastern Indian Ocean. The estimates for the Ayeyarwady are taken from published quotes of a 19th Century dataset (Gordon 1885) and there are no available published data for the Thanlwin. We present a reanalysis of the Ayeyarwady data from the original 550 page report of Gordon (1879) covering ten years of discharge (1869-1879) and one year of sediment concentration measurements (1877) and demonstrate that the commonly cited values of sediment loads (and therefore chemical fluxes) are in error. Taken at face value, the sediment flux estimates are conservatively assessed as being underestimated by 18%, and possibly as much as 38%, due to omission of the fine particulate load. However, an early 20th Century Ayeyarwady River engineer criticised Gordon's discharge measuring methods, suggesting they lead to over-estimation of both water and sediment fluxes. These two opposing uncertainties require careful review. We describe the approaches employed, evaluate Gordon's measurements, calculations, and subsequent adjustments and present our revised interpretation of daily and annual discharges and sediment fluxes along with an estimate of uncertainty. Our re-evaluation suggests that the annual sediment flux from the Ayeyarwady-Thanlwin system may be significant for ocean geochemistry and estimation of denudation rates. The new values suggest that the Ayeyarwady and Thanlwin rivers contribute half the present day Ganges-Brahmaputra flux to the Indian Ocean. Database: GeoRef In Process. ISSN/ISBN: 0386-8710.

- Oo, T. T., Storch, V. and Becker N Affiliation: Zoological Institute, University of Heidelberg, Germany. 2002. "Studies on the Bionomics of Anopheles Dirus (Culicidae: Diptera) in Mudon, Mon State, Myanmar." *J. Vector Ecol. Jun.* Volume 27, Issue 1, Pages 44-54 Additional Info: United States. Descriptors: Anopheles; Environment; Animals; Fishes; Insects; Larva -- growth & development; Myanmar; Plants; Population Dynamics; Predatory Behavior; Water. Notes: Chemical Subst: Water [7732-18-5]; Citation: Status: MEDLINE Owner: NLM; Date of Entry: 20020719; Date Completed: 20021224; Date of Update: 20061115. Abstract: This study examined some environmental factors influencing the larval habitats of Anopheles dirus (breeding in wells) in Mudon, Myanmar, from May 1998 to March 2000. The larval/pupal density was found to be directly proportional to rainfall and indirectly proportional to the well water level. Shade, vegetation and debris on the surface of well water were important factors influencing the abundance of the aquatic stages of An. dirus. Salinity had an inverse correlation with the larval and pupal density. Other mosquito species associated with An. dirus were identified. Important predators of the mosquito larvae were larvivorous fish, damselfly and dragonfly nymphs. All wells examined were lined with lateritic rocks. Chemical analysis of water samples from wells was conducted. ISSN/ISBN: 1081-1710 (Print).
- Oo, T. T., Storch, V. and Becker, N. 2002. "Studies on the Bionomics of Anopheles Dirus (Culicidae: Diptera) in Mudon, Mon State, Myanmar." *Journal of Vector Ecology : Journal of the Society for Vector Ecology.* June. Volume 27, Issue 1, Pages 44-54. Additional Info: Santa Ana, CA : The Society, [1995- Publishing Agencies: US Imprint, not USDA. Descriptors: NAL: RA639 .S63; Well water Anopheles dirus; Larvae; Pupae; Population density; Population ecology; Breeding places; Wells; Water quality; Environmental factors; Rain; Shade; Vegetation; Salinity; Predatory insects; Insectivorous fishes; Myanmar; Subj

Category: L821 PESTS OF ANIMALS, INSECTS; L300 ANIMAL ECOLOGY; L001 ENTOMOLOGY RELATED. ISSN/ISBN: 1081-1710.

- Pal, S. C. "Dysentery: An Overview. Still Problems to Resolve." Descriptors: Communicable Disease Control; Communicable Diseases; Developing Countries; Diarrhea; Digestive System; Disease; Disease Outbreaks; Education; Health; Health Education; Information Services; Public Health; Asia; Biology; Delivery of Health Care; Health Planning; Health Services; India; Infection; Knowledge; Organization and Administration; Physiology; Preventive Medicine; Vaccination; Diseases; Epidemics; Gastrointestinal Effects; Iec; Southern Asia Asia; Infections; Program Activities; Programs. Notes: Source: Dialogue on diarrhoea (Dialogue Diarrhoea) 1986 Jun(25): 4 Additional Info: ENGLAND; Note(s): TJ: DIALOGUE ON DIARRHOEA; Citation: Status: MEDLINE Owner: PIP Other ID: PIP: 040696; POP: 00173578; Date of Entry: 19880907; Date Completed: 19880907; Date of Update: 20031114. Abstract: This article reviews the global situation with regard to bacillary dysentery, with particular emphasis on findings from the recent epidemic in West Bengal. Infection is by the fecal-oral route and generally spread by person-to-person transmission. Serious epidemics caused by the multiple-drug-resistant *Shigella shigae* have occurred recently in Bangladesh, Somalia, South India, Burma, Sri Lanka, Nepal, Bhutan, Rwanda, and Zaire. In each situation, dysentery attacked over 10% of the population and killed 2-10% of hospitalized cases. In 1984, a dysentery epidemic spread rapidly throughout West Bengal, especially among young children, and was resistant to most commonly available drugs and antibiotics. A mass media campaign was initiated which emphasized boiling or chlorination of drinking water, covering feces with soil, protecting food from flies, avoiding exposed raw vegetables and cut fruits, and hand washing. However, these measures were difficult to implement and the epidemic subsided only gradually. Scientific knowledge about the exact mode of transmission of the pathogen, the mechanisms of pathogenicity, and the actual cause of death in dysentery cases could contribute to the development of practical public health interventions and an effective vaccine. ISSN/ISBN: 0950-0235 (Print).
- Paoletto, G. and Uitto J.I. Affiliation: G. Paoletto, Academic Division, The United Nations University, 5-53-70 Jingumae, Shibuya-ku, Tokyo 150 Country:,Japan. 1996. "The Salween River: Is International Development Possible?" Asia Pacific Viewpoint. 2005 Elsevier Ltd. All rights reserved.: Volume 37, Issue 3, Pages 269-282. Descriptors: Water Resources: Economic -- 70.4.3.1; Water resources development - general -- 74.13.1; water resources; developing region; regional cooperation; river basin development; regional development; international water resources; water resources management. Notes: Geographic: Asia -- Salween River. Abstract: Running through China, Myanmar and Thailand, the Salween River is rich in water resources with the potential to play a major role in regional development strategy. Issues related to its development are complex, but recent trends call for a closer examination of the types of possibilities available. This paper examines issues surrounding the Salween, considers governance systems for international waters, and draws some preliminary conclusions on the options that may be available to the riparians. There is a clear need for further scientific, technical and analytical work in identifying the alternative scenarios for the development of the river system, and their environmental and social impacts, as well as moving towards an international governance system for joint management and conflict resolution along the river. ISSN/ISBN: 1360-7456.
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- (Albian) Arthropod Fauna of Burmese Amber, Myanmar.” *Journal of Systematic Palaeontology*. Cambridge University Press, Cambridge, United Kingdom (GBR): United Kingdom (GBR). Jun. Volume 2, Issue 2, Pages 141-145. Descriptors: Albian; amber; Arachnida; Araneae; Arthropoda; Asia; Burma; Chelicerata; Cretaceous; Far East; fresh-water environment; Invertebrata; Lower Cretaceous; Mesozoic; morphology; new taxa; organic minerals; Palaeohydropoda myanmarensis; paleoenvironment; Pisauridae; taxonomy. Notes: FE: References: 47; illus.; CY: GeoRef, Copyright 2007, American Geological Institute. Database: GeoRef. ISSN/ISBN: 1477-2019.
- Peretti, Adolf and Mullis, Joseph. 1997. “Distinction of Natural and Synthetic Rubies by Fluid Inclusion Analyses; Proceedings of the XIVth European Current Research on Fluid Inclusions.” *Proceedings of the ...European Current Research on Fluid Inclusions (ECROFI). International (III): International (III)*. Volume 14, Pages 264-265. Descriptors: Asia; Burma; calcium carbonate; carbon dioxide; Commonwealth of Independent States; Far East; fluid inclusions; gems; hydrogen sulfide; inclusions; natural materials; nitrogen; Novosibirsk Russian Federation; paleosalinity; potassium chloride; ruby; Russian Federation; synthetic materials; temperature; water. Notes: CD: #05159; FE: References: 2; CY: GeoRef, Copyright 2007, American Geological Institute. Database: GeoRef.
- Perret JL Affiliation: Service de Pathologie Infectieuse et Tropicale, l'Hopital d'Instruction des Armées Laveran, Marseille,,France. 1997. “La Mélioiïdose: Une “Bombe à Retardement Tropicale” En Voie De Dissémination? Translated Title: [Melioidosis: A Tropical Time Bomb that is Spreading].” *Mars*. Volume 57, Issue 2, Pages 195-201 Additional Info: FRANCE. Descriptors: Endemic Diseases; Tropical Medicine; World Health; Anti-Bacterial Agents -- therapeutic use; Humans; Incidence; Melioidosis -- drug therapy; Melioidosis -- epidemiology; Melioidosis -- microbiology; Melioidosis -- transmission; Microbial Sensitivity Tests; Tropical Climate. Notes: References: Number: 64; Chemical Subst: Anti-Bacterial Agents [0]; Citation: Status: MEDLINE Owner: NLM; Date of Entry: 19970925; Date Completed: 19970925; Date of Update: 20061115. Abstract: Melioidosis, an infectious disease that affects many mammals, was first identified in Burma by Whitmore in 1912. It is caused by *Burkholderia pseudomallei*, a gram negative bacillus of the *Pseudomonas* family, which is found in soil and water. Long present in Southeast Asia and numerous tropical areas, melioidosis has recently appeared in temperate zones including mainland France. The incidence in endemic areas is between 6% and 20% of the population and short period of exposure is sufficient to be contaminated. In man the contamination occurs mainly through skin wounds and the disease can be clinically inapparent. Diabetes, renal disease, and various forms of immunodepression are triggering factors for the onset of a variety of symptoms ranging from acute septicemia to abscesses involving almost any organ in the body. Ceftazidime alone or a combination of clavulanate and amoxicilline is the treatment of choice but the mortality rate in patients with acute forms is still 40% and relapse can occur if treatment is stopped too soon. Bacteriologic and serologic tests can fail and awareness of a history of geographic exposure is an important diagnostic criteria for this disease which has been expanded with the growth of international travel. ISSN/ISBN: 0025-682X (Print).
- Perret, J. L., Vidal, D. and Thibault F Affiliation: HIA Laveran, Service de Pathologie Infectieuse et Tropicale,,Marseille. 1998. “La Mélioiïdose Pulmonaire. Translated Title: [Pulmonary Melioidosis].” *Rev. Pneumol. Clin. ; Rev. Pneumol. Clin. Dec*. Volume 54, Issue 6, Pages 365-72 Additional Info: FRANCE. Descriptors: Melioidosis -- diagnosis; Melioidosis -- drug therapy; Pneumonia, Bacterial -- diagnosis; Pneumonia, Bacterial -- drug therapy;

Amoxicillin -- therapeutic use; Anti-Bacterial Agents -- therapeutic use; Anti-Infective Agents -- therapeutic use; Ceftazidime -- therapeutic use; Cephalosporins -- therapeutic use; Chloramphenicol -- therapeutic use; Clavulanic Acid -- therapeutic use; Diagnosis, Differential; Doxycycline -- therapeutic use; Drug Therapy, Combination -- therapeutic use; Humans; Penicillins -- therapeutic use; Radiography, Thoracic; Trimethoprim-Sulfamethoxazole Combination -- therapeutic use. Notes: References: Number: 65; Chemical Subst: Anti-Bacterial Agents [0] Anti-Infective Agents [0] Cephalosporins [0] Penicillins [0] Amoxicillin [26787-78-0] Chloramphenicol [56-75-7] Doxycycline [564-25-0] Clavulanic Acid [58001-44-8] Ceftazidime [78439-06-2] Trimethoprim-Sulfamethoxazole Combination [8064-90-2]; Citation: Status: MEDLINE Owner: NLM; Date of Entry: 19990419; Date Completed: 19990419; Date of Update: 20061115. Abstract: Melioidosis is most frequently encountered in pulmonary localization. Melioidosis is an infectious disease caused by *Burkholderia pseudomallei* first described by Whitmore in 1912 in Burma. *B. pseudomallei* is a Gram negative rod belonging to the Pseudomonadaceae family. Soil and water are the natural reservoirs for the germ which is a specific pathogen for several mammal species. Long endemic in Southeast Asia and several tropical zones, *B. pseudomallei* has recently been found in temperate zones, including France. Human contamination occurs via the transcutaneous route and often leads to dormant inapparent infection. Many conditions, such as diabetes, renal lithiasis, various circumstances of immunodepression or stress, facilitate clinical manifestations which vary greatly. Pulmonary manifestations may be acute and extensive, producing a torpid pseudo-tuberculous condition or a variety of clinical and radiological features mimicking other diseases. Bacteriological and serological tests may be negative. Exposure in an endemic zone, the notion of a favorable context, weight loss, cavitory images on successive chest x-rays and the presence of extra-pulmonary localizations may be suggestive. Ceftazidime or the amoxicillin-clavulanic acid combination are indicated, but mortality in acute forms still reaches 40%. Relapse can be expected if the treatment duration is too short. ISSN/ISBN: 0761-8417 (Print).

Peters, Charles M., Henderson, Andrew, Maung, U. Myint, et al. 2007. "The Rattan Trade of Northern Myanmar: Species, Supplies, and Sustainability." *Econ. Bot.* Thomson 2007: SPR 2007. Volume 61, Issue 1, Pages 3-13. Notes: Concept: 05500, Social biology and human ecology 07502, Ecology: environmental biology - General and methods 07506, Ecology: environmental biology - Plant 50524, Botany: general and systematic - Monocotyledones 50528, Botany: general and systematic - Floristics and distribution 53500, Forestry and forest products; Major Concepts: Biogeography ; Forestry Broader Term(s): Population Studies; Super Taxa: Primates Mammalia Vertebrata Chordata; Geographic: Myanmar; Geopolitical Location(s): Asia; Zoogeographical Region: Oriental region; Misc Descript: species management rattan supply rattan sustainability rattan trade; Entry: 20070829. Abstract: Although Myanmar exports millions of dollars of rattan cane each year, the last systematic treatment of rattans in this country was done over 100 years ago, and virtually nothing has been written about the collection and trade of this important forest resource. Here we report the results from a study of rattans in the Hukaung Valley Tiger Reserve in northern Myanmar. A total of 15 species of rattan were encountered; seven species are new records for Myanmar and two species are new to science. Inventory transects revealed that the density of commercial rattans in local forests averages 40.5 canes  $\geq$  4m long/hectare. Populations of all species appear to be actively regenerating. The current pattern of rattan exploitation, however, is largely uncontrolled and will eventually lead to resource depletion unless some form of

management is implemented. ISSN/ISBN: 0013-0001. Availability: FirstSearch indicates your institution subscribes to this publication. Libraries worldwide that own item: 912 US ARMYCOPRS OF ENG RES DEV CT Connect to the catalog at your library.

Phien, H. N. and Lee, S. T. 1986. "Forecasting of Daily Discharges of Burmese Rivers."

International Journal for Development Technology. Sept. Volume 4, Issue 3, Pages 173-188. maps. Additional Info: Beirut : International Centre for Technical Research. Publishing Agencies: Non-US Imprint, not FAO. Descriptors: NAL: T1.I54; River basins; River water; Rain; Forecasting; Discharges; Hydrological models; Hybrid model Subj Category: P200 WATER RESOURCES AND MANAGEMENT; X100 MATHEMATICS AND STATISTICS. Notes: Geographic: Burma. ISSN/ISBN: 0263-418X.

Phien, H. N. and Lee, Shyh-Tsai. 1986. "FORECASTING OF DAILY DISCHARGES OF

BURMESE RIVERS." International Journal for Development Technology. Volume 4, Issue 3, Pages 173-188. Descriptors: RIVERS -- Discharge; HYDROLOGY - Mathematical Models; METEOROLOGY - Weather Forecasting. Notes: Compilation and indexing terms, Copyright 2008 Elsevier Inc. Abstract: The forecasting of daily river discharges plays a very important part in the national development of Burma. In this study a model for forecasting daily discharges with a lead-time of one day, as adopted by the Department of Meteorology and Hydrology of Burma, is developed. This model is essentially an extension of the Hybrid Model, also known as the Linear Perturbation Model, in which old (past) values of both rainfall and discharge departures from their corresponding means are used. Application of the model to actual data from the Chindwin River Basin of Burma shows that it is capable of excellent forecasts that are much more accurate than those obtained from the original Hybrid Model. Results also show that for all the stations considered in this study, old values of discharge contribute more significantly to forecasts than do values of rainfall. ISSN/ISBN: 0263-418X.

Phone, Hla and Suzuki, Hiroshi. 2004. "Macrobrachium Patheinense, a New Species of Freshwater

Prawn (Crustacea: Decapoda: Palaemonidae) from Myanmar." Proc. Biol. Soc. Wash. Biological Society of Washington: Volume 117, Issue 4, Pages 523-528. Descriptors: Article Subject Terms: Animal appendages; Animal morphology; Inland water environment; New species; Taxonomy; Telson; Article Taxonomic Terms: Chela; Macrobrachium patheinense; Palaemonidae; Article Geographic Terms: Myanmar; Freshwater. Notes: TR: CS0523798. Abstract: A new species of freshwater palaemonid prawn, *Macrobrachium patheinense*, is described from Mayan Creek near Pathein City, Ayeyawaddy Division, Myanmar. The new species is most closely related to *M. mirabile* (Kemp, 1917), *M. palaemonoides* Holthuis, 1950, *M. superbum* (Heller, 1862) and *M. inflatum* Liang & Yan, 1985, but can be differentiated by the rostrum shape and dentition, telson shape, and the second pereopod chela proportions. Database: ASFA: Aquatic Sciences and Fisheries Abstracts. ISSN/ISBN: 0006-324X.

Piper-Jenks, N., Horowitz, H. W. and Schwartz E Affiliation: Hudson River Health Care, Peekskill,

New York, U.S.A. 2000. "Risk of Hepatitis E Infection to Travelers." J. Travel Med. Jul-Aug. Volume 7, Issue 4, Pages 194-9 Additional Info: CANADA. Descriptors: Adolescent; Adult; Africa -- epidemiology; Age Factors; Aged; Asia -- epidemiology; Child; Female; Hepatitis E -- epidemiology; Humans; Male; Middle Aged; Risk Factors; Travel -- statistics & numerical data; Tropical Climate. Notes: References: Number: 73; Note(s): Comment In: J Travel Med. 2000 Jul-Aug; 7 (4): 167-9 PMID: 11003726; Citation: Status: MEDLINE Owner: NLM; Date of Entry: 20001019; Date Completed: 20001019; Date of Update: 20061107. Abstract:

Hepatitis E virus (HEV), previously referred to as enterically transmitted non-A, non-B hepatitis, is a major cause of epidemic hepatitis and acute, sporadic hepatitis in endemic areas of the world. The existence of HEV was suspected based upon epidemiological grounds for many years. However, it was only in the early 1990s that confirmation occurred when two prototype strains of HEV from Burma and Mexico were sequenced. 1-3 Outbreaks of HEV infection as well as sporadic transmission commonly occur in Asia, Africa, Central and South America, the Middle East, and the Republics of the former USSR. Southeast Asia seems to be a particularly high HEV endemic region. HEV is transmitted via the fecal-oral route, and contaminated drinking water is a common source of infection. 4 Many of the large outbreaks have occurred after heavy rains and flooding. 4 During interepidemic periods sporadic infections occur frequently. This suggests a constant environmental reservoir, allowing for transmission between epidemics. The existence of a zoonotic reservoir for the virus is likely. HEV has been detected in a number of species, including swine, rats, and chicken.

ISSN/ISBN: 1195-1982 (Print); 1708-8305 (Electronic).

Pocha, Jehangir. 2004. WATER CRISIS LOOMING FOR CHINA, OFFICIALS WARN. BOST. Jan 2. page(s): A.8. Descriptors: Water resources; Industrial development; Environmental protection; Water supply; Drought. Abstract: Picturesque Hubei Province, home to Beijing, is known as the "Province of a Thousand Lakes." But industrialization has turned more than three-fourths of its once pristine lakes into sandpits. Beijing responded this year by finalizing a massive project that will transfer 50 billion cubic meters of water each year from the Yangtze River in the south to the Yellow, Huai, and Hai rivers in the north. Western diplomatic officials in Beijing say they are also troubled by China's damming of the Mekong River and its diversion of water from Cambodia, Thailand, Laos, and Vietnam. Some officials also are concerned that China could divert rivers that originate in Tibet, such as the Indus and Sutlej, which are also critical to India and Pakistan, and the Brahmaputra, which is critical to India and Burma. Notes: Named Corp: International Bank for Reconstruction & Development SIC/NAICS: 928120 D-U-N-S No: 06-202-4112 World Bank SIC/NAICS: 928120 D-U-N-S No: 06-202-4112; Geographic: China. ISSN/ISBN: 0743-1791.

Postlewaite, Susan. 2000. Wrath of the Monsoons. Chronicle Publishing Company Oct 31, 2000. SF. Oct 31. page(s): A.12. Descriptors: Series & special reports; Rain; Foreign aid; Floods. Abstract: According to the Mekong River Commission, Cambodia and Vietnam are the nations most vulnerable because of their location toward the mouth of the 2,600-mile Mekong River that begins high up in the Tibetan Plateau and doubles in volume as it passes through China, Burma and Laos before reaching Cambodia and Vietnam. Some economists say Cambodia's economic growth will suffer in the next two years because of severe damage to agriculture and infrastructure. The Asian Development Bank, which is carrying development loans of \$400 million in Cambodia, recently revised its estimate for the nation's annual economic growth rate in 2000 from 5 percent to 4 percent. The situation is much the same in Vietnam, where more than 300 people have died, entire villages are submerged and agriculture has been severely damaged. "People can live with flooding, but not of this magnitude," said Sok Saing Im, a senior hydrologist with the Phnom Penh-based Mekong River Commission, which includes representatives of Laos, Vietnam, Thailand and Cambodia. "There is too much damage.". Notes: Geographic: Cambodia Mekong River.

Praññ` tvan` re kron` say` yu pui` chon` re` ko` ma rhan`. 1952. Praññ` Tvan` Re Kron` Say` Yu Pui` Chon` Re` Ko` Ma Rhan` e` a Ci Ran` Kham Ca. Ran` kun`: Praññ` thon` cu Mran` ma nuin` nam to` a cui` ra ca pum nhip` tuik`. Descriptors: Inland water transportation -- Burma;

Praññ` tvañ`" re kron" say` yu pui' chon` re" ko` ma rhan`. Notes: 102 p. ; 34 cm.; Note(s): Burmese and English.; Responsibility: [Praññ` tvañ`" re kron" say` yu pui' chon` re" ko` ma rhan`].; Entry: 19950824; Update: 20060624. ISSN/ISBN: LCCN: 77-986057. OCLC Accession Number: 39101626.

- Puckridge, D. W., Catling, H. D., Vongsaroj, Prasan, Boonyawivatana, Samlee, Niyomwit, Lavan and Thongbai, Pongmanee. 1989. "Factors Affecting Deepwater Rice in the Central Plain of Thailand." *Field Crops Research*,. 1. Volume 19, Issue 4, Pages 263-283. Abstract: Deepwater rices from Thailand have been among the most promising lines tested in the deep-water areas of Africa, Burma, Indonesia, and Vietnam, and the effect of environmental factors and cultural practices on production in Thailand is relevant to those countries. In Thailand, approximately 800 000 ha of deepwater rice is grown in fields which are flooded to depths of 50 cm or more for over a month during the growing season. Most of this specially adapted rice is grown in three regions of the central plain. Dry seeds are broadcast on ploughed fields at the beginning of the wet season, and the crop grows under rainfed dryland conditions for about 3 months before floods arrive in July-August. The plants elongate to maintain foliage above the floodwater, which may be as deep as four m. The crop is harvested after the fields drain in December-January. Investigations were made to assess yields in farmers' fields, and to determine yield-limiting factors and crop responses to inputs. Farmers were interviewed to determine production practices, and fields were sampled to estimate yields. Samples from 30 fields gave an average yield of 2.18 t ha<sup>-1</sup> (0.7-3.5 t ha<sup>-1</sup>) for the 1981/1982 season, and from 63 fields in 1982/1983 gave an average of 1.83 t ha<sup>-1</sup> (0.1-2.9 t ha<sup>-1</sup>). There were 32 different varieties. Maximum water depths ranged from 60 cm to 200 cm. Major pests were yellow stem-borers and rats. A multi-location factorial experiment with 13 sites tested the possibility of improving yields by nitrogen and phosphorus fertilizer, or by use of a herbicide spray to control broadleaved weeds. However, grain yields were increased by N only at four sites, by P at one site, and by herbicide spraying at one site. Major yield-limiting factors were drought and poor plant stands in the pre-flood period, and some flood damage. Better characterisation of the environment and of its interaction with genotypes is necessary before adequate prediction of performance and improvements in production will be obtained.
- Quang N.N. Affiliation: N.N. Quang, Vietnam National Mekong Committee, 23 Hang Tre, Hanoi Country: Viet Nam E-mail: nhanquang@hn.vnn.vn. 2002. "Vietnam and the Sustainable Development of the Mekong River Basin." *Water Science and Technology*. 2005 Elsevier Ltd. All rights reserved.: Volume 45, Issue 11, Pages 261-266 Additional Info: United Kingdom. Descriptors: Water Resources: Planning -- 70.4.3.2; Water resources development - general -- 74.13.1; hydroelectric power; basin management; sustainable development; water resource; water management Species Term: Riparia. Notes: References: Number: 10; Geographic: Viet Nam -- Mekong River. Abstract: Vietnam is a riparian country located in most downstream area of the Mekong river basin which is also shared by other states namely China, Myanmar, Laos, Thailand and Cambodia. While the Central Highlands of Vietnam has a great potential for hydropower development in tributaries of Mekong river, the Mekong delta in Vietnam territory is rich in natural resources which are favorable for agricultural development. However, besides local constraints which being gradually remedied by Vietnam, the development of the Mekong delta is subject to, in both terms of quantity and quality, availability of water resources which relates to the water use of or discharge into the river of upper riparians. With a view to co-developing these resources in a sustainable and mutually beneficial manner, Vietnam has cooperated with other states through framework of

the Mekong River Commission set up by the 1995 Mekong Agreement. This paper describes the strategy and action plan applied by Viet Nam National Mekong Committee to reach the sustainable development of the Mekong river basin in general and of Vietnam parts located in the Mekong basin in particular. ISSN/ISBN: 0273-1223. Availability: FirstSearch indicates your institution subscribes to this publication. Libraries worldwide that own item: 280 US ARMYCOPRS OF ENG RES DEV CT Connect to the catalog at your library.

Quang NN Affiliation: Vietnam National Mekong Committee, Hanoi.,nhanquang@hn.vnn.vn.

2002. "Vietnam and the Sustainable Development of the Mekong River Basis." *Water Sci. Technol.* Volume 45, Issue 11, Pages 261-6 Additional Info: England. Descriptors: Conservation of Natural Resources; Water Supply; Agriculture; Environment; Vietnam; Water Movements. Notes: Citation: Status: MEDLINE Owner: NLM; Date of Entry: 20020812; Date Completed: 20030129. Abstract: Vietnam is a riparian country located in most downstream area of the Mekong river basin which is also shared by other states namely China, Myanmar, Laos, Thailand and Cambodia. While the Central Highlands of Vietnam has a great potential for hydropower development in tributaries of Mekong river, the Mekong delta in Vietnam territory is rich in natural resources which are favorable for agricultural development. However, besides local constraints which being gradually remedied by Vietnam, the development of the Mekong delta is subject to, in both terms of quantity and quality, availability of water resources which relates to the water use of or discharge into the river of upper riparians. With a view to co-developing these resources in a sustainable and mutually beneficial manner, Vietnam has cooperated with other states through framework of the Mekong River Commission set up by the 1995 Mekong Agreement. This paper describes the strategy and action plan applied by Viet Nam National Mekong Committee to reach the sustainable development of the Mekong river basin in general and of Vietnam parts located in the Mekong basin in particular. ISSN/ISBN: 0273-1223 (Print). Availability: FirstSearch indicates your institution subscribes to this publication. Libraries worldwide that own item: 280 US ARMYCOPRS OF ENG RES DEV CT Connect to the catalog at your library.

Quang, Nguyen Nhan. 2002. "Vietnam and the Sustainable Development of the Mekong River Basis." *Water Science and Technology.* Volume 45, Issue 11, Pages 261-266. Descriptors: Hydrology; Rivers; Sustainable development; Water power. Notes: Compilation and indexing terms, Copyright 2008 Elsevier Inc. Abstract: Vietnam is a riparian country located in most downstream area of the Mekong river basin which is also shared by other states namely China, Myanmar, Laos, Thailand and Cambodia. While the Central Highlands of Vietnam has a great potential for hydropower development in tributaries of Mekong river, the Mekong delta in Vietnam territory is rich in natural resources which are favorable for agricultural development. However, besides local constraints which being gradually remedied by Vietnam, the development of the Mekong delta is subject to, in both terms of quantity and quality, availability of water resources which relates to the water use of or discharge into the river of upper riparians. With a view to co-developing these resources in a sustainable and mutually beneficial manner, Vietnam has cooperated with other states through framework of the Mekong River Commission set up by the 1995 Mekong Agreement. This paper describes the strategy and action plan applied by Viet Nam National Mekong Committee to reach the sustainable development of the Mekong river basin in general and of Vietnam parts located in the Mekong basin in particular. ISSN/ISBN: 0273-1223.

Quang, NN. 2002. *Vietnam and the Sustainable Development of the Mekong River Basin.* Alliance House 12 Caxton Street London SW1H 0QS UK: IWA Publishing. *Water Sci.*

Technol. Volume: 45, 11, page(s): 261-266. Descriptors: Article Subject Terms: Agriculture; Competing Use; Environment management; Hydroelectric Power; International Commissions; International agencies; Natural resources; Planning; Potential resources; Resource development; River Basin Development; River basin management; River basins; River discharge; Sustainable development; Water Resources Management; Water Use; Water management; Water resources; commissions; committees; deltas; downstream; territory; water availability; Article Geographic Terms: Asia, Mekong R.; Asia, Mekong R. basin; China, People's Rep.; ISEW, Cambodia; ISEW, Thailand; ISEW, Vietnam; ISEW, Vietnam, Central Highlands; ISEW, Vietnam, Mekong R. Delta, Mekong Delta; ISW, Myanmar; Southeast Asia, Mekong Basin; Vietnam, Mekong R.; Vietnam, Mekong R. basin; Freshwater. Abstract: Vietnam is a riparian country located in most downstream area of the Mekong river basin which is also shared by other states namely China, Myanmar, Laos, Thailand and Cambodia. While the Central Highlands of Vietnam has a great potential for hydropower development in tributaries of Mekong river, the Mekong delta in Vietnam territory is rich in natural resources which are favorable for agricultural development. However, besides local constraints which being gradually remedied by Vietnam, the development of the Mekong delta is subject to, in both terms of quantity and quality, availability of water resources which relates to the water use of or discharge into the river of upper riparians. With a view to co-developing these resources in a sustainable and mutually beneficial manner, Vietnam has cooperated with other states through framework of the Mekong River Commission set up by the 1995 Mekong Agreement. This paper describes the strategy and action plan applied by Viet Nam National Mekong Committee to reach the sustainable development of the Mekong river basin in general and of Vietnam parts located in the Mekong basin in particular. Notes: TR: CS0633883. ISSN/ISBN: 1843394081. Database: ASFA: Aquatic Sciences and Fisheries Abstracts. OCLC Accession Number: 5445307.

Quin-Harkin, A. J. 1996. IMPERIAL AIRWAYS, 1924-1940. IN: AIR TRANSPORT. Ashgate Publishing Company. Studies in Transport History. page(s): p. 27-45. Descriptors: Air transportation; Airlines; Cargo handling; England; Technological innovations; Tourists; Traffic. Abstract: The story of Imperial Airways is sixteen years of pioneering and development--sixteen years of glorious achievement. From its birth as a public company in 1924 to its absorption within the state-owned British Overseas Airways Corporation, this virile airline, begotten of the first generation of a new form of transport, had by the outbreak of war in September 1939 surveyed, opened, and put into regular operation air services between the United Kingdom and the Dominions and Colonies of the British Commonwealth. In the beginning Imperial Airways operated a heterogeneous fleet of thirteen single and twin-engine serviceable aircraft, and its' only service was to the nearby capitals of Western Europe, with the tourist traffic to Paris featured as its most popular and lucrative service. At the outbreak of war, fifteen years later, its four-engined fleet of over thirty flying boats and twenty landplanes was carrying passengers, mail, and cargo to South Africa, India, Burma, Malaya, and the territories between, and was also flying to Australia and New Zealand, in association with Queensland and Northern Territories Air Service (QANTAS) and Tasman Empire Airways (TEA). It had, further, inaugurated a service between the USA and Bermuda, joined Bangkok to Hong Kong, and Khartoum with Kano, and had moreover operated in the summers and early autumns of 1937, 1938, and 1939 a series of experimental transatlantic flights. Notes: Originally published in Journal of Transport History, 1st series, vol. I, no. 4

(1954) pp. 197-215. ISSN/ISBN: 1859283004. OCLC Accession Number: 00794173. URL: Transportation Research Board.

Raghu, V., Sastry, D. V. J. and Mruthyunjaya Reddy K. Affiliation: V. Raghu, A.P. State Remote Sensing Applications Centre (APSRAC), DES Campus, Khairatabad, Hyderabad - 500 004 Country: India E-mail: raghuvangeepuram@rediffmail.com. 2006. "Oozing of Water in Wells and Agricultural Fields of Certain Villages in Ranga Reddy and Mahabubnagar Districts, Andhra Pradesh." Journal of the Geological Society of India. 2006 Elsevier B.V., All rights reserved.: Volume 67, Issue 2, Pages 151-158 Additional Info: India. Descriptors: Natural Hazards -- 70.3.1; Earthquakes -- 72.12.4; HAZARDS AND DISASTER PLANNING -- 74.21; earthquake damage; tsunami; groundwater; water level; agricultural land; village. Notes: References: Number: 9; Geographic: Andhra Pradesh Ranga Reddy Mahabubnagar India South Asia Asia Eurasia. Abstract: A devastating mega thrust earthquake of magnitude 9.3 occurred on 26th December 2004 at the interface of India and Burma Plates. This triggered a tsunami that lashed south coastal Andhra Pradesh causing damage to life and property. This event was followed by a strange phenomenon of sudden rise in groundwater levels at some villages in Ranga Reddy and Mahabubnagar Districts. Unusual rise in water levels was observed in old, dried and abandoned wells and in some agricultural fields, which created a flutter among local population. A preliminary investigation carried out in parts of Ranga Reddy and Mahabubnagar Districts reveals that all the villages where oozing of water was observed, are located adjacent to structurally controlled streams. Except Pirampalli all the villages are located in WNW-ESE direction and located between two major faults trending in the same direction. Detailed further investigations could reveal the underlying cause for such strange occurrences. ISSN/ISBN: 0016-7622.

Ramalingaswami, V. and Purcell RH Affiliation: Fogarty International Center, National Institutes of Health, Bethesda, Maryland. 1988. "Waterborne Non-A, Non-B Hepatitis." Lancet; Lancet. Mar 12. Volume 1, Issue 8585, Pages 571-3 Additional Info: ENGLAND. Descriptors: Adolescent; Adult; Africa; Asia, Central; Disease Outbreaks -- epidemiology; Feces -- microbiology; Female; Hepatitis C -- epidemiology; Hepatitis C -- prevention & control; Hepatitis C -- transmission; Hepatitis Viruses -- isolation & purification; Hepatitis, Viral, Human -- epidemiology; Humans; Hygiene; Immunization, Passive; India; Indonesia; Male; Myanmar; Nepal; Pregnancy; Thailand; Water Pollution; Water Supply. Notes: Citation: Status: MEDLINE Owner: NLM; Date of Entry: 19880411; Date Completed: 19880411; Date of Update: 20041117. Abstract: Waterborne non-A, non-B hepatitis (NANB) is responsible for outbreaks of hepatitis with a predilection for young adults. The disease is usually mild, except in pregnant women, who have a high case-fatality rate from fulminant hepatic failure. Diagnosis is largely based on the epidemiological findings of faecal contamination of drinking water and serological exclusion of hepatitis A and B virus infection. Histological features of liver biopsy specimens are characteristic and virus-like particles in the stool are aggregated by antibody present in acute and convalescent phase sera of the test subject. NANB is widespread in India and several countries of South-East Asia; it is increasingly recognised in Africa and may occur in Latin America. Control measures include provision of clean water supplies, safe disposal of human excreta, and sound personal and food hygiene practices. Passive immunisation with immunoglobulin derived from healthy donors resident in the countries affected by the disease may protect vulnerable groups. ISSN/ISBN: 0140-6736 (Print); 1474-547X (Electronic).

- Ratterman, Walt and Garwood, Anna. 2005. "Solar Power in the War Zone: Burma's Clinics Light Up." *Refocus*. Elsevier Ltd, Oxford, OX5 1GB, United Kingdom: Volume 6, Issue 1, Pages 46-48. Descriptors: Solar energy; Photovoltaic cells; Electricity; Renewable energy resources; Project management; Patient monitoring; Diseases; Societies and institutions; Hospitals; Personnel training; Lighting; Rural areas; Fossil fuels; Social aspects; Finance; Potable water; Health care. Notes: Compilation and indexing terms, Copyright 2008 Elsevier Inc. Abstract: The efforts of the Karen Health and Welfare Department, Burma, Palang Thai (Thailand-based non-profit organization), and Portland-based Green Empowerment (non-profit organization), in assisting various clinics in Burma with solar photovoltaic power, are discussed. The Karen Health and Welfare Department manages 26 remote clinics, scattered 600 miles, to serve the needs of internally displaced people (IDP). Most of the clinics are deprived of electricity due to their remote location. The role of Green Empowerment is to catalyze the use of renewable energy for community needs by providing organizational support, fundraising assistance and technical expertise to local groups. ISSN/ISBN: 1471-0846.
- Reddy Keshav, Tirupati and Basu, S. 2007. "Gas-to-Liquid Technologies: India's Perspective." *Fuel Processing Technology*,. 5. Volume 88, Issue 5, Pages 493-500. Descriptors: GTL; Syngas technology; Direct conversion of methane; Oxygenates. Abstract: Gas-to-liquid (GTL) technologies are capable of converting gas to clean, useful liquid hydrocarbons and thus suitable for addressing problems of remote gas utilization, increase in crude oil price, depletion of fossil fuel and environmental pollution. The Indian state of Tripura is considered to be the richest province with 26 billion cubic meters of gas reserves. Neighboring country Myanmar has huge gas reserves but these reserves remain unutilized mainly because of land-locked situation. GTL is a well developed and proven technology and it is an important option for moving natural gas to the market place. GTL options include not only the well-known production of Fischer-Tropsch synthesis liquids but also the production of oxygen containing fuels, fuel additives and chemicals, such as methanol and DME. An alternative, promising option to convert surplus gas is the direct route of methane conversion, which is more energy efficient than the indirect route since it bypasses the energy intensive endothermic steam reforming step of syngas formation. On-site conversion to liquid products of commercial importance using direct route would make transportation of these natural deposits much more economical and practical. In this paper an attempt has been made to review recent developments in syngas technologies, direct routes of methane conversion into useful liquids, and status of both existing and future developments in GTL industry around the world. Finally challenges in GTL technology are discussed.
- Reyes, G. R., Yarbough, P. O., Tam, A. W., et al. 1991. "Hepatitis E Virus (HEV): The Novel Agent Responsible for Enterically Transmitted Non-A, Non-B Hepatitis." *Gastroenterol. Jpn.* ; *Gastroenterol. Jpn. Jul.* Volume 26 Suppl 3: 142-7 Additional Info, Pages JAPAN. Descriptors: Cloning, Molecular; Genes, Viral; Hepatitis E -- microbiology; Hepatitis Viruses -- genetics; Humans; Open Reading Frames; RNA, Viral -- genetics. Notes: Chemical Subst: RNA, Viral [0]; Citation: Status: MEDLINE Owner: NLM; Date of Entry: 19911004; Date Completed: 19911004; Date of Update: 20041117. Abstract: A normally endemic form of viral hepatitis is the cause of major epidemic outbreaks in developing countries. This disease has a global distribution and has been referred to as water-borne, epidemic or enterically transmitted non-A, non-B hepatitis (ET-NANBH). Although the fecal-oral route of transmission predominates, person-to-person routes of exposure were also suggested in some

epidemiologic studies. The disease has been documented as having an extremely high mortality in pregnant women (approximately 20%). Sporadic cases of ET-NANBH, as well as imported travel exposures, have been reported in developed countries. Molecular cloning was hampered by the lack of a tissue culture system for virus propagation, however, an available animal model and a newly developed non-specific amplification procedure were used to clone and identify an exogenous cDNA (ET1.1) from a Burma-isolate infected animal. Molecular clones were also identified by immunoscreening of a cDNA library made from a fecal specimen collected from a Mexican outbreak of ET-NANBH. The isolation and sequencing of a set of overlapping cDNA clones had led to the recognition that this form of hepatitis is caused by a virus unlike any of the other viral hepatitis agents. The molecular characterization of HEV will lead to important pathobiologic insights and hasten the development of potentially useful diagnostic and therapeutic products for ET-NANBH. ISSN/ISBN: 0435-1339 (Print).

- Rice, Edward B. 1997. *Paddy Irrigation and Water Management in Southeast Asia*. Washington, D.C.: World Bank. Descriptors: Land Ownership and Tenure; Land Reform; Land Use; Irrigation -- Q150; Irrigation; Water. Abstract: Assesses the agro-economic impacts of investments in gravity-fed irrigation schemes in the paddylands of Southeast Asia, and determines whether and how the quality of operation and maintenance services influence the sustainability of those impacts. Based on a study of six gravity-fed irrigation schemes with reservoirs for water storage in Thailand, Myanmar, and Vietnam and on an audit of a flood control and drainage project at three sites in Bangladesh. No index. Notes: xix, 63; Entry: 199710. ISSN/ISBN: 0-8213-3914-1. Availability: Connect to the catalog at your library. OCLC Accession Number: 0425610.
- Ripley, S. D. and Beehler, B. M. 1989. "Ornithogeographic Affinities of the Andaman and Nicobar Islands." *J. Biogeogr.* 2005 Elsevier Ltd. All rights reserved.: Volume 16, Issue 4, Pages 323-332. Descriptors: GENERAL MICROBIAL ECOLOGY -- 73.5; island; avifauna; colonization. Notes: Geographic: Burma India -- Andaman Islands India -- Nicobar Islands. Abstract: Despite an intervening deep water barrier, the 2 island groups share a single insular avifauna, the Nicobarese species list comprising a subset of that of the Andaman Islands. As measured by shared breeding species, the Andaman/Nicobar avifauna is closest to that of SW Burma (78% shared species) and should be considered Indochinese. Colonization apparently occurred primarily by island-hopping from SW Burma. The Andamanese/Nicobarese avifauna is an assemblage of species that have crossed permanent water barriers to colonize the archipelago. The breeding avifauna is notably poor in passerines and disproportionately rich in herons (11 species), hawks (9), pigeons (8) and kingfishers (8). Nearly all sister-groups of endemic insular species are widespread forms that range from SE Asia to India. -from Authors. ISSN/ISBN: 0305-0270.
- Roberge D. Affiliation: D. Roberge, Office of Surveyor General, Champlain Branch, Canadian Institute of Geomatics E-mail: daniel.roberge@mrnf.gouv.qc.ca. 2005. "Après Le Tsunami Translated Title: After the Tsunami." *Geomatica*. 2006 Elsevier B.V., All rights reserved.: Volume 59, Issue 4, Pages 445-450 Additional Info: Canada. Descriptors: Natural Hazards -- 70.3.1; tsunami; natural hazard Species Term: Somalia. Notes: References: Number: 7. Abstract: In the early hours of the day after Christmas 2004, a major earthquake measuring 9.0 on the Richter scale struck the coast of many South-East Asian countries. The quake triggered a powerful tsunami, reaching ten to twenty metres in height moving through the Indian Ocean at over 500 kilometres an hour. The tsunami flooded coastal areas in India,

Indonesia, Sri Lanka, Thailand, Maldives, Myanmar, Seychelles, and Somalia, wiping away homes and lives. This cataclysm made us realize how vulnerable humanity is in the face of nature's strength. The weeks that followed the tragedy were focused on rescue efforts and tending to the survivors; trying to meet the latter's primary needs by providing them care, food and water, and emergency shelters were obvious priorities. Reconstruction of infrastructures such as roads, bridges, sanitary networks, etc. would have to follow. How can we resettle communities while respecting land rights that prevailed before the deadly wave that wiped out all landmarks? During the reconstruction phase, the international community of land surveyors will have to be present in order to promote the importance of land rights issues and tenure. If the land related issues are well managed in the resettlement plan, it can translate into an opportunity to improve the land rights situation. If not, it can aggravate an already problematic situation. The International Federation of Surveyors (FIG) must take the lead along with the United Nations (UN) agencies to promote land tenure issues and ensure that they are taken into consideration in the reconstruction and resettlement plans for the communities affected by such natural disasters. ISSN/ISBN: 1195-1036.

Roberge, Daniel. 2005. "Apres Le Tsunami; After the Tsunami." *Geomatica*. Canadian Institute of Geomatics, Ottawa, Ontario, ONT K2C 3N6, Canada: Volume 59, Issue 4, Pages 445-450. Descriptors: Disasters; Tsunamis; Earthquake effects; Reconstruction (structural); Laws and legislation; Public policy. Notes: Compilation and indexing terms, Copyright 2008 Elsevier Inc. Abstract: In the early hours of the day after Christmas 2004, a major earthquake measuring 9.0 on the Richter scale struck the coast of many South-East Asian countries. The quake triggered a powerful tsunami, reaching ten to twenty metres in height moving through the Indian Ocean at over 500 kilometres an hour. The tsunami flooded coastal areas in India, Indonesia, Sri Lanka, Thailand, Maldives, Myanmar, Seychelles, and Somalia, wiping away homes and lives. This cataclysm made us realize how vulnerable humanity is in the face of nature's strength. The weeks that followed the tragedy were focused on rescue efforts and tending to the survivors; trying to meet the latter's primary needs by providing them care, food and water, and emergency shelters were obvious priorities. Reconstruction of infrastructures such as roads, bridges, sanitary networks, etc. would have to follow. How can we resettle communities while respecting land rights that prevailed before the deadly wave that wiped out all landmarks? During the reconstruction phase, the international community of land surveyors will have to be present in order to promote the importance of land rights issues and tenure. If the land related issues are well managed in the resettlement plan, it can translate into an opportunity to improve the land rights situation. If not, it can aggravate an already problematic situation. The International Federation of Surveyors (FIG) must take the lead along with the United Nations (UN) agencies to promote land tenure issues and ensure that they are taken into consideration in the reconstruction and resettlement plans for the communities affected by such natural disasters. ISSN/ISBN: 1195-1036.

Robinson, R. A. J., Bird, M. I., Oo, Nay Win, et al. 2007. "The Irrawaddy River Sediment Flux to the Indian Ocean; the Original Nineteenth-Century Data Revisited." *J. Geol.* University of Chicago Press, Chicago, IL, United States (USA): United States (USA). Nov. Volume 115, Issue 6, Pages 629-640. Descriptors: annual variations; Asia; bedload; Burma; Cenozoic; discharge; Far East; fluvial sedimentation; geomorphology; historical records; history; Holocene; hydrology; Indian Ocean; Irrawaddy River; modern; Quaternary; rivers and streams; sediment transport; sedimentation; sedimentation rates; stream transport; suspended materials; upper Holocene. Notes: CD: JGEOAZ; FE: References: 26; illus. incl. 1 table,

sketch map; LL: Latitude:N160000,N200000 Longitude:E0980000,E0950000; CY: GeoRef, Copyright 2008, American Geological Institute. Abstract: The Irrawaddy (Ayeyarwady) River of Myanmar is ranked as having the fifth-largest suspended load and the fourth-highest total dissolved load of the world's rivers, and the combined Irrawaddy and Salween (Thanlwin) system is regarded as contributing 20% of the total flux of material from the Himalayan-Tibetan orogen. The estimates for the Irrawaddy are taken from published quotations of a nineteenth-century data set, and there are no available published data for the Myanmar reaches of the Salween. Apart from our own field studies in 2005 and 2006, no recent research documenting the sediment load of these important large rivers has been conducted, although their contribution to biogeochemical cycles and ocean geochemistry is clearly significant. We present a reanalysis of the Irrawaddy data from the original 550-page report of Gordon covering 10 yr of discharge (1869-1879) and 1 yr of sediment concentration measurements (1877-1878). We describe Gordon's methodologies, evaluate his measurements and calculations and the adjustments he made to his data set, and present our revised interpretation of nineteenth-century discharge and sediment load with an estimate of uncertainty. The 10-yr average of annual suspended sediment load currently cited in the literature is assessed as being underestimated by 27% on the basis of our sediment rating curve of the nineteenth-century data. On the basis of our sampling of suspended load, the nineteenth-century concentrations are interpreted to be missing about 18% of their total mass, which is the proportion of sediment recovered by a 0.45- $\mu$  m filter. The new annual Irrawaddy suspended sediment load is 364+ or -60 MT. Our revised estimate of the annual sediment load from the Irrawaddy-Salween system for the nineteenth century (600 MT) represents more than half the present-day Ganges-Brahmaputra flux to the Indian Ocean. Since major Chinese rivers have reduced their load due to damming, the Irrawaddy is likely the third-largest contributor of sediment load in the world. Database: GeoRef. ISSN/ISBN: 0022-1376.

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- ROSE, C. J. 1973. "Management Science in the Developing Countries: A Comparative Approach to Irrigation Feasibility." *Management Science*, Vol 20, no 4. P 423-438, DECEMBER. Volume PART I, Pages 5 REF. Descriptors: IRRIGATION; FEASIBILITY STUDIES; OPERATIONS RESEARCH; MANAGEMENT; AGRICULTURE; ECONOMICS; RIVERS; DECISION MAKING; CONSTRAINTS; METHODOLOGY; CROPS; NATURAL RESOURCES; MATHEMATICAL MODELS; DEVELOPING COUNTRIES;

BURMA; MIXED INTEGER PROGRAMMING; WATER AVAILABILITY; MU RIVER(BURMA). Abstract: AN IRRIGATION FEASIBILITY STUDY IS DESCRIBED IN WHICH SYSTEMS ANALYSIS METHODS WERE USED TO SELECT FOR A WELL-DEFINED GEOGRAPHICAL AREA AN IRRIGATION SYSTEM BEST SUITED TO BOTH LOCAL AND NATIONAL NEEDS. THE PROBLEM WAS TO DECIDE WHAT MAJOR WORKS TO BUILD AND CROPS TO GROW TO MAKE OPTIMAL USE OF THE AVAILABLE NATURAL AND HUMAN RESOURCES, THE AVAILABILITY OF WATER BEING A PRIME CONSIDERATION. THE AREA EXAMINED COMPRISES SOME ONE MILLION ACRES OF LAND IN BURMA, AND THE STUDY WAS UNDERTAKEN FOR THE BURMESE GOVERNMENT UNDER THE AUSPICES OF THE UNITED NATIONS. THE SOLUTION TECHNIQUE USED WAS MIXED INTEGER PROGRAMMING IN ORDER TO BE ABLE TO HANDLE SOME 750 CONTINUOUS VARIABLES, 50 INTEGER VARIABLES, AND 250 CONSTRAINTS. THIS PAPER REPORTS ON A SPECIFIC PROJECT, THE MU RIVER VALLEY MULTIPURPOSE SCHEME, AND IS DIVIDED INTO THREE SECTIONS: THE REAL PROBLEM DESCRIPTION, ADOPTION OF SOLUTION APPROACH, AND STUDY RESULTS. THE PROBLEM WAS SOLVED USING BOTH CONVENTIONAL AND OPERATIONS RESEARCH METHODS INDEPENDENTLY; A COMPLETE COMPARISON OF THE RELATIVE MERITS OF BOTH APPROACHES IS CONSIDERED IN DETAIL. THE ADVANTAGES ARISING FROM THE USE OF A MATHEMATICAL MODEL ARE CONSIDERABLE. (BELL-CORNELL). Database: Environmental Sciences and Pollution Mgmt.

Rose, E. P. F. and Clatworthy J.C. Affiliation: E.P.F. Rose, Department of Geology, Royal Holloway, University of London, Egham, Surrey TW20 0EX Country: United Kingdom E-mail: ted.rose@virgin.net. 2007. "Specialist Maps of the Geological Section, Inter-Service Topographical Department: Aids to British Military Planning during World War II." Cartographic Journal. 2007 Elsevier B.V., All rights reserved.: Volume 44, Issue 1, Pages 13-43 Additional Info: United Kingdom. Descriptors: Applications: human -- 71.8.8.5; GIS, Remote Sensing -- 70.2.6; geological mapping; military application; permeability; planning method; terrain; thematic mapping; topographic mapping. Notes: References: Number: 34. Abstract: Between November 1943 and May 1946, geologists assisted the Inter-Service Topographical Department (ISTD) to prepare reports and maps to guide planning of British military operations in Europe and the Far East. Early reports were illustrated by pre-war geological maps reprinted by the Geographical Section, General Staff, (GSGS), later reports by new simplified geological maps, usually accompanied by one or more thematic maps. An airfield suitability map for Bulgaria and soils maps for both the Middle Danube region (Hungary) and Austria were printed as part of the GSGS Miscellaneous map series, and groundwater and soils maps prepared as tracing overlays for use with topographical maps for parts of Germany. Simplified geological maps were prepared by ISTD and printed by GSGS for Sumatra, Borneo, Formosa, the Kra Isthmus region of the Burma/Thailand peninsula, Siam (Thailand) and Indo-China, Java, Hainan, and the Hong Kong to Canton region of China. These were mostly at a scale of 1:1000 000 but in varying styles, to innovatively indicate terrain features of specific military significance. Airfield suitability maps were printed at scales between 1:250 000 and 1:1000 000 for many of these regions, based on ground features and predicted soil permeability. All these specialist maps were printed in small numbers, and few copies have survived the war - notably in the British Library, the

- National Archives, or the library of the Royal Geographical Society. The ISTD Geological Section constituted the larger of only two teams of British military geologists to be established in either World War, exercising a role in military intelligence that is seldom acknowledged. (c) The British Cartographic Society 2007. ISSN/ISBN: 0008-7041.
- Rosegrant, M. W. and Meinzen-Dick, R. S. 1996. "Water Resources in the Asia-Pacific Region: Managing Scarcity." *Asian-Pacific Economic Literature*. 2005 Elsevier Ltd. All rights reserved.: Volume 10, Issue 2, Pages 32-53. Descriptors: Water Resources: Planning -- 70.4.3.2; Irrigated agriculture -- 74.1.8; resources management; developing region; water resources; water scarcity; irrigation demand; agricultural growth; water resources management; irrigated agriculture. Notes: Geographic: Asia. Abstract: Irrigation, together with improved crop varieties and substantial growth in fertiliser use in the late 1960s through the early 1980s, was a key factor in stimulating strong agricultural growth in much of the Asia-Pacific region. New sources of water are increasingly expensive to exploit, but irrigation continues to be a major catalyst for agricultural growth. In the face of increasing degradation, the maintenance of the water resource base must be a high priority policy objective. This paper reviews the management of water resources in the Asia-Pacific region, for countries with significant irrigated area: Cambodia, China, Indonesia, Korea-DPR, Republic of Korea, Laos, Malaysia, Mongolia, Myanmar (Burma), Philippines, Thailand and Vietnam. ISSN/ISBN: 0818-9935.
- Rosegrant, Mark W., Meinzen-Dick, Ruth S. Affiliation: IFPRI and IFPRI. 1996. "Water Resources in the Asia-Pacific Region: Managing Scarcity." *Asian-Pacific Economic Literature*. November. Volume 10, Issue 2, Pages 32-53. Descriptors: Renewable Resources and Conservation: Water -- Q250; Resource Base; Resources; Water. Notes: Geographic: Asia-Pacific Region: Asia; Added: 199706. Abstract: Irrigation, together with improved crop varieties and substantial growth in fertilizer use in the late 1960s through the early 1980s, was a key factor in stimulating strong agricultural growth in much of the Asia-Pacific region. New sources of water are increasingly expensive to exploit, but irrigation continues to be a major catalyst for agricultural growth. In the face of increasing degradation, the maintenance of the water resource base must be a high priority policy objective. This paper reviews the management of water resources in the Asia-Pacific region, for countries with significant irrigated area: Cambodia, China, Indonesia, Korea-DPR, Republic of Korea, Laos, Malaysia, Mongolia, Myanmar, Philippines, Thailand and Vietnam. ISSN/ISBN: 0818-9935. Availability: Publisher's URL.
- Rothwell, Eric L. and Wood, Spencer H. 2004. "Characterization of Gravel Bars of the Mekong River Near the Golden Triangle of Northern Thailand; Geological Society of America, Rocky Mountain Section, 56th Annual Meeting; Geological Society of America, Cordilleran Section, 100th Annual Meeting." *Abstracts with Programs - Geological Society of America*. Geological Society of America (GSA), Boulder, CO, United States (USA): United States (USA). Apr. Volume 36, Issue 4, Pages 31. Descriptors: Asia; bars; Burma; Cambodia; characterization; China; Chordata; clastic sediments; exploitation; Far East; geomorphology; gravel; human activity; hydroelectric energy; hydrology; land use; Laos; Mekong River; natural resources; North Pacific; Northwest Pacific; Pacific Ocean; Pisces; sedimentation; sediments; South China Sea; Thailand; vegetation; Vertebrata; water resources; West Pacific. Notes: CD: GAAPBC; CY: GeoRef, Copyright 2007, American Geological Institute. Reference includes data supplied by the Geological Society of America, Boulder, CO, United States. Abstract: The Mekong River starts in the Qinghai Province, China near Tibet; the river

flows as a border between Laos and Burma and between Thailand and Laos before flowing through Cambodia and finally to the South China Sea through Vietnam. Each of these countries has industrial and agricultural interests for the river; for the people living near the Mekong, the river is a source of subsistence fishing and is widely used for transport and tourism. The Mekong River is also a unique ecological and hydrologic system. With multiple hydroelectric dams and two reservoirs (Xiaowan and Dachaoshan) on the Mekong River in China and continued interest in dam development in Laos for hydropower production, flow changes to the river are inevitable. This study focuses on characterizing gravel bars near Chiang Saen, Thailand, with the purpose of documenting the current size distribution of bed-load gravels and the bed form or texture. The study site consists of two lateral bars on the Laotian side. During bank full flow the river is approximately 0.6km wide and has an approximate depth of 10m over the gravel bars. Annual peak flows are around 10,000 cubic meters/second, and the maximum flow of record is 23,600 cubic meters/second, occurring on September 3, 1966. The pebble counts yield a D (sub 50) of 75mm, and outsized clasts of 250 mm (maximum diameters) conducted on exposed bars during low flows of January, 2004. The gravel bars also exhibit large ripples spaced approximately 4m with amplitude of 0.5m. Most of the bars and islands in this reach of the Mekong are of fine to medium sand, but these gravel bars are important to local people for harvesting algae and may be an important bed form for fish habitat. Database: GeoRef. ISSN/ISBN: 0016-7592.

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- Ryder, Grainne. 1997. "Stauen Des Mekong; Regionale Energiepolitik." Federal Republic of Germany (DEU): Secolo-Verl., Osnabruck, Federal Republic of Germany (DEU). Descriptors: Asia; Burma; Cambodia; China; dams; ecology; Far East; fluvial features; hydroelectric energy; Laos; planning; policy; power plants; rivers; spatial distribution; streams; Thailand; Vietnam; water management; water supply. Notes: CY: GeoRef in Process, Copyright 2008, American Geological Institute. After editing and indexing, this record will be added to Georef. Reference includes data from Geoline, Bundesanstalt fur Geowissenschaften und Rohstoffe, Hanover, Germany. ISSN/ISBN: 3929979373. Database: GeoRef In Process. Availability: 1998 A 610. OCLC Accession Number: 296709-10.
- Sanderson, W. C. and Jee-Peng, Tan. 1995. "Copyright 2005 Elsevier Ltd. all Rights Reserved.; Population in Asia." World Bank; Regional and Sectoral Studies. page(s): 243p. Descriptors: Fertility -- 70.6.3; WATER -- 74.13; population growth; family planning; policy approach; fertility control; social policy; fertility; demography. Abstract: Building on the existing literature, this study attempts to draw together quantitative information on the countries of East and South Asia to inform policy dialogue on a broad range of issues relating to fertility and population growth. (Bangladesh, Bhutan, Cambodia, China, India, Indonesia, The Republic of Korea, the People's Democratic Republic of Korea, Lao People's Democratic Republic, Malaysia, Myanmar, Nepal, Pakistan, Papus New Guinea, the Philippines, Sri

Lanka, Thailand, and VietNam, occasionally data on Mongolia). Data for these countries are also used to highlight the nature of the population issues in the region and the options potentially available to address them. The study addresses three separate aspects of population issues, with countries as the units of observation; the demography of Asian populations and the power of policies to affect fertility and future population size; the design of current interventions to lower fertility through family planning programs; and population prospects and their implications in selected sectors. -from Authors. Notes: Geographic: Asia -- (East) Asia -- (South) Asia. ISSN/ISBN: 0821331310. Availability: Connect to the catalog at your library. OCLC Accession Number: 1162706.

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- Saravanapavanathan, N. 1986. "Water Supply and Sanitation in the Southeast-Asia Region." World Health Statistics Quarterly Vol.39. No. 1, p 58-70. Pages 1 ref. Descriptors: Community development; Regional development; Southeast Asia; Water supply development; Sanitation; Human population; Bangladesh; Burma; India; Indonesia; Maldives; Nepal; Sri Lanka; Thailand; Statistical analysis. Abstract: The progress of community water supply and sewage disposal services development in the member states of the World Health

- Organization, South-East Asia Region, since the beginning of the International Drinking Water Supply and Sanitation Decade is reviewed. Countries participating in the Decade progress monitoring activities were: Bangladesh, Burma, India, Indonesia, Maldives, Nepal, Sri Lanka, and Thailand. Two sets of aggregated analyses were carried out: one without India and one including India. In urban areas, water supply coverage did not keep pace with increasing populations, whereas in rural areas it appears that mid-decade targets will be achieved overall, but on a country by country basis, only Bangladesh, India, Indonesia, and Sri Lanka are likely to meet or exceed their mid-decade targets. In the area of sanitation, coverage increased in urban areas in the 1981-83 period, but in rural areas improvements in sanitation coverage did not keep pace with population. Major constraints identified by the countries in the 1983 sector update were as follows: lack of adequate financial resources, lack of community participation, logistics, insufficient health education, and import restrictions. (Rochester-PTT). Database: Environmental Sciences and Pollution Mgmt.
- Saravanapavanathan, N. 1986. "Water Supply and Sanitation in the South-East Asia Region." *World Health Statistics Quarterly*. 2005 Elsevier Ltd. All rights reserved.: Volume 39, Issue 1, Pages 58-70. Descriptors: INTERNATIONAL DEVELOPMENT ABSTRACTS -- 74. Notes: References: Number: 1; Note(s): Special Feature: 2 graphs, 1 reference, 5 tables. Abstract: Reviews the progress of community water supply and excreta disposal services development in the Member States of the World Health Organization (WHO) S-E Asia Region since the commencement of the International Drinking Water Supply and Sanitation Decade. In order to make a comparative assessment of the impact of the Decade, includes the 5 year period prior to the commencement of the Decade. Data were collected by the relevant officials in each country with the assistance of WHO staff, and 8 of the 11 countries of the Region took part in the Decade progress monitoring exercises: Bangladesh, Burma, India, Indonesia, Maldives, Nepal, Sri Lanka and Thailand. In order to ensure that India, with nearly two-thirds of the population of the Region, does not overshadow the situation in the remaining 7 countries, 2 sets of aggregated analyses have been carried out, one including and the other excluding India.-from Author. Availability: Connect to the catalog at your library.
- Saw, H. 2001. "Seismological Monitoring System of Myanmar." *Bulletin of the International Institute of Seismology and Earthquake Engineering*. 2005 Elsevier Ltd. All rights reserved.: Volume 35, Pages 165-174 Additional Info: Japan. Descriptors: Earthquakes -- 72.12.4; Earthquake mechanisms and effects -- 77.1.3; earthquake; monitoring; seismology. Notes: Geographic: Myanmar. Abstract: Myanmar lies in one of the earthquake belts of the world namely the Alpide-Himalayan Belt. The Department of Meteorology and Hydrology realizing the importance of maintaining earthquake records had prepared the publication of earthquake for 1950 to 1999, making use of the information on felt earthquakes reported by observers in the meteorological observations scattered over the country. At present there are 4 seismological stations operating the Japanese Katsujima seismographs in Yangon, Mandalay, Sittway and Dawei. The Department of Meteorology and Hydrology now takes pride in publishing the seismological data and technical notes for the needs of various national projects. ISSN/ISBN: 0074-655X.
- Saw, Naw Tha. 1988. CROP-CLIMATE RELATIONSHIPS IN THE DRY SEASON ON THE IRRAWADDY DELTA (BURMA). UNIVERSITY OF CALIFORNIA, RIVERSIDE; 0032 Advisor: Chairperson: ROBERT W. PEASE. DAI. Volume: 49, 08B, page(s): 241-3075. Descriptors: PHYSICAL GEOGRAPHY; AGRICULTURE, AGRONOMY. Abstract: The geography of the Irrawaddy Delta (Burma) and the necessity to grow more rice, soybeans

and maize are briefly discussed. Empirical methods for estimating potential evapotranspiration for the Irrawaddy Delta during the dry season are evaluated to determine water use for soybeans, maize and rice. According to the statistical methods applied, the Penman method as modified by Frere and Popov appears most suitable. Two methodologies, the Equivalent Hours of Maximum Net Photosynthesis (EHMNP) and the growing degree days (GDD) are used to evaluate the possibility of the growing of rice, maize and soybeans on the delta during the dry season. The EHMNP unit is the net photosynthetic response of a plant for one hour at optimum condition of temperature and light where hours with partial responses can add together to make full hours. EHMNP totals regressed against yields of rice, soybeans and maize grown in the United States result in a positive linear relationship. Application of EHMNP totals to the Irrawaddy Delta in the dry season suggest relatively low yields of rice, soybeans and maize. The GDD used here is obtained by the summation of mean temperature above a threshold temperatures for the corresponding crops. Regression analysis of GDD versus crop yields suggest that within the domain of the data used, rice yields decrease as GDD increase. There is a curvilinear relationship between GDD and yields of soybeans and maize, where yields increase as GDD increase to a certain degree beyond which yields decline. The GDD indicated lower than optimum yields of soybeans, maize and rice during the dry season. Notes: Degree: PH.D. OCLC Accession Number: AAG8822063.

Schmidt-Vogt D. Affiliation: Dr. D. Schmidt-Vogt, School of Environment Rsrc./Devmt., Asian Institute of Technology, P.O. Box 4, Klong Luang, Pathumthani 12120 Country: Thailand E-mail: Schmidt@ait.ac.th. 2004. "Staudämme Am Mekong Translated Title: Dams Along the Mekong River." Geographische Rundschau. 2005 Elsevier Ltd. All rights reserved.: Volume 56, Issue 12, Pages 22-27 Additional Info: Germany. Descriptors: Agriculture, resource development and the environment -- 74.2.1; National and Land-Use Planning -- 70.10.1; dam construction; land use planning; international cooperation; hydroelectric power. Notes: References: Number: 13; Geographic: Mekong River Asia Eurasia Eastern Hemisphere World. Abstract: The Mekong river is the largest river of Southeast Asia and provides a linkage between six countries: Vietnam, Cambodia, Laos, Thailand, Myanmar and Yunnan Province of the People's Republic of China. After decades of retarded economic development, the Mekong river is of being converted into a highway of hydro-development through a total of about 50 large dam projects. The project goals include irrigation, flood control, and improving navigation, but the most important goal is hydropower development. China has embarked in the 1980s on a scheme to build eight dams on the upper Mekong mainly to generate power for Yunnan Province and for export to Thailand. Export of energy is also the main rationale for plans of the Lao government to construct a string of dams along tributaries of the Mekong. Dam projects in Thailand, Cambodia and Vietnam are on a smaller scale, and Thailand has actually abandoned plans to further develop hydropower on its own territory in the face of massive protests and the availability of power from Laos. Potential negative effects of these dams on the hydrology and ecology of the Mekong are causing concern. The most prominent concern is with the effect of dams on fisheries. Despite the existence of international institutions for integrated development in the Mekong-region - the Mekong River Commission (MRC) and the Greater Mekong Subregion (GMS) Programme of the Asian Development Bank - communication between countries, and coordination of the various national dam projects is relatively poor, and likely to cause ecological disruptions and regional conflicts in the future. ISSN/ISBN: 0016-7460.

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- Schwendinger, Peter Josef. 1990. ZUR TAXONOMIE, BIOLOGIE UND OKOLOGIE EINIGER ORTHOGNATHER SPINNENFAMILIEN VON THAILAND (ARANEAE:LIPHISTIIDAE, ATYPIDAE, IDIOPIDAE, DIPLURIDAE) Translated Title: ON TAXONOMY, BIOLOGY AND ECOLOGY OF SOME FAMILIES OF ORTHOGNATHOUS SPIDERS FROM THAILAND (ARANEAE:LIPHISTIIDAE, ATYPIDAE, IDIOPIDAE, DIPLURIDAE). Innsbruck University (Austria); 0200. DAI. Volume: 53, 03C, page(s): 162-443. Descriptors: BIOLOGY, ENTOMOLOGY. Abstract: Data obtained in the course of a 2<sup>1/2</sup>-year research project at the University of Chiang Mai, Thailand, are presented in 8 separate parts, as manuscripts and published papers\*. Ground-dwelling spiders of the families Liphistiidae, Atypidae, Idiopidae and Dipluridae in Thailand are treated taxonomically. A new genus, Prothemenops, several new species, Liphistius ornatus, L. lannaianus, L. marginatus, L. thalebani, Atypus suthepicus, A. lannaianus, Prothemenops siamensis, Idiops pylorus, and hitherto unknown males of L. trang, L. lordae Platnick & Sedgwick, L. niphanai Ono, A. dorsualis Thorell, A. javanus Thorell are described; the liphistiid trap-door spiders of Thailand and Burma and the purseweb spiders of the world are revised. New taxonomic characters, including histological and microstructural details, are given; the variation of characters is analyzed, taxonomic relationships are shown. For the spiders observed, information is given on habitat, distribution, web- and burrow structure, annual cycle, postembryonic development, mating, behaviour, prey, predators and parasites. The communities of orthognathous spiders in Thailand, and Chiang Mai Province in particular, are shown; their horizontal, vertical and annual distribution are discussed. Finally, experimental data on the transpiration rates of 16 species from Thailand and Burma are compared with similar results on orthognathous spiders from the literature. The comparatively high water losses of the species examined are explained with adaptation to life in a burrow. <sup>fn\*</sup>Bulletin of the British Arachnological Society; Natural History Bulletin of the Siam Society; Zoological Scripta. Reference Copy: UNIVERSITATSBIBLIOTHEK DER UNIVERSITAT

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- SCOTT, KEN. 1995. GOLDEN TRIANGLE -- ROADS AND ENERGY TO REPLACE OPIUM. John Wiley & Sons, Incorporated. Infrastructure. Descriptors: Asia; Roads. Abstract: SUBTITLE: WITH ADB SUPPORT, THE ECONOMIC PROSPECTS OF THE NEIGHBOURING CORNERS OF THAILAND, CHINA, BURMA AND LAOS ARE SET TO CONVERGE DESPITE PAST ENMITIES. Notes: INFRASTRUCTURE, OCT. 1995, P. 42-44: ILL. ISSN/ISBN: 1081-7174. OCLC Accession Number: 00871446. URL: Transportation Research Board.
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- Selth, Andrew. "From Brown Water to Blue Water." N&A Publishing Services 1998: Descriptors: Armed forces. Notes: Source: Naval Forces v19n6 (1998): 30-33 Journal Code: FNAV Supplier No: 99083811; Details: Photograph; Map; Named Corp: Navy-Myanmar; Geographic: Myanmar. Abstract: The Myanmar Navy was small, with limited capabilities, until 1988. In only a few years, the Navy has been transformed from a weak brown water navy to a much larger force more capable of blue water operations. ISSN/ISBN: 0722-8880.
- Sen Gupta, R.; Ali, Mohamed; Bhuiyan, A. L., et al. 1990. "State of the Marine Environment in the South Asian Seas Region." International (III): United Nations Environment Programme, Regional Seas Programme, Geneva, International (III). UNEP Regional Seas Reports and Studies. 1990. Volume: 123, page(s): 42. Descriptors: Asia; Bangladesh; Burma; environmental geology; experimental studies; Far East; India; Indian Ocean; Indian Ocean Islands; Indian Peninsula; Indonesian Seas; Malaysia; Maldive Islands; monitoring; Pacific Ocean; Pakistan; pollutants; pollution; sea water; southern Asia; Sri Lanka; Thailand; water; West Pacific. Notes: FE: References: 61; 9 tables, sketch maps; CY: GeoRef, Copyright 2007, American Geological Institute. ISSN/ISBN: 1014-8647. Database: GeoRef. OCLC Accession Number: 1992-041070.

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- Shan Sapawa Environmental Organization. 2006. *Warning Signs : An Update on Plans to Dam the Salween in Burma's Shan State*. Chiang Mai, Thailand: Shan Sapawa Environmental Organization. page(s): 29. Descriptors: Dams -- Social aspects -- Burma -- Shan State; Hydroelectric power plants -- Social aspects -- Burma -- Shan State; Human rights -- Burma -- Shan State. Notes: ill. (some col.), maps (chiefly col.) ; 21 cm.; Entry: 20070123; Update: 20070130. OCLC Accession Number: 80805370.
- Shaw, R. P. 1992. "The Impact of Population Growth on Environment: The Debate Heats Up." *Environ. Impact Assess. Rev. ; Environ. Impact Assess. Rev. Feb. Volume 12: 11-36* Additional Info, Pages UNITED STATES. Descriptors: Conservation of Natural Resources; Energy-Generating Resources; Models, Theoretical; Politics; Population Growth; Poverty; Sanitation; Urbanization; Water Supply; Demography; Economics; Environment; Geography; Health; Population; Population Dynamics; Public Health; Research; Socioeconomic Factors; Urban Population; Deforestation; Desertification; Energy Supply; Environmental Degradation; Models; Theoretical; Political Factors; World Demographic Factors; Economic Factors; Geographic Factors; Natural Resources; Research Methodology; Spatial Distribution; Urban Spatial Distribution. Notes: Note(s): TJ: ENVIRONMENTAL IMPACT ASSESSMENT REVIEW; Citation: Status: MEDLINE Owner: PIP Other ID: PIP: 095387; POP: 00247220; Date of Entry: 19960116; Date Completed: 19960116; Date of Update: 20021004. Abstract: A proposed framework, which was introduced at the 1989 meetings of the American Association for the Advancement of Science, included political constraints as well as population growth as a proximate cause with potentially important impacts on the environment in Paul and Ann Ehrlich's well-known PAT equation. PAT limitations are identified as the 1.2 billion people caught in the debt-poverty trap, less developed countries' balance of payments deficits, and "distortionary factors" that undermined economic incentives and contributed to mismanagement of resources. Such factors could be keeping farm prices low and have an impact on deterring use of environmentally sound traditional agricultural practices. Mismanagement of public lands occurs when large commercial enterprises or large scale mechanization displace population onto marginal or less productive lands. Intergroup warfare is a new form impacting on the environment. In Burma loggers are authorized to clear cut large tracts of teak forests in order to ferret out Karen guerrillas. Over 15 million refugees were thus displaced and forced to live in encampments that require trees for shelter, firewood for survival, and overgrazing of livestock. Social and economic environments are also undermined by "dependency" factors such as trade protectionism, brain drain, and limited foreign aid. The Group of 77 Non-Aligned Developing Countries proposed that discussions of the links between population and the environment be omitted from the agenda of the 1994 UN Conference on Population and Development. Basic clarifications are needed to distinguish ultimate versus proximate factors and current versus future concerns. The debate ignores distribution patterns, migration, or changing age structures. The debate blames unjustifiably rapid population growth as the ultimate cause of global environmental degradation and links population growth to a host of other social problems such as famine and

- refugees, while ignoring civil unrest. The evidence suggests that population limitation will probably prevent environmental degradation in poor, resource constrained countries from getting worse. Resource conservation will remain unaffected. The World Bank proposes National Environmental Action Plans or the Cleaver Schreiber proposal for a “nexus strategy” for balancing food supply and population in Africa. ISSN/ISBN: 0195-9255 (Print).
- Shi, G. U., Wang, C., Tropper, P., Cui, W. and Tan J. Affiliation: G.U. Shi, China University of Geosciences, Beijing 100083 Country: China E-mail:,shiguanghai@263.net.cn. 2005. “Methane (CH<sub>4</sub>)-Bearing Fluid Inclusions in the Myanmar Jadeitite.” *Geochem. J.* 2006 Elsevier Ltd. All rights reserved.: Volume 39, Issue 6, Pages 503-516 Additional Info: Japan. Descriptors: Hydrochemistry -- 72.2.4; jadeite; fluid inclusion; methane. Notes: References: Number: 93; Geographic: Myanmar Southeast Asia Asia Eurasia. Abstract: A combined hydrogen-carbon-isotope and microthermometric study has been carried out on CH<sub>4</sub>-bearing fluid inclusions high-pressure jadeitites from the famous jadeite tract Myanmar. Two types of fluid inclusions were found in jadeites, large H<sub>2</sub>O-rich and CH<sub>4</sub>-poor inclusions and small H<sub>2</sub>O-poor and CH<sub>4</sub>-rich inclusions, thus indicating a possible entrapment of CH<sub>4</sub>-H<sub>2</sub>O fluids under unmixing conditions. Microthermometric results yield lower temperature limits for the entrapment of these fluid inclusions of ca. 300 to 400°C. The bulk composition of the fluid inclusions is mostly H<sub>2</sub>O (87 to 94 mol.% H<sub>2</sub>O) and the isotopic composition of methane and water in the inclusions is characterized by  $\delta^{13}\text{C}(\text{CH}_4)$  values ranging from -30.1 to -25.5‰, and  $\delta\text{D}(\text{H}_2\text{O})$  values ranging from -56.3 to -49.8‰. The stable isotope data would be indicative of an abiogenic mechanism of CH<sub>4</sub> formation; the occurrence of the jadeite veins in this paleo-subduction zone thus most likely point to the formation of these CH<sub>4</sub>-bearing fluid inclusions by abiogenic thermal maturation of subducted organic carbon. These data not only provide evidence for cycling of organic carbon in paleo-subduction zones but also show that CH<sub>4</sub> not only occurs as shallow CH<sub>4</sub>-rich plumes in accretionary prisms of recent subduction zones but also occurs in deeper portions of at least the upper 20 km of paleo-subduction zones. Copyright (c) 2005 by The Geochemical Society of Japan. ISSN/ISBN: 0016-7002.
- Shi, G. Uanghai, Tropper, Peter, Cui Wenyuan, Tan Jun and Wang Chuangqiu. 2005. “Methane (CH (Sub 4) )-Bearing Fluid Inclusions in the Myanmar Jadeitite.” *Geochem. J.* Geochemical Society of Japan, Nagoya, Japan (JPN): Japan (JPN). Volume 39, Issue 6, Pages 503-516. Descriptors: accretionary wedges; aliphatic hydrocarbons; alkanes; Asia; biogenic processes; Burma; C-13/C-12; carbon; D/H; Far East; fluid inclusions; geologic thermometry; high pressure; hydrocarbons; hydrogen; inclusions; ion chromatography; isotope fractionation; isotope ratios; isotopes; jadeitite; low temperature; mass spectra; metamorphic rocks; methane; Myanmar Deposit; organic carbon; organic compounds; pressure; Raman spectra; spectra; stable isotopes; subduction zones; temperature; veins; water. Notes: CD: GEJOBE; FE: References: 93; illus. incl. anal., 4 tables, geol. sketch maps; LL: Latitude:N253700,N253700 Longitude:E0961800,E0961800; CY: GeoRef, Copyright 2007, American Geological Institute. Abstract: A combined hydrogen-carbon-isotope and microthermometric study has been carried out on CH (sub 4) -bearing fluid inclusions in high-pressure jadeitites from the famous jadeite tract Myanmar. Two types of fluid inclusions were found in jadeites, large H (sub 2) O-rich and Ch (sub 4) -poor inclusions and small H (sub 2) O-poor and Ch (sub 4) -rich inclusions, thus indicating a possible entrapment of CH (sub 4) -H (sub 2) O fluids under unmixing conditions. Microthermometric results yield lower temperature limits for the entrapment of these fluid inclusions of ca. 300 to 400 degrees C.

The bulk composition of the fluid inclusions is mostly H<sub>2</sub>O (87 to 94 mol.% H<sub>2</sub>O) and the isotopic composition of methane and water in the inclusions is characterized by  $\delta^{13}\text{C}(\text{CH}_4)$  values ranging from -30.1 to -25.5 per mil, and  $\delta\text{D}(\text{H}_2\text{O})$  values ranging from -56.3 to -49.8 per mil. The stable isotope data would be indicative of an abiogenic mechanism of CH<sub>4</sub> formation; the occurrence of the jadeite veins in this paleo-subduction zone thus most likely point to the formation of these CH<sub>4</sub>-bearing fluid inclusions by abiogenic thermal maturation of subducted organic carbon. These data not only provide evidence for cycling of organic carbon in paleo-subduction zones but also show that CH<sub>4</sub> not only occurs as shallow CH<sub>4</sub>-rich plumes in accretionary prisms of recent subduction zones but also occurs in deeper portions of at least the upper 20 km of paleo-subduction zones. Database: GeoRef. ISSN/ISBN: 0016-7002.

Siddiqi-Agha, Ayesha. 2000. "Nuclear Navies?" Bull at Sci Additional Info: United States. September/October. Volume 56, Issue 5, Pages 12-14. Descriptors: Nuclear weapons -- Pakistan; Nuclear weapons -- India. Notes: Details: il.; Named Corp: India Indian Navy; Geographic: Pakistan -- Foreign relations -- India. India -- Foreign relations -- Pakistan.; Date of Entry: 20001121. Abstract: India's naval plans are worrying its long-term adversary, Pakistan. India is developing nuclear weapons and boosting military technological capabilities, and the country's policymakers think that it should also to assert itself at sea. The Pakistani government, which makes no claim to being a regional power, is concerned by India's technological acquisitions. Pakistani analysts think that, with its increasing naval power and blue-water capability, India would be capable of throttling its smaller adversary in the event of war. India's assertion of naval power will probably also be challenged by China, which is attempting to make inroads into the Indian Ocean by forging links with Myanmar, where Chinese naval bases are being constructed. ISSN/ISBN: 0096-3402.

Sillitoe, R. H. 1999. "Styles of High-Sulphidation Gold, Silver and Copper Mineralisation in Porphyry and Epithermal Environments; PACRIM '99 Congress; Proceedings [Modified]." Publication Series - Australasian Institute of Mining and Metallurgy. AusIMM - Australasian Institute of Mining and Metallurgy, Parkville, Victoria, Australia (AUS): Australia (AUS). Volume 4-99, Pages 29-44. Descriptors: absorption; Arizona; Asia; Bisbee Arizona; Burma; chalcocite; Cochise County Arizona; copper ores; covellite; depth; digenite; enargite; epithermal processes; Esmeralda County Nevada; Far East; gold ores; Goldfield Nevada; ground water; igneous rocks; metal ores; metasomatism; mineral deposits, genesis; mineral exploration; mineralization; Monywa Burma; Nevada; Peru; Pierina Peru; porphyry; sericitization; silver ores; South America; sulfarsenates; sulfidation; sulfides; sulfosalts; United States; volatiles; zoning. Notes: FE: References: 77; illus. incl. 1 table, sects.; CY: GeoRef, Copyright 2008, American Geological Institute. Abstract: High-sulphidation (HS) gold, silver and/or copper deposits are generated in both the epithermal and the upper parts of the underlying porphyry environments over vertical intervals of up to 2 km. The HS deposits are generated in advanced argillic lithocaps, which are products of the absorption of acidic magmatic volatiles by voluminous groundwater systems. Mineralisation styles in HS systems reflect depth of formation as well as the interplay between structural, lithological and hydrothermal parameters. The deep parts of HS systems, at depths of >1000 m, are typified by disseminated copper+ or -gold mineralisation comprising digenite, chalcocite and covellite in pervasive advanced argillic as well as underlying sericitic alteration. In highly telescoped systems, such mineralisation may overprint porphyry stocks and associated quartz-veinlet stockworks. Intermediate levels of HS systems commonly contain fault-controlled copper-

gold mineralisation, typically as enargite in bodies of vuggy residual quartz, silicification and/or massive pyritic sulphide. The shallow parts of HS systems, at depths of <500 m, may host lithologically controlled disseminated mineralisation in which gold and/or silver tend to predominate over copper. Barren acid-leached zones formed in the steam-heated environment above paleo-water tables may be preserved above or alongside shallow HS deposits. The exploration focus is on four principal HS mineralisation styles: 1. copper (e.g., Chuquicamata, Monywa) or copper-gold (Wafi) in the deep porphyry-hosted parts of systems preferably, in the case of the latter, where supergene oxidation is limited and, hence, flotation may be used for metal recovery; 2. copper+ or -gold-bearing replacement mantos and pipes hosted by carbonate wallrocks in the deep parts of systems (e.g., Bisbee); 3. high-grade gold in late-stage veins or hydrothermal breccias that overprint the intermediate to shallow levels of systems (e.g., El Indio, Goldfield); and 4. large, bulk-mineable gold deposits in the shallow parts of systems that were subjected to supergene oxidation, thereby permitting heap-leach treatment (e.g., Yanacocha, Pierina). To these preferred HS styles may be added the low-sulphidation vein or disseminated gold+ or -silver mineralisation that is commonplace alongside many HS systems (e.g., Victoria at Lepanto). Database: GeoRef. ISSN/ISBN: 1324-6240.

Singh, D. and Tiong R.L.K. Affiliation: R.L.K. Tiong, School of Civil/Environ. Engineering, Centre for Adv. Construction Studies, Nanyang Technological University, Nanyang Avenue, Singapore 639798 Country: Singapore E-mail: clktiong@ntu.edu.sg. 2005. "Development of Life Cycle Costing Framework for Highway Bridges in Myanmar." Int. J. Project Manage. 2005 Elsevier Ltd. All rights reserved.: Volume 23, Issue 1, Pages 37-44 Additional Info: United Kingdom. Descriptors: Hydraulic structures -- 77.9.5; TRANSPORT AND COMMUNICATIONS -- 74.36; cost; life cycle analysis; engineering; road transport; transportation planning; bridge. Notes: References: Number: 20; Geographic: Myanmar Southeast Asia Asia Eurasia Eastern Hemisphere World. Abstract: The aim of any engineering design is to minimize the total cost of the structure without compromising the functional requirements while maximizing the utility of the structure to the users in particular and to the society in general. Life cycle costing is a technique for determining the most effective capital investment option for achieving technical-economic optimization of a structure/system. This paper briefly describes a detailed procedure for developing a framework for life cycle costing analysis (LCCA) of highway bridges in Myanmar. The paper discusses various cost components and other statistical factors that need to be taken into consideration while assessing the life cycle cost (LCC) of a highway structure. A stepwise procedure to determine various cost components that come into LCC calculation is also illustrated. The effect of uncertainties associated with various factors on the total cost of the structure is demonstrated performing sensitivity analysis. An attempt is also made to demonstrate how better quality construction with increased initial cost can lead to lower LCC of a highway structure. The study has made a call for the development of comprehensive life cycle costing framework for transportation-related projects in Myanmar in order to be able to strike a balance between the need for maintenance and replacement of highway structures and limited funds available for their upkeep. (c) 2004 Elsevier Ltd and IPMA. All rights reserved. ISSN/ISBN: 0263-7863.

SINGH, G. P. 1974. "The Sewage System of the City of Rangoon." The Public Health Engineer, no 9, P 96. MAY 1974. Descriptors: WATER SUPPLY; SEWERAGE; SEWERS; MUNICIPAL WASTES; WASTE WATER TREATMENT; WATER UTILIZATION; HISTORY;

BURMA(RANGOON). Abstract: THE EXISTING SEWERAGE SYSTEM IN RANGOON WAS INSTALLED IN THE YEAR 1874 DURING THE BRITISH REGIME; IT COVERED AN AREA OF 3.4 SQUARE MILES OF CENTRAL RANGOON, BURMA. FROM 1915 TO 1924 THE SYSTEM WAS EXTENDED, BRINGING THE TOTAL AREA COVERED TO 6.3 SQUARE MILES. THE REMAINING 44 SUBURBS HAVE NO SEWERAGE AT PRESENT, BUT ARE SERVED WITH BUCKET AND PIT LATRINES. THE CONTENTS OF BOTH COLLECTING CHAMBERS FLOW INTO THE MAIN SEWERS WHICH DISCHARGE INTO THE EASTERN END OF THE IRRAWADDY RIVER. MUNICIPAL SEWAGE IS DISCHARGED INTO THE MAIN SEWERS BY EJECTOR STATIONS AT THE ROADSIDE. WATER CONSUMPTION IN THE CITY IS ABOUT 35 GALLONS PER HEAD PER DAY OR 70 MILLION GALLONS PER DAY. THE SUPPLY IS INSUFFICIENT AND AUTHORITIES HAVE BEGUN THE CONSTRUCTION OF A WATER RESERVOIR PROJECT AT PUGYI, 32 MILES FROM RANGOON.

(SANDOSKI-FIRL). Database: Environmental Sciences and Pollution Mgmt.

Sirisanthana, T., Navachareon, N., Tharavichitkul, P., Sirisanthana, V. and Brown, A. E. 1984.

“Outbreak of Oral-Oropharyngeal Anthrax: An Unusual Manifestation of Human Infection with *Bacillus Anthracis*.” *Am. J. Trop. Med. Hyg.* ; *Am. J. Trop. Med. Hyg.* Jan. Volume 33, Issue 1, Pages 144-50 Additional Info: UNITED STATES. Descriptors: Disease Outbreaks; Abattoirs; Adult; Animals; Anthrax -- epidemiology; Anthrax -- pathology; Buffaloes; Cattle; Female; Humans; Male; Meat -- adverse effects; Middle Aged; Mouth -- pathology; Mouth Diseases -- epidemiology; Mouth Diseases -- pathology; Pharyngeal Diseases -- epidemiology; Pharyngeal Diseases -- pathology; Pharynx -- pathology; Thailand. Notes: Citation: Status: MEDLINE Owner: NLM; Date of Entry: 19840323; Date Completed: 19840323; Date of Update: 20041117. Abstract: An oral-oropharyngeal form of human anthrax is described in 24 individuals. The cases occurred as an epidemic in northern Thailand, concurrent with an epidemic of the common cutaneous form. This syndrome is a potentially fatal, febrile illness, characterized by a mucosal lesion in the oral cavity and/or oropharynx which can progress to pseudomembranous necrosis, and to cervical adenopathy and edema. Cattle and water buffaloes, recently arrived from Burma and eaten raw or undercooked, were the probable source of the infection. Determination of etiology was based on both microbiologic and epidemiologic evidence. The clinical syndrome and epidemiology are discussed. ISSN/ISBN: 0002-9637 (Print); 1476-1645 (Electronic).

Smedley, Pauline L. 2003. “Arsenic in Groundwater; South and East Asia.” United States (USA):

Kluwer Academic Publishers, Boston, MA, United States (USA). Descriptors: aquifers; arsenic; Asia; Bangladesh; Burma; Cambodia; case studies; China; concentration; drinking water; Far East; geochemistry; ground water; hydrochemistry; Indian Peninsula; metals; mineral composition; Nepal; Pakistan; pollutants; pollution; public health; risk assessment; Taiwan; Thailand; toxic materials; Vietnam; water resources. Notes: FE: 11 tables, sketch maps; CY: GeoRef, Copyright 2007, American Geological Institute. ISSN/ISBN: 1402073178. Database: GeoRef. OCLC Accession Number: 2003-076254.

Sobhan,Rehman Affiliation: Centre for Policy Dialogue, Dhaka. 2000. “Growth Zones in South Asia: Potential and Feasibility.” *Asia-Pacific Development Journal*. June. Volume 7, Issue 1, Pages 23-41. Descriptors: International Linkages to Development; Role of International Organizations -- O190; Industrial Policy; Sectoral Planning Methods -- L520; Economic Development: Regional, Urban, and Rural Analyses -- O180. Notes: Geographic: S. Asia Region: Asia; Added: 200012. Abstract: Following the apparent success of growth zones in

South-East Asia and southern China the feasibility of a growth zone embodying Bangladesh, Bhutan, India (north-east India and West Bengal), Myanmar and Nepal (BBIMN) in South Asia needs to be examined. The paper argues that there are significant structural complementarities between the countries concerned to make such a zone a success. These complementarities create opportunities in the fields of transport, water and energy. However, there are substantial concerns arising from possible political differences between the countries that will need to be resolved before such a zone can be translated into reality. ISSN/ISBN: 1020-1246. Availability: Publisher's URL.

Soe, T., Batterham, R. L. and Drynan, R. G. 1994. "Demand for Food in Myanmar (Burma)." *Agricultural Economics*. 2005 Elsevier Ltd. All rights reserved.: Volume 11, Issue 2-3, Pages 207-217. Descriptors: GEOGRAPHICAL ABSTRACTS: HUMAN GEOGRAPHY -- 70; WATER -- 74.13; developing country; food demand; double-log model; almost ideal demand system; welfare implication; income elasticity; food pricing policy. Notes: Geographic: Burma. Abstract: Aggregate quarterly time series data from 1975 to 1987 on government procurement prices and open (black) market prices were used in estimating an almost ideal demand system (AIDS) and double-log models for consumption of foodstuffs in Myanmar. The results from the AIDS model were superior to those from the double-log models. The estimated income elasticity of demand for non-meat foodstuffs was high. The income elasticities for the non-cereals are positive and less than one. Contrary to expectation, the income elasticities for all meat items are low. Own-price elasticities for most foodstuffs were less than one. The estimated cross-price elasticities indicate the complementary nature of the basic food items to rice. A brief analysis of the effects of taxing Myanmar rice exports and subsidising consumers indicated that there are net costs to government, unevenly distributed welfare gains to consumers and welfare losses to farmers. -from Authors. ISSN/ISBN: 0169-5150.

Sood, L. and Basu, S. 1979. "Bacteriophage Typing of Salmonella Weltevreden." *Antonie Van Leeuwenhoek*; Antonie Van Leeuwenhoek. Volume 45, Issue 4, Pages 595-604 Additional Info: NETHERLANDS. Descriptors: Bacteriophage Typing -- methods; Carrier State -- microbiology; Disease Outbreaks; Gastroenteritis -- microbiology; Humans; India; Salmonella -- classification; Salmonella Infections -- microbiology; Salmonella Phages. Notes: Citation: Status: MEDLINE Owner: NLM; Date of Entry: 19810116; Date Completed: 19810116; Date of Update: 20041117. Abstract: Salmonella weltevreden has been found to be one of the commonest Salmonella serotypes isolated from diverse sources in India and has also been isolated in a number of other countries. A phage typing scheme was developed for this serotype using a set of six typing phages. These phages had been selected out of 146 phage strains isolated and purified from stool samples of man, laboratory animals and other animals, sewage and surface water sources, and the lytic mutants of temperate phages from S. weltevreden. The phage typing scheme was applied systematically to type the 946 strains from India isolated during 1958-1974 and 148 strains originating from Australia, Burma, England, Gan Island, Holland, Hong Kong, Malaysia, New Zealand, Papua New Guinea, The Philippines, Thailand, The United States and Vietnam during 1953-1971. The scheme was particularly studied to evaluate its utility in mapping the epidemiologically related strains from various sources. The S. weltevreden strains could be classified into ten phage types. Phage types 2 and 7 were found exclusively amongst Indian strains, type 6 from Vietnam and type 8 from Burma, Thailand and Vietnam. Phage types were found to be stable and

consistent with the independent epidemiological data available. ISSN/ISBN: 0003-6072 (Print).

Sood, L. R. and Basu, S. 1977. "Phage-Typing of Salmonella Weltevreden Based on Lysogeny. II. Epidemiological Usefulness of the System and Geographical Distribution of its Phage-Types." *Antonie Van Leeuwenhoek*; Antonie Van Leeuwenhoek. Volume 43, Issue 3-4, Pages 262-8 Additional Info: NETHERLANDS. Descriptors: Lysogeny; Water Microbiology; Animals; Bacteriophage Typing -- methods; Humans; India; Salmonella -- classification; Salmonella Infections -- epidemiology; Salmonella Infections -- microbiology; Salmonella Infections, Animal -- epidemiology; Salmonella Infections, Animal -- microbiology. Notes: Citation: Status: MEDLINE Owner: NLM; Date of Entry: 19780321; Date Completed: 19780321; Date of Update: 20041117. Abstract: Nine hundred and forty-six strains of Salmonella weltevreden isolated in different states of India during 1958-1974 and 124 strains from Australia, Burma, Holland, Hong Kong, New Zealand, Papua New Guinea, the Philippines, Thailand, the United States and Vietnam during 1953-1971 were phage-typed according to the phage-typing scheme described in the first part of this paper (Sood and Basu, 1977). The epidemiological incidence and geographical distribution of phage-types of Salmonella weltevreden were studied. All the phage-types were present in India, the predominant phage-types being b, d and i. Phage-type g was isolated exclusively from India. All the 14 strains from Hawaii belonged to phage-type i. Phage-type h was the most predominant phage-type in Vietnam. The 15 strains isolated from Papua New Guinea in 1965, which were supposed to have originated from a single source, belonged to 3 phage-types. Except these cultures all the available epidemiologically related strains were of uniform phage-types - a finding which establishes the epidemiological validity of the scheme. ISSN/ISBN: 0003-6072 (Print).

Southeast Asia Regional Office/World Health Organization. 2006. "Health Aspects of Disaster Preparedness and Response--Panel Session 1: Water-Related Hazards." *Prehosp. Disaster Med.* Sep-Oct. Volume 21, Issue 5, Pages s79-81 Additional Info: United States. Descriptors: Natural Disasters; Asia, Southeastern; Disaster Planning -- organization & administration; Humans. Notes: Citation: Status: MEDLINE Owner: NLM; Date of Entry: 20070214; Date Completed: 20070316; Date of Update: 20070731. Abstract: This Panel Session consisted of three country reports (Bangladesh, Bhutan, and Myanmar) and the common issues identified during the Panel discussions relative to water-related hazards and events in the Southeast Asia Region. The primary event discussed regardless of the hazards encountered was flooding. The merits of the responses generated in Bangladesh before, during, and following the 2004 floods provide evidence of what can be accomplished in community and national levels of preparedness. Many key issues arose in the discussions: (1) command and control systems and SOPs; (2) ready resources; (3) public information and education and human resource development; (4) community-level preparedness; (5) accessibility to health care; (6) increased focus on disease prevention and control; (7) management of dead bodies; (8) need for a legal framework; (9) funding and the management of funds; and (10) relationships with the media. ISSN/ISBN: 1049-023X (Print).

Steinberg, D. I. 1991. "Democracy, Power, and the Economy in Myanmar: Donor Dilemmas." *Asian Survey*. 2005 Elsevier Ltd. All rights reserved.: Volume 31, Issue 8, Pages 729-742. Descriptors: WATER -- 74.13; aid donors; political change; democracy; economic reform. Notes: Geographic: Burma. Abstract: The world's critical bilateral economic donors have made the relationship between open markets and open polities explicit. The US Agency for

International Development has recently stated a conscious and programmatic link between the two. This essay attempts to demonstrate in the contemporary Myanmar context the gulf between a hypothetically attractive development program and the desirability of its ends, on the one hand, and on the other, the lack of "leverage" of those who might contribute to supporting it as well as the complexity of the relationship. It considers the developmental dilemmas both the Burmese and sympathetic donors face in moving toward an economically and politically pluralistic nation, beginning with discussion of fundamental issues and then focusing on more narrow (although no less acute) problems. -from Author. ISSN/ISBN: 0004-4687.

Stoll, Heather M., Vance, Derek and Arevalos, Alicia. 2007. "Records of the Nd Isotope Composition of Seawater from the Bay of Bengal; Implications for the Impact of Northern Hemisphere Cooling on ITCZ Movement." *Earth Planet. Sci. Lett.* Elsevier, Amsterdam, Netherlands (NLD): Netherlands (NLD). 15 Mar. Volume 255, Issue 1-2, Pages 213-228. Descriptors: Arakan Basin; Asia; Bay of Bengal; Brahmaputra River; Burma; Cenozoic; cores; discharge; drainage; Far East; Foraminifera; Ganges River basin; general circulation models; Holocene; hydrology; ice sheets; ICP mass spectra; Indian Ocean; Indian Peninsula; Inter-Tropical Convergence Zone; Invertebrata; Irrawaddy River basin; isotope ratios; isotopes; last glacial maximum; mass spectra; metals; microfossils; Mn/Ca; monsoons; Nd-144/Nd-143; neodymium; O-18/O-16; oxygen; paleocirculation; paleoclimatology; planktonic taxa; Protista; provenance; Quaternary; rainfall; rare earths; sea water; sediment yield; simulation; snow; spectra; stable isotopes; upper Holocene. Notes: CD: EPSLA2; FE: References: 57; illus. incl. 4 tables, geol. sketch maps; LL: Latitude:N050000,N300000 Longitude:E0910000,E0880000; CY: GeoRef, Copyright 2007, American Geological Institute. Reference includes data from CAPCAS, Elsevier Scientific Publishers, Amsterdam, Netherlands. Abstract: This study presents a record of planktonic foraminiferal neodymium isotopic gradients along a north-south transect in the Bay of Bengal during time slices of late Holocene and last glacial maximum (LGM) age, together with a record of planktonic foraminiferal variation in the northern Bay of Bengal (15 degrees N) over the last 195 ky. In late Holocene core top planktonic foraminifera, the north-south epsilon (sub Nd) gradient rises from nonradiogenic values of -12 at 20 degrees N to -10 at 5 degrees N, in parallel with the modern surface salinity gradient controlled by discharge of Himalayan rivers in the northern Bay. During the LGM, epsilon (sub Nd) increased throughout the Bay, the contrast between northernmost and southernmost sites decreased, and maximum epsilon (sub Nd) values of -6.5 occurred between 12 and 15 degrees N. A small part of the shift to higher mean epsilon (sub Nd) throughout the Bay during the glacial may arise from a uniform increase in deposition of far-field dust from Arabian and Persian Gulf regions. However, the spatial pattern of epsilon (sub Nd) variation between LGM and late Holocene also suggests a shift from modern dominance of nonradiogenic Nd sources from the Ganges-Brahmaputra basin to LGM dominance of more radiogenic Nd sources from Arakan coastal rivers. Over the last 195 ky at 15 degrees N, the most radiogenic epsilon (sub Nd) values of -7 occur at glacial maxima and the most nonradiogenic values of -11 occur during interglacials. epsilon (sub Nd) values are highly correlated with glacial interglacial variations in planktonic foraminiferal delta (super 18) O. In this record, shifts in river sources from the more northerly Ganges-Brahmaputra watershed to the more southerly Arakan coastal river systems respond dominantly to Inter-Tropical Convergence Zone (ITCZ) movement driven by Northern Hemisphere cooling during 100 ky glacial/interglacial cycles, with a small component of

variation on precessional timescales. The nonlinear correlation of epsilon (sub Nd) with ice volume suggests that ITCZ movement responds to aerial coverage of ice sheets and snow rather than to ice thickness and volume. These data add support to recent general circulation models of ITCZ response to Northern Hemisphere ice sheets, which simulate decreased glacial precipitation in the Ganges-Brahmaputra basin and increased glacial precipitation in the southern Arakan coastal basin. Database: GeoRef. ISSN/ISBN: 0012-821X.

Su, M. and Jassby A.D. Affiliation: A.D. Jassby, Dept. of Envrn. Science and Policy, University of California, Davis, CA 95616 Country: United States E-mail: adjassby@ucdavis.edu. 2000.

“Inle: A Large Myanmar Lake in Transition.” *Lakes and Reservoirs: Research and Management*. 2005 Elsevier Ltd. All rights reserved.: Volume 5, Issue 1, Pages 49-54  
Additional Info: Australia. Descriptors: Pollution -- 70.3.3; Pollution and waste recycling -- 74.2.6; lake dynamics; lake pollution; environmental management; agricultural runoff; industrial waste Species Term: *Cyprinus carpio*; elephant; *Saccharum* hybrid cultivar; Aves; *Pennisetum purpureum*; *Saccharum*. Notes: References: Number: 7; Geographic: Myanmar -- Inle Lake. Abstract: Inle Lake is situated in the southern part of Shan State in Myanmar. It is the country's second-largest lake, home to more than 120 000 people and a large bird sanctuary and a major source of hydroelectric power for southern Myanmar. Several distinct environmental problems have arisen in the lake basin. A long-term decrease in lake area has taken place over the last 30 years, probably because of siltation and climate. The drought of the last 2 years in particular has caused a drop in hydroelectric power output, which is affecting southern Myanmar. Many marginal parts of the lake are occupied by elephant grass mats (*Saccharum spontaneum* L.), known locally as kaing. These mats mature to form solid, floating islands, which are used for a unique form of agriculture but are also an increasing source of pesticide and fertilizer runoff into the lake. Textile cottage industries also abound, and both natural and manufactured dyes are discharged into the lake. Households, including many houses built on stilts in the lake, are a source of garbage and sewage. Livestock breeding also is a source of sewage. Shifting (taungyar) cultivation and village expansion has greatly increased erosion. Dredging is now necessary in many places and water clarity has decreased. The Inle carp (*Cyprinus carpio intha*), known locally as nga-phane, plays an important role in the food supply, as well as being a cultural symbol of the local Intha people. Nga-phane population abundance is currently low, probably because of changes in water chemistry and decreased clarity in the lake water. Partially because of the perceived potential for tourism, many sectors are now involved in lake rehabilitation and management. ISSN/ISBN: 1320-5331.

Su, M. and Jassby, D. A. 2000. “Inle: A Large Myanmar Lake in Transition.” *Lakes Reserv. : Res. Manage.* Blackwell Science Ltd: Mar. Volume 5, Issue 1, Pages 49-54. Descriptors: Article Subject Terms: Agricultural runoff; Drought; Droughts; Dyes; Environment management; Environmental Quality; Eutrophication; Hydroelectric Power; Hydroelectric power plants; Industrial Wastewater; Industrial wastes; Lake Basins; Lakes; Resource management; Water Management; Water Pollution Sources; Water Resources; Article Geographic Terms: Myanmar, Inle L.; Myanmar, Inle L.; Freshwater. Notes: TR: CS0017051. Abstract: Inle Lake is situated in the southern part of Shan State in Myanmar. It is the country's second-largest lake, home to more than 120 000 people and a large bird sanctuary and a major source of hydroelectric power for southern Myanmar. Several distinct environmental problems have arisen in the lake basin. A long-term decrease in lake area has taken place over the last 30 years, probably because of siltation and climate. The drought of the last 2 years in particular

has caused a drop in hydroelectric power output, which is affecting southern Myanmar. Many marginal parts of the lake are occupied by elephant grass mats (*Saccharum spontaneum* L.), known locally as kaing. These mats mature to form solid, floating islands, which are used for a unique form of agriculture but are also an increasing source of pesticide and fertilizer runoff into the lake. Textile cottage industries also abound, and both natural and manufactured dyes are discharged into the lake. Households, including many houses built on stilts in the lake, are a source of garbage and sewage. Livestock breeding also is a source of sewage. Shifting (taungyar) cultivation and village expansion has greatly increased erosion. Dredging is now necessary in many places and water clarity has decreased. The Inle carp (*Cyprinus carpio intha*), known locally as nga-phane, plays an important role in the food supply, as well as being a cultural symbol of the local Intha people. Nga-phane population abundance is currently low, probably because of changes in water chemistry and decreased clarity in the lake water. Partially because of the perceived potential for tourism, many sectors are now involved in lake rehabilitation and management. Database: ASFA: Aquatic Sciences and Fisheries Abstracts. ISSN/ISBN: 1320-5331.

Subramanian, V. and Ittekkot V. Editor: Degens, E.T. 1990. "Copyright 2005 Elsevier Ltd. all Rights Reserved.; Carbon Transport by the Himalayan Rivers." Wiley; SCOPE 42. page(s): 157-168. Descriptors: GEOGRAPHICAL ABSTRACTS: PHYSICAL GEOGRAPHY -- 71; carbon transport; river transport; surface water quality; sediment transport. Abstract: The Himalayan rivers, i.e. Ganges, Brahmaputra, Indus and Irrawady, contribute one-third of the global sediment transport to the world oceans. Elemental transport by these rivers assumes global importance in continent-ocean mass balance studies. Basic hydrological data for these rivers is summarised. With the exception of the Irrawady, they drain predominantly Tertiary or younger rock types of variable chemical composition. The common watersheds for these rivers lie on either side of an axis running a distance of more than 1500 km west to east. -from Authors. Notes: Geographic: Burma -- Irrawady India -- Ganges River Bangladesh -- Brahmaputra River Pakistan -- Indus River. Availability: Connect to the catalog at your library. OCLC Accession Number: 0870803.

Tarling, N. 1993. "Copyright 2005 Elsevier Ltd. all Rights Reserved.; the Cambridge History of Southeast Asia. Volume 2: The Nineteenth and Twentieth Centuries." Cambridge University Press. Volume: 2: the nineteenth and twentieth centuries, page(s): 706p. Descriptors: HISTORICAL GEOGRAPHY -- 70.5; WATER -- 74.13; historical studies; nineteenth century; twentieth century; regional history; political structure. Abstract: The history of the whole of mainland and island Southeast Asia from Burma to Indonesia is analysed. This second volume of the history takes us into the 19th and 20th centuries, from the late 18th century of the Christian era, when most of the region was incorporated into European empires, to the complexity and dramatic change after WWII. This volume covers economic and social life as well as the religious and popular culture of the region as they develop over two centuries. The political structures of the region are also closely examined, from the insurgencies and rebellions of early this century to the modern nationalist movements which challenged the control of the colonial powers and led to the formation of independent states. The final section of the book indicates that by the late 20th century, a greater degree of regional cohesion has emerged and the Southeast Asian states have gained marginally more control over their futures. -from Publisher. Notes: Geographic: Asia -- (Southeast); Note(s): Special Features: index. ISSN/ISBN: 0521355060. Availability: Connect to the catalog at your library. OCLC Accession Number: 1021137.

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- Tet Ne Wunn. 2006. *Quality of Bottled Drinking Water and Risk Management Systems.* Descriptors: Bottled water; Bottled water industry; Drinking water -- Standards; Drinking water -- Health aspects; Water quality management; Water quality management -- Burma; Thesis/dissertation (deg). Notes: viii, 74 leaves, bound : ill. ; 30 cm.; Dissertation: Thesis (M.Eng.Sc.)--University of Melbourne, Dept. of Civil & Engineering Science, 2006.; Note(s): Typescript./ Includes bibliographical references (leaves 57-62).; Responsibility: Tet Ne Wunn.; Entry: 20070110; Update: 20080417. OCLC Accession Number: 225234029.
- Than Nyunt. 1968. "Early Performance Review of the Middle Fifth Sand Water Flood Project in North Central Fault Block Chauk Field." *Burma J.Sci.Tech., Vol.1. Volume 1, Pages 23-31.* Descriptors: Asia; Burma; Chauk field; economic geology; Far East; petroleum; production; reserves; water injection. Notes: FE: illus. (incl. sketch map); CY: GeoRef, Copyright 2007, American Geological Institute. Abstract: Oil reservoirs, cross faults, north-south trending asymmetrical anticlines, Burma. Database: GeoRef.
- Thet-Khine, Z., Maung-U, K., Myint, Y. Y., Thi, M. and May, K. K. 1992. "Sodium Balance during Acute Diarrhoea in Malnourished Children." *J. Trop. Pediatr. Aug. Volume 38, Issue 4, Pages 153-157.* Additional Info: Oxford : Oxford University Press. Publishing Agencies: Non-US Imprint, not FAO. Descriptors: NAL: RJ1.J6; Malnutrition; Diarrhea; Sodium; Blood serum; Human feces; Urine; Hydrocortisone; Balance studies; Boys; Preschool children. Notes: Geographic: Burma Subj Category: T300 DIET AND DISEASES. Abstract: Forty-six male children 12-59 months old (27 malnourished and 19 with normal nutrition) admitted for acute water diarrhoea of <48 hours' duration were studied. Using a metabolic balance and separate collections of urine and stools over each 6-hour period, balance studies were carried out up to 48 hours. Blood, stool, and urine samples were analysed for sodium and potassium levels. Serum cortisol levels were determined using radio-immunoassay in a subsample of six normal and five malnourished children. Malnourished children lost more sodium in their stools and urine during diarrhoea, so that they had significantly diminished gut net sodium balance and significantly diminished total body sodium balance. Significantly higher levels of serum cortisol were observed initially on admission among children with malnutrition. This study demonstrated that malnourished children had poorer sodium balance during acute diarrhoea. ISSN/ISBN: 0142-6338.

- Thomas, Axel. 1992. "Agricultural Water Balance of Yunnan Province, PR China: Agroclimatic Zoning with a Geographical Information System." *Agricultural Water Management*,. 9. Volume 21, Issue 4, Pages 249-263. Abstract: Yunnan Province is located in the extreme southwest of the PR China, bordering Vietnam and Burma. Mostly mountainous in character it features a subtropical monsoon climate and moderate temperatures due to average elevations of 1000-3000 m.
- Tin Tun Aung, Barbier, E., Dickson, M. H. and Fanelli, M. 1988. "Geothermal Resources of Burma; Small Geothermal Resources; Part 2, Geothermal Projects in Developing Countries." *Geothermics*. Pergamon Press, Oxford - New York, International (III): International (III). Volume 17, Issue 2/3, Pages 429-437. Descriptors: Asia; Burma; chemical composition; distribution; economic geology; exploration; Far East; geothermal energy; hot springs; hydrogeology; igneous activity; Karen State; Magwe Division; Mandalay Division; metamorphic rocks; metasedimentary rocks; Mon State; Sagaing Division; Shan State Burma; springs; Tenasserim Division; thermal waters. Notes: CD: GTMCAT; FE: References: 1; 1 table, geol. sketch maps; LL: Latitude:N161500,N163000 Longitude:E0973500,E0973000; CY: GeoRef, Copyright 2007, American Geological Institute. Database: GeoRef. ISSN/ISBN: 0375-6505.
- Tin U, U., Lun Wai, U., Ba Tun, U., Mya Win, U. and Thein Dan, U. 1988. "we Want Water, Not Gold." *World Health Forum WHFODN* Vol.9, no.4, p 519-525. 1988. Descriptors: Burma; Sanitation; Technology transfer; Public health; Developing countries; Water supply; Community development; Economic aspects; Social participation; Financing; Social aspects; Planning; Education. Abstract: A study in the dry-zone township of Ayadaw, Burma has shown that the success of health development activities is largely attributable to collective leadership, viable community organization, balance between local and central priorities, the use of appropriate interventions and technology, community participation, and the maintenance of a proper community financing system. The Ayadaw township People 's Health Plan Committee was awarded the 1986 Sasakawa Health Prize at the Thirty-ninth World Health Assembly. Since the People 's Health Plan was introduced in 1978, the water supply and sanitation program has been one of the country 's major health service programs, as part of the national development plan under the International Water Supply and Sanitation Decade. The main challenge facing technical staff was that of encouraging people to improve their health by their own efforts. An educational campaign dealt with disease carried by water and human waste, the benefits of safe water and sanitation, and the activities required of villagers to combat adverse sanitary conditions. Volunteer health workers were assigned tasks intended to satisfy urgent needs of the community. The Ayadaw case study has thrown light on how community organization evolved in relation to primary health care. It has also indicated effective mechanisms of technology transfer and has shown the importance of timing and sequencing of steps taken for the implementation of health development plans. Further study should help towards planning the expansion of community participation in this work. (Doria-PTT). Database: Environmental Sciences and Pollution Mgmt.
- Tin, Myint, Myo Thet, Htoon and Tin, Shwe. 1992. "Estimation of Leprosy Prevalence in Bago and Kawa Townships using Two-Stage Probability Proportionate to Size Sampling Technique." *Int. J. Epidemiol.* 2005 Elsevier Ltd. All rights reserved.: Volume 21, Issue 4, Pages 778-783. Descriptors: Medical Geography -- 70.3.4; WATER -- 74.13; medical geography; developing country; leprosy; disease prevalence; control programme; disease estimation technique; leprosy prevalence; disability. Notes: Geographic: Burma -- Myanmar -- Bago Township

- Burma -- Myanmar -- Kawa Township Burma. Abstract: Two surveys to estimate leprosy prevalence using two-stage probability proportionate to size sampling technique were conducted in Bago and Kawa townships. A total of 3519 and 3739 individuals were examined in each township. The two surveys were finished within 25 (Bago) and 30 (Kawa) working days at a cost of Kyats 10 000 (US\$ 1500) for each survey. The estimated leprosy prevalence obtained in Bago was 9.95 per 1000 population (95% confidence interval (CI): 7.11-12.78) and in Kawa it was 12.04 per 1000 population (95% CI: 8.85-15.22). A total of 30 (Bago) and 34 (Kawa) new leprosy cases were detected in the two surveys. Grade I disability was seen to be 20% in Bago and 18.78% in Kawa, whereas grade II disability was 17.14% in Bago and 15.56% in Kawa. -Authors. ISSN/ISBN: 0300-5771.
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- Towards Ecological Recovery and Regional Alliance (Organization) and Nuin` nam to` Nrim` vap` Pi pra` mhu Taññ` chok` re` A phvai' (Burma). 1997. Hydroelectric and Trans-Basin Water Diversion Projects in the Salween River Basin Including Project Proposals of the Royal Thai Government and the State Law and Order Restoration Council (SLORC), Burma. Bangkok: The Alliance. page(s): 39. Descriptors: Hydroelectric power plants -- Thailand; Hydroelectric power plants -- Burma; Salween River Watershed; Microfiche (mfc); Master microform (mmc). Notes: maps ; 30 cm.; Note(s): Includes bibliographical references (p. 39)./ Reproduction: Microfiche./ New Delhi :/ Library of Congress Office ;/ Washington, D.C. :/ Library of Congress Photoduplication Service,/ 2000./ 1 microfiche.; Responsibility: compiled by Towards Ecological Recovery and Regional Alliance.; Entry: 19990816; Update: 20080405. ISSN/ISBN: LCCN: 98-943692. OCLC Accession Number: 43885956.
- Travis, John. 2003. “Children of Sea See Clearly Underwater.” Sci. News. May 17. Volume 163, Issue 20, Pages 308-309. Descriptors: Bajau (Southeast Asian people); Sight -- Man. Notes: Date of Entry: 20030825. Abstract: In the May 13 Current Biology, Gislén and colleagues report that children of a sea gypsy tribe of Southeast Asia have enhanced underwater vision. The researchers compared the underwater vision of 6 children of the Moken tribe, which inhabits the archipelago along the west coasts of Burma and Thailand, with that of 28 European children and found that the sea gypsy children had superior resolving power and better perception of contrasts. As sea gypsies have depended on the ocean for hundreds of years, Moken children may have inherited genetic variations that enable them to see more clearly under water, although regular diving may simply help the eye learn to adapt to the underwater environment. ISSN/ISBN: 0036-8423.
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CLOSTRIDIUM-PERFRINGENS; COLIFORMS; ENTEROBACTER; ENTEROCOCCUS; ESCHERICHIA-COLI; KLEBSIELLA-AEROGENES; PROTEUS-FLUROESCENS; PROTEUS-VULGARIS; PSEUDOMONAS; RANGOON; SERRATIA-MARCESCENS; STREPTOCOCCUS-FECALIS. Abstract: CHLORINATED WATERS FROM 20 SITES IN RANGOON WERE SAMPLED AND EXAMINED BACTERIOLOGICALLY FOR COLIFORMS ENTEROCOCCIS AND CLOSTRIDIUM PERFRINGENS. BACTERIAL SPECIES OBTAINED FROM PRIMARY MACCONKEY BILE-SALT LACTOSE PEPTONE WATER AND SODIUM AZIDE CULTURES WERE IDENTIFIED. OF A TOTAL OF 26 SAMPLES TESTED, 22 WERE OF UNSATISFACTORY, AND 1 OF SUSPICIOUS, BACTERIAL SANITARY QUALITY. THE REMAINING 3 SAMPLES SHOULD BE CONSIDERED SATISFACTORY. THE CRITERIA USED WERE THE PRESUMPTIVE COLIFORM COUNT, THE PRESUMPTIVE ENTEROCOCCUS COUNT, AND/OR THE ISOLATION OF ESCHERICHIA COLI. THE BACTERIAL SPECIES ISOLATED INCLUDED E. COLI, KLEBSIELLA AEROGENES, CITROBACTER FREUNDII, STREPTOCOCCUS FAECALIS, ALCALIGENES FAECALIS, AND ENTEROBACTER, PROTEUS AND PSEUDOMONAS SPP. THE VIABILITIES OF COLIFORM SPECIES AT 4 DEG C EXTENDED UP TO 112 DAYS IN 2 E. COLI AND 3 K. AEROGENES STRAINS, AND UP TO 56 DAYS IN 2 ENTEROBACTER STRAINS AND 1 E. COLI STRAIN. IN THE NONCOLIFORM SPECIES TESTED 3 A. FAECALIS STRAINS PERSISTED TILL THE 112TH, AND 1 P. AERUGINOSA STRAIN, 2 P. FLUORESCENS STRAINS AND 1 SERRATIA MARCESCENS STRAIN TILL THE 56TH DAY. NONE OF 5 S. FAECALIS STRAINS TESTED PERSISTED TILL THE 56TH DAY. THE VIABILITIES OF COLIFORM SPECIES AT ROOM TEMPERATURE EXTENDED UP TO 112 DAYS IN 2 E. COLI AND 5 K. AEROGENES STRAINS, AND UP TO 56 DAYS IN 3 E. COLI STRAINS, 3 K. AEROGENES STRAINS, AND 1 STRAIN EACH OF C. FREUNDII AND AN ENTEROBACTER SPECIES. IN THE NONCOLIFORM SPECIES TESTED, 1 BACILLUS STRAIN, 2 P. MIRABILIS STRAINS, 2 P. AERUGINOSA STRAINS AND 1 P. FLUORESCENS STRAIN PERSISTED TILL THE 112TH, AND 2 A. FAECALIS STRAINS, 1 BACILLUS STRAIN, 1 P. VULGARIS STRAIN, A PROVIDENCE B STRAIN AND 4 P. FLUORESCENS STRAINS TILL THE 56TH DAY. NONE OF 3 S. FAECALIS STRAINS TESTED PERSISTED TILL THE 56TH DAY.-- COPYRIGHT 1972, BIOLOGICAL ABSTRACTS, INC. Database: Environmental Sciences and Pollution Mgmt.

Tuckey, Michael Edward. 1988. GLOBAL BIOGEOGRAPHY, BIOSTRATIGRAPHY AND EVOLUTIONARY PATTERNS OF ORDOVICIAN AND SILURIAN BRYOZOA. Michigan State University; 0128. DAI. Volume: 49, 10B, page(s): 194-4206. Descriptors: PALEONTOLOGY; GEOLOGY. Abstract: The data for each of the chapters in this thesis was dervied from a global bryozoan data base assembled for this project. The data base contains information on nearly all species of Ordovician and Silurian Bryozoa which have been described in the literature. The information recorded for each reported occurrence of a species includes: geographic locality, geologic formation, lithology of the formation, and colony morphology. Ages of formations were estimated from recently published stratigraphic charts. Taxonomy and synonymies of bryozoan clades were assembled with the advice of Dr. Robert Anstey. The bibliography of sources for the data base is contained in Appendix A. Four independent problems were addressed in this thesis: (1) An investigation of the biogeography of Ordovician and Silurian Bryozoa revealed the existence of four major

Ordovician bryozoans provinces: Baltic, North American, Siberian and Mediterranean. The Llandeilo-Caradoc was a period of high provinciality as all four provinces were in existence. Provinciality was reduced in the Ashgill, as the North American and Siberian and the Baltic and Mediterranean Provinces merged. In the Llandovery and Wenlock, the temperate latitude Mongolian Province existed on the northern portion of the Siberian plate. Silurian provinciality was reduced with the merging of the North American-Siberian and Baltic Provinces in the Wenlock. (2) An investigation of Ordovician-Silurian radiations of the Bryozoa revealed that the major center of origin of bryozoan radiation in the Early Ordovician was the temperate latitude continent of Baltica. Within North America, bryozoan genera and families made their first appearances in shallow water and reef environments along the continental margin, while speciation rates were highest in offshore areas of the craton. (3) The statistical technique of gradient analysis was found to be useful for stratigraphic correlation, and faunas from Poland and Burma were dated by this method. (4) The Late Ordovician mass extinction was found to be a composite of three separate extinction events. The major extinction occurred at the end of the Rawtheyan, and was associated with a marine regression which affected primarily species from terrigenous lithotopes. Notes: Degree: PH.D. OCLC Accession Number: AAG8900113.

Tun-Lin, W., Htay-Aung, Moe-Moe, Sebastian, A., Myo-Paing and Myat-Myat-Thu. 1987. "Some Environmental Factors Influencing the Breeding of Anopheles Balabacensis Complex (Dirus) in Domestic Wells in Burma." *J. Commun. Dis. ; J. Commun. Dis. Dec.* Volume 19, Issue 4, Pages 291-9 Additional Info: INDIA. Descriptors: Breeding; Seasons; Social Environment; Water Supply; Animals; Anopheles -- physiology; Female; Larva -- physiology; Myanmar. Notes: Citation: Status: MEDLINE Owner: NLM; Date of Entry: 19890428; Date Completed: 19890428; Date of Update: 20061115. ISSN/ISBN: 0019-5138 (Print).

Tun-Lin, W., Maung-Maung-Mya, Sein-Maung-Thau and Tin-Maung-Maung Affiliation: Medical Entomology Research Division, Ministry of Health, Yangon, Myanmar. 1995. "Rapid and Efficient Removal of Immature Aedes Aegypti in Metal Drums by Sweep Net and Modified Sweeping Method." *Southeast Asian J. Trop. Med. Public Health; Southeast Asian J. Trop. Med. Public Health. Dec.* Volume 26, Issue 4, Pages 754-9 Additional Info: THAILAND. Descriptors: Aedes; Insect Vectors; Water Supply; Analysis of Variance; Animals; Cost-Benefit Analysis; Dengue -- prevention & control; Humans; Larva; Mosquito Control -- instrumentation; Myanmar; Time Factors. Notes: Citation: Status: MEDLINE Owner: NLM; Date of Entry: 19970502; Date Completed: 19970502; Date of Update: 20041117. Abstract: A modified sweeping method was developed using a cotton sweep net for control of *Ae. aegypti* immatures in 200 liter (44 gallon) metal drums which are major sources of breeding in Yangon. Laboratory experiments revealed that with only 4 sweeps (approximately 10 minutes duration), the mean % removal (+/- SD) of *Ae. aegypti* fourth stage larvae was 88.5% +/- 1.47. This was followed by a field study undertaken in Sanchaung township, Yangon. Twenty-eight drums with moderate ( or = 500 immatures) *Ae. aegypti* density were tested in the field. It was found that with only 4 sweeps per drum, a total of 24,886 immatures were removed out of 29,155 immatures in these 28 drums, giving a mean % removal per drum of 85.36% +/- 10.74 (range = 55.54-98.62%). This sweeping method is simple, cost-effective, and readily accepted by the community. It could be an appropriate technology for control of the dengue hemorrhagic fever (DHF) vector *Ae. aegypti*. ISSN/ISBN: 0125-1562 (Print).

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- U, K. M., Khin, M., Wai, N. N., Hman, N. W., Myint, T. T. and Butler T Affiliation: Department of Medical Research, Ministry of Health, Yangon (Rangoon), Myanmar, Burma. 1992. "Risk Factors for the Development of Persistent Diarrhoea and Malnutrition in Burmese Children." *Int. J. Epidemiol. ; Int. J. Epidemiol.* Oct. Volume 21, Issue 5, Pages 1021-9 Additional Info: ENGLAND. Descriptors: Case-Control Studies; Child, Preschool; Diarrhea -- epidemiology; Diarrhea -- etiology; Health Knowledge, Attitudes, Practice; Humans; Infant; Myanmar -- epidemiology; Nutrition Disorders -- epidemiology; Nutrition Disorders -- etiology; Risk Factors; Socioeconomic Factors. Notes: Citation: Status: MEDLINE Owner: NLM; Date of Entry: 19930128; Date Completed: 19930128; Date of Update: 20061115. Abstract: To identify socioeconomic and behavioural risk factors for development of persistent diarrhoea and malnutrition in children, a case-control study was carried out in Burma. Cases were 67 children 1-59 months old hospitalized for diarrhoea lasting > 14 days and complicated by severe malnutrition; for each case, a healthy control child was selected who was age- and sex-matched from the same neighbourhood. Homes of cases and controls were visited for interviews and for direct observation of household child-care practices. Risk factors were catalogued and calculations made for relative risk and etiologic fractions. Risk factors that were associated with persistent diarrhoea and malnutrition included low family income, low education of mothers, unhygienic latrines, flies in the house and on the child, dirty appearance of child and mother, mother not using soap and water when washing child's hands, defaecation of child on floor, breastfeeding on demand, child eating food from floor, not feeding recommended weaning foods, and lack of knowledge by mother about causes of diarrhoea and about foods that prevent malnutrition. These results indicated that persistent diarrhoea and malnutrition in Burma is caused by a complex of several interrelated socioeconomic factors, unsanitary behaviour pertaining to personal hygiene, the practice of demand breastfeeding and lack of certain weaning foods, and low education of mothers who

showed less knowledge about causes of diarrhoea and prevention of malnutrition.

ISSN/ISBN: 0300-5771 (Print); 1464-3685 (Electronic).

U, U. T., Wai, U. L., Tun, U. B., Win, U. M., Dan, U. T. and Sein, U. T. 1988. ““we Want Water, Not Gold”.” World Health Forum; World Health Forum. Volume 9, Issue 4, Pages 519-25 Additional Info: SWITZERLAND. Descriptors: Community Health Services; Rural Health; Water Supply; Health Promotion; Humans; Myanmar. Notes: Citation: Status: MEDLINE Owner: NLM; Date of Entry: 19890817; Date Completed: 19890817; Date of Update: 20041117. ISSN/ISBN: 0251-2432 (Print).

Uchida T Affiliation: Department of Pathology, Nihon University School of Medicine, Tokyo,,Japan. 1992. “Hepatitis E: Review.” Gastroenterol. Jpn. ; Gastroenterol. Jpn. Oct. Volume 27, Issue 5, Pages 687-96 Additional Info: JAPAN. Descriptors: Hepatitis E -- microbiology; Hepatitis E -- pathology; Animals; Humans. Notes: References: Number: 55; Citation: Status: MEDLINE Owner: NLM; Date of Entry: 19921223; Date Completed: 19921223; Date of Update: 20061115. Abstract: Hepatitis E is endemic, often provoking epidemics in many developing countries. It resembles hepatitis A clinically and epidemiologically but show a higher mortality rate and less infectiousness. Several lines of evidence strongly support the assumption that humans become immunized once they contract hepatitis E. Because of the low infectiousness, most of the adult population of endemic areas are susceptible to hepatitis E until an epidemic occurs, although they are almost always infected with hepatitis A during infancy. Epidemics are caused by accidental contamination by the hepatitis E virus (HEV) in feces of water provided to these people. The liver change reveals necroinflammation related to the immune-mediated mechanism. The HEV is molecularly cloned and sequenced and has a single-stranded, positive-sense RNA genome, 7,194 nucleotides followed by a poly (A) tail. There are three open reading frames. The non-structural gene, approximately 5 kb is located at the 5' end, while the structural gene, approximately 2 kb is located at the 3' end of the genome. There is a low level of nucleotide variations among HEV strains isolated from Myanmar and China and a single serotype appears to exist. The HEV may be a new RNA virus or belong to Caliciviridae family. Further investigation include in vitro propagation, elucidation of the gene replication, global seroepidemiology and vaccination of the HEV. ISSN/ISBN: 0435-1339 (Print).

Ul-Haq, Islam. 2005. “Ground Water Arsenic Contamination Integrated Approach for Making Arsenic Free Drinking Water National Action Plan for Arsenic Mitigation (NAPAM, 2005-09); Geological Society of America, 2005 Annual Meeting.” Abstracts with Programs - Geological Society of America. Geological Society of America (GSA), Boulder, CO, United States (USA): United States (USA). Oct. Volume 37, Issue 7, Pages 454-455. Descriptors: aquifers; arsenic; Asia; Bangladesh; Burma; cartography; China; drinking water; Far East; ground water; India; Indian Peninsula; metals; National Action Plan for Arsenic Mitigation; Nepal; Pakistan; pollutants; pollution; public health; Vietnam; water pollution; water quality; water treatment. Notes: CD: GAAPBC; CY: GeoRef, Copyright 2007, American Geological Institute. Reference includes data supplied by the Geological Society of America, Boulder, CO, United States. Abstract: Ground water arsenic contamination has exponentially endangered the human life and complicated the efforts for obtaining and maintaining drinking water quality standards. The deadly contaminant (arsenic) has created an alarming and catastrophic crises world over, especially in South Asia, e.g., Bangladesh, India, Nepal, Vietnam, China and Myanmar who are facing ground water arsenic contamination problems. Every affected country is combating the arsenic contamination menace within the framework

of their own socio-economic, legal and cultural perspectives which may not be cost-effective and efficient in time and space dimensions. The reason might be of devoid of integration approach amongst the key stakeholders. Hence, under the circumstances, there was a dire need of an integrated approach to combat the arsenic contamination which has virtually emerged as a crises situation thus necessitating formulation of national action plan for arsenic mitigation. Strategies and objectives within the Action Plan Framework are based on the earlier initiatives of addressing the serious issue of arsenic contamination resulting in the formulation of national action plan for arsenic mitigation which includes, establishing integrated institutional arrangement and developing capacity, coordination mechanism among all the implementing agencies at various levels of administration with government(s), NGOs, donor agencies and other departments, policy decisions and legislation to enforce for arsenic mitigation, monitoring and surveillance of water quality/aquifer mapping/treatment and data base thereof, establishing case diagnosis/treatment of affected arsenicosis under health department, developing effective and sustainable behavioral change program including community participation/social mobilization and developing cost-effective water treatment technologies and establishment of research related infrastructures. The major components of national action plan for arsenic mitigation are described diagrammatically in the subsequent paragraphs. This paper is based on the arsenic contamination status in Pakistan and inferences thus were drawn and shaped as national action plan for arsenic mitigation (NAPAM) which is going to be equally good for any affected country. Database: GeoRef. ISSN/ISBN: 0016-7592.

Umbangtalad, S., Parkpian, P., Visvanathan, C., Delaune, R. D. and Jugsujinda A Affiliation: Environmental Engineering and Management Program, School of Environment Resources and Development, Asian Institute of Technology, Pathumthani,,Thailand. 2007. "Assessment of Hg Contamination and Exposure to Miners and Schoolchildren at a Small-Scale Gold Mining and Recovery Operation in Thailand." J. Environ. Sci. Health. A. Tox. Hazard. Subst. Environ. Eng. Dec. Volume 42, Issue 14, Pages 2071-9 Additional Info: United States. Descriptors: Gold; Mining; Child; Creatine -- analysis; Creatine -- metabolism; Creatine -- urine; Environmental Exposure -- analysis; Female; Geography; Hair -- metabolism; Humans; Male; Mercury -- analysis; Mercury -- metabolism; Mercury -- urine; Students -- statistics & numerical data; Thailand. Notes: Chemical Subst: Creatine [57-00-1] Mercury [7439-97-6] Gold [7440-57-5]; Citation: Status: MEDLINE Owner: NLM; Date of Entry: 20071212; Date Completed: 20080226. Abstract: Gold extracted by Hg-amalgamation process, which can cause both health and environmental problems, is widespread in South East Asia including Myanmar, Laos, Cambodia, and Thailand. Small-scale gold mining operations have been carried out since the year 2000 in Phanom Pha District, Phichit Province, Thailand. Since no data is available for evaluating Hg exposure, an investigation of mercury (Hg) contamination and exposure assessment was carried out at this mine site. Environmental monitoring illustrated the total Hg in water was as high as 4 microg/l while Hg in sediment ranged between 102 to 325 microg/kg dry weight. Both Hg deposition from the air (1.28 microg/100 cm(2)/day) and concentration in surface soil (20,960 microg/kg dry weight) were elevated in the area of amalgamation. The potential of Hg exposure to miners as well as to schoolchildren was assessed. The concentrations of Hg in urine of 79 miners who were directly (group I) or indirectly (group II) involved in the gold recovery operation were 32.02 and 20.04 microg/g creatinine, respectively, which did not exceed regulatory limits (35 microg/g creatinine). Hair Hg levels in both groups (group I and group II) also were not significantly higher than the

non-exposed group. In terms of risk factors, gender and nature of food preparation and consumption were the two significant variables influencing the concentration of Hg in urine of miners ( $P < 0.05$ ). A hazard quotient (HQ) was estimated based on the inorganic Hg exposure of individual miners. The HQ values of group I were in a range 16 to 218 times higher than the safety level set as 1. By comparison the group II HQ index was very low (0.03-0.39). The miners in group I who worked and ate food from this area experienced potentially high exposure to Hg associated with the mining process. In a second Hg exposure assessment, a group of 59 schoolchildren who attended an elementary school near the gold mine site was evaluated for Hg exposure. A slightly higher Hg urine concentration was detected in group I and group II (involved and not involved in gold recovery) at average levels of 15.82 and 9.95 microg/g creatinine, respectively. The average Hg values for both groups were below the established levels indicating no risk from Hg intake. Average Hg hair level in all schoolchildren (0.93 microg/g) was not significantly higher than reference group. There were two variables (gender and personal hygiene) which affected the concentration of Hg in urine of schoolchildren ( $P < 0.05$ ). The result (HQ) also suggested that schoolchildren were not at risk ( $< 1$ ). Schoolchildren involved in gold mining activities showed some indirect exposure to Hg from the adults working in mining area. ISSN/ISBN: 1093-4529 (Print); 1532-4117 (Electronic).

Umbangtalad, S., Parkpian, P., Visvanathan, C., Delaune, R. D. and Jugsujinda, A. 2007.

“Assessment of Hg Contamination and Exposure to Miners and Schoolchildren at a Small-Scale Gold Mining and Recovery Operation in Thailand.” *Journal of Environmental Science and Health - Part A Toxic/Hazardous Substances and Environmental Engineering*. Taylor and Francis Inc., Philadelphia PA, PA 19106, United States: Volume 42, Issue 14, Pages 2071-2079. Descriptors: Mercury (metal); Contamination; Environmental impact; Gold; Health hazards; Mining; Risk assessment. Notes: Compilation and indexing terms, Copyright 2008 Elsevier Inc. Abstract: Gold extracted by Hg-amalgamation process, which can cause both health and environmental problems, is widespread in South East Asia including Myanmar, Laos, Cambodia, and Thailand. Small-scale gold mining operations have been carried out since the year 2000 in Phanom Pha District, Phichit Province, Thailand. Since no data is available for evaluating Hg exposure, an investigation of mercury (Hg) contamination and exposure assessment was carried out at this mine site. Environmental monitoring illustrated the total Hg in water was as high as  $4 \mu\text{g/l}$  while Hg in sediment ranged between 102 to  $325 \mu\text{g/kg}$  dry weight. Both Hg deposition from the air ( $1.28 \mu\text{g}/100 \text{ cm}^2/\text{day}$ ) and concentration in surface soil ( $20,960 \mu\text{g/kg}$  dry weight) were elevated in the area of amalgamation. The potential of Hg exposure to miners as well as to schoolchildren was assessed. The concentrations of Hg in urine of 79 miners who were directly (group I) or indirectly (group II) involved in the gold recovery operation were 32.02 and  $20.04 \mu\text{g/g}$  creatinine, respectively, which did not exceed regulatory limits ( $35 \mu\text{g/g}$  creatinine). Hair Hg levels in both groups (group I and group II) also were not significantly higher than the non-exposed group. In terms of risk factors, gender and nature of food preparation and consumption were the two significant variables influencing the concentration of Hg in urine of miners ( $P$  less than or equal 0.05). A hazard quotient (HQ) was estimated based on the inorganic Hg exposure of individual miners. The HQ values of group I were in a range 16 to 218 times higher than the safety level set as 1. By comparison the group II HQ index was very low (0.03-0.39). The miners in group I who worked and ate food from this area experienced potentially high exposure to Hg associated with the mining process. In a second Hg exposure

assessment, a group of 59 schoolchildren who attended an elementary school near the gold mine site was evaluated for Hg exposure. A slightly higher Hg urine concentration was detected in group I and group II (involved and not involved in gold recovery) at average levels of 15.82 and 9.95  $\mu\text{g/g}$  creatinine, respectively. The average Hg values for both groups were below the established levels indicating no risk from Hg intake. Average Hg hair level in all schoolchildren (0.93  $\mu\text{g/g}$ ) was not significantly higher than reference group. There were two variables (gender and personal hygiene) which affected the concentration of Hg in urine of schoolchildren ( $P$  less than or equal 0.05). The result (HQ) also suggested that schoolchildren were not at risk ( $P$  less than or equal 1). Schoolchildren involved in gold mining activities showed some indirect exposure to Hg from the adults working in mining area. Copyright &copy; Taylor and Francis Group, LLC. ISSN/ISBN: 1093-4529.

UN University. 1993. Food and Nutrition Bulletin. Vol. 14, no. 4, December 1992. Tokyo: United Nations University Press. Descriptors: BREAST-FEEDING; TURKEY; CHILD NUTRITION; INFANT MORTALITY; NATIVE AMERICANS; PERU; NUTRITION; DIET; FOOD CONSUMPTION; SEASONAL VARIATIONS; HOUSEHOLDS; CHAD; FOOD DISTRIBUTION; CHILD FEEDING; FOOD AID; GUATEMALA; NUTRITION PROGRAMMES; FOOD SHORTAGE; NIGER; MATERNAL AND CHILD HEALTH; HEALTH SERVICES; NUTRITIONAL DISEASES; MONGOLIA; WOMEN WORKERS; FOOD SECURITY; GHANA; MYANMAR; MALAYSIA; SORGHUM; NIGERIA; IRON; WATER SUPPLY; SOILS; RURAL POPULATION; URBAN POPULATION; EARLY WARNING SYSTEMS; JOINT WHO/UNICEF NUTRITION SUPPORT PROGRAMME. Notes: p. 289-371 : charts, graphs, tables.; Note(s): Includes bibliographical references./ Reports and studies./ General (not for deposit).; Entry: 19940831; Update: 20070223. ISSN/ISBN: 9280808079; 9789280808070. Availability: Connect to the catalog at your library. OCLC Accession Number: 81951160.

UN University. 1993. Food and Nutrition Bulletin. Vol. 14, no. 4, December 1992. Tokyo: United Nations University Press. Descriptors: BREAST-FEEDING; TURKEY; CHILD NUTRITION; INFANT MORTALITY; AMERINDIANS; PERU; NUTRITION; DIET; FOOD CONSUMPTION; SEASONAL VARIATIONS; HOUSEHOLDS; CHAD; FOOD DISTRIBUTION; CHILD FEEDING; FOOD AID; GUATEMALA; NUTRITION PROGRAMMES; FOOD SHORTAGE; NIGER; MATERNAL AND CHILD HEALTH; HEALTH SERVICES; NUTRITIONAL DISEASES; MONGOLIA; WOMEN WORKERS; FOOD SECURITY; GHANA; MYANMAR; MALAYSIA; SORGHUM; NIGERIA; IRON; WATER SUPPLY; SOILS; RURAL POPULATION; URBAN POPULATION; EARLY WARNING SYSTEMS; Joint WHO/UNICEF Nutrition Support Programme; Government publication (gpb); International government publication (igp). Notes: p. 289-371 : charts, graphs, tables.; Note(s): Includes bibliographical references./ Material type: Reports/studies.; General Info: Distribution: General (not for deposit).; Entry: 19940831; Update: 20070423. ISSN/ISBN: 9280808079; 9789280808070; 0379-5721. OCLC Accession Number: 123412897.

UN University. 1982. Food and Nutrition Bulletin, v. 4, no. 4, Oct. 1982. Tokyo: United Nations University. page(s): 81. Descriptors: CRETINISM; STATISTICAL DATA; HEALTH STATISTICS; CHINA; MALNUTRITION; MEXICO; BREAST-FEEDING; MYANMAR; CHILD DEVELOPMENT; NUTRITION; MATERNAL WELFARE; FAMILY; CHILD NUTRITION; NUTRITION STATISTICS; FOOD; INTERNATIONAL TRADE; TRADE STATISTICS; PROTEIN RESEARCH; FISH; CONFERENCES; INFANT FEEDING;

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- van Spilbergen, Joris; Balbi, Gasparo; Viaggio dell' Indie Orientali, et al. 1606. *Indiae Orientalis. Pars Septima, Nauigationes Duas : Primam, Trium Annorum, à Georgio Spilbergio, Trium Nauium Præfecto, Ann. 1601, Ex Selandia in Indiam Orientalem Susceptam : Alteram, Nouem Annorum, à Casparo Balby, Gemmario Veneto, Anno. 1579, Ex Alepo Babyloniam Versus, & Inde Porro Ad Regnum Pegu Vsque Continuatam, Continens : Omnium, Quæ Illi Quidem Ad Annum 1604, Huic Vero Ad Annum 1588, Vsque Acciderunt, Commemoratione : Regum Item, Locorum, Populorum, Rituumque Variorum Descriptione Addita.* Francofurti: Typis VVolffgangi Richteri, Place: Germany. Descriptors: Mon (Southeast-Asiatic people) -- Early works to 1800; Voyages and travels -- Early works to 1800; Water-marks -- Specimens; Spilbergen, Joris van, 1568?-1620; Sri Lanka -- Description and travel -- Early works to 1800; Sri Lanka -- Discovery and exploration -- Early works to 1800; Burma -- Description and travel -- Early works to 1800; Burma -- Discovery and exploration -- Early works to 1800; Syria -- Description and travel -- Early works to 1800. Notes: [4], 126, [2] p., [22] leaves of plates (some folded) : ill. (engravings), maps; rt. ; 32 cm. (fol.); References: Church, E.D. *Discovery*; 216.; Genre/Form: Exploration literature -- Germany -- Frankfurt am Main - - 17th century. Travel literature -- Germany (West) -- Frankfurt am Main -- 17th century. Engravings -- Germany (West) -- Frankfurt am Main -- 17th century.; Note(s): Sole ed., 2nd issue./ Signatures: (: )2, A-Q4, a-b4, c-d2, e-f4, g6 (Q4 and g6 blanks)./ Engraved t.p. border, dedication vignette with coat of arms of Johann Adam, Archbishop of Mayence, ornaments./ Sidenotes./ Separate t.p. to plates, sig. a1r: *Icones, hoc est: Veræ variorum popvlorum et regvm ...*/ Contains: 1. An account of a voyage made under the command of Joris van Spilbergen to Ceylon in 1601-1604: p. 1-42. It was first published at Delft; was translated into

- German, for the German ed. of: *India Orientalis*, by Gotthardt Artus, and again into Latin for the present ed.; these translations are much abridged and mutilated. 2. The relation of the voyage of Gasparo Balbi, a Venetian, to the kingdom of Pegu, via Syria, in 1579-1588: p. 43-126. This translation was made from the Italian ed., published at Venice under the title: *Viaggio dell' Indie Orientali ...*; Other Titles: *Nauigationes duas. 1606; India Orientalis.; Pars 7.; Indiæ Orientalis.; Pars 7.; Indiæ Orientalis.; Pars VII.; Icones, hoc est, Veræ variorum popvlorum et regvm ...; Veræ variorum popvlorum et regvm ...*; Responsibility: auctore M. Gotardo Arthvs Dantiscano ; omnia elegantissimis in æs incisus iconibus illustrata & in lucem emissa, à Ioanne Theodoro et Ioanne Israële de Bry ...; Entry: 19860926; Update: 20070205. OCLC Accession Number: 81988425.
- Vandewiele, G. L., Chong-Yu, Xu and Ni-Lar-Win. 1992. "Methodology and Comparative Study of Monthly Water Balance Models in Belgium, China and Burma." *Journal of Hydrology*. 2005 Elsevier Ltd. All rights reserved.: Volume 134, Issue 1-4, Pages 315-347. Descriptors: Runoff, streamflow and basins -- 71.6.5; rainfall/runoff; water balance; river discharge; areal precipitation; evapotranspiration. Notes: Geographic: Belgium China Burma. Abstract: A set of new monthly rainfall runoff models is defined, for use in river catchments smaller than about 4000km<sup>2</sup>, without appreciable frost or natural or artificial lakes. The input series are areal precipitation and potential evapotranspiration. The output is riverflow. The number of parameters used in the description of the hydrological phenomena in the catchment, is in most cases three or four. The statistical methodology used for calibrating the models of given catchments is described; it reduces essentially to regression analysis, including residual analysis, sensitivity to calibration period and extrapolation test. Automatic calibration is used, excluding subjective elements. -from Authors. ISSN/ISBN: 0022-1694. Availability: FirstSearch indicates your institution subscribes to this publication. Libraries worldwide that own item: 578 US ARMYCOPRS OF ENG RES DEV CT Connect to the catalog at your library.
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use of only one storage where the memory of the catchment is summarized in one number. Several storages with maximum 'capacities' are used in the published models, with no distinction between slow and fast runoff corresponding to baseflow and direct runoff, respectively. Because a catchment is a complicated heterogeneous system it is better to avoid thresholds for soil moisture capacities. Although the parameters in the new models do not have 'direct' physical meaning, they translate general intuitive ideas about the process; the parameter values are related to physical characteristics of the basins. (Fish-PTT). Database: Environmental Sciences and Pollution Mgmt.

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- Vandewiele, G. L., Xu, Chong-Yu and Ni-Lar-Win. 1992. "Methodology and Comparative Study of Monthly Water Balance Models in Belgium, China and Burma." *Journal of Hydrology*. Volume 134, Issue 1-4, Pages 315-347. Descriptors: Runoff -- Mathematical Models; Watersheds - Hydrology; Rain and Rainfall - Mathematical Models; Mathematical Models - Calibration; Statistical Methods - Regression Analysis. Notes: Compilation and indexing terms, Copyright 2008 Elsevier Inc. Abstract: A set of new monthly rainfall runoff models (water balance models) is defined, for use in river catchments smaller than about 4000 km<sup>2</sup>, without appreciable frost or natural or artificial lakes. The input series are areal precipitation and potential evapotranspiration. The output is riverflow. The number of parameters, used in the description of the hydrological phenomena in the catchment, is in most cases three, sometimes four. The statistical methodology used for calibrating the models of given catchments is described; it reduces essentially to regression analysis, including residual analysis, sensitivity to calibration period and extrapolation test. In particular, automatic calibration is used, excluding subjective elements. The models are applied to 79 river basins in Belgium, China and Burma. The results are compared with four similar models taken from the literature. The results of applying the new models are satisfactory from a statistical point of view and are much better than those quoted in the literature; a greater part of the observed runoff is explained and there is no residual seasonality. This results from the different mathematical structure of the models, and especially from the use, in the published models, of several storages with maximum 'capacities', with no distinction between slow and fast runoff corresponding to baseflow and direct runoff, respectively. ISSN/ISBN: 0022-1694.
- Vandewiele, G. L., Xu, Chong-Yu and Ni-Lar-Win. 1992. "Methodology and Comparative Study of Monthly Water Balance Models in Belgium, China and Burma." *Journal of Hydrology*,. 6. Volume 134, Issue 1-4, Pages 315-347. Abstract: A set of new monthly rainfall runoff models (water balance models) is defined, for use in river catchments smaller than about 4000 km<sup>2</sup>, without appreciable frost or natural or artificial lakes. The input series are areal precipitation and potential evapotranspiration. The output is riverflow. The number of parameters, used in the description of the hydrological phenomena in the catchment, is in most cases three, sometimes four. The statistical methodology use for calibrating the models of given catchment is described; it reduces essentially to regression analysis, including residual

analysis, sensitivity to calibration period and extrapolation test. In particular, automatic calibration is used, excluding subjective elements. The models are applied to 79 river basins in Belgium, China and Burma. The results are compared with four similar models taken from the literature. The results of applying the new models are satisfactory from a statistical point of view and are much better than those quoted in the literature; a greater part of the observed runoff is explained and there is no residual seasonality. This results from the different mathematical structure of the models, and especially from the use, in the published models, of several storages with maximum 'capacities', with no distinction between slow and fast runoff corresponding to baseflow and direct runoff, respectively.

Vaziri, M. 2006. "Sustainable Development of Urban Water Resources: An Appraisal for Asian Monsoon Region." *Asian J. Water Environ. Pollut.* Volume 3, Issue 2, Pages 43-50.

Descriptors: Article Subject Terms: Droughts; Economics; Flooding; Meteorology; Monsoons; Sustainable development; Urban areas; Wastewater treatment; Water resources; Water wells; air flow; summer; sustainability; taxonomy; water demand; winter; Article Geographic Terms: China, People's Rep.; ISEW, Indonesia; ISEW, Malaysia; ISEW, Philippines; ISEW, Singapore; ISEW, Thailand; ISEW, Vietnam; ISW, Bangladesh; ISW, India; ISW, Myanmar; ISW, Sri Lanka; Korea, Rep. Abstract: The challenges of water resources sustainable development are enormous in the Asian monsoon region.

Meteorological behaviour in this region is signified by its warm and moist winds, northwest monsoon, blowing from the sea to the land during summer and bringing heavy rains in India and South East Asia. On the contrary, the northeast monsoon occurs when cold and dry winter air flows out of the interior of Asia from the northeast and bring the cool and dry winter season. This unique cyclic behaviour often results in several months of drought followed by a period of flooding, demanding robust water resources management at regional as well as local scales. The objective of this study was to assess water resources sustainable development for selected urban areas in the Asian monsoon region during the last decade. Using centralized databases of international agencies, for the period of 1993 to 1998, urban information pertinent to water resources were collected, analyzed and modelled. The study database consisted of information regarding urban water accessibility, consumption, price, wastewater treatment, and other pertinent social, environmental and economic indicators. Due to data inaccessibility, incompleteness and missing, less than 20 cities from Bangladesh, Brunei, China, India, Indonesia, Laos, Myanmar, Malaysia, The Philippines, Singapore, Sri Lanka, South Korea, Thailand and Vietnam were selected for detailed analysis. The statistical analyses for the selected cities showed interesting results and relations in connection with urban water resources sustainable development of Asian monsoon region. For the period of 1993 to 1998, elasticity of database indicators were developed. Using elasticities, a composite urban water resources sustainability index was suggested. The elasticities and index were used in taxonomy of the selected cities, and reflected considerable variations in urban water demand and supply development. The study confirmed the significance of urban areas water resources sustainability challenges of the 21st century for the Asian monsoon region.

Database: Environmental Sciences and Pollution Mgmt. ISSN/ISBN: 0972-9860.

Verma, Rishendra and Jaiswal, T. N. 1998. "Haemorrhagic Septicaemia Vaccines." *Vaccine.*, 7.

Volume 16, Issue 11-12, Pages 1184-1192. Descriptors: Haemorrhagic septicaemia vaccines; immune responses. Abstract: Haemorrhagic septicaemia (HS), an economically important disease of cattle and buffaloes, is caused by *Pasteurella multocida* (6:B). Vaccination against this disease is widely practised. Plain broth bacterins, or alum precipitated and aluminium

hydroxide gel vaccines are administered twice a year since these vaccines offer an immunity of 4-6 months. Many countries use oil adjuvant vaccine (OAV), which gives both a higher degree and a longer duration of immunity up to 1 year. A double emulsion and multiple emulsion vaccine consisting of a thin viscosity have also been experimentally developed that gave an immunity parallel to OAV. Recently, a live vaccine developed from a fallow deer strain (B:3,4) has been used in Myanmar that offers an immunity for more than a year but is not free from constraints. The present review provides information on HS vaccines developed from time to time using whole bacteria or their components. The kinetics and isotype of antibody and cell-mediated immune responses have also been poorly understood so far, and hence information on their role in protection against HS is reviewed.

Volker A. Editor: Keller, R. 1983. "Copyright 2005 Elsevier Ltd. all Rights Reserved.; Rivers of Southeast Asia: Their Regime, Utilization and Regulation." International Association of Hydrological Sciences; IAHS Publication 140. page(s): 127-138. Descriptors: HYDROLOGY -- 71.6; METEOROLOGY AND CLIMATOLOGY -- 71.7; hydrological regime; Irrawaddy; Chao Phya; Mekong; Red River. Abstract: Deals mainly with the hydrological regime, utilization and possible regulation of large rivers such as the Irrawaddy (Burma), Chao Phya (Thailand), Mekong (an international river), and the Red River (Vietnam). Emphasis is given to the effects of human intervention in the river valleys and deltas on the river regime.-from Author. Notes: Note(s): Special Features: 9 figs, 5 refs. Availability: Connect to the catalog at your library. OCLC Accession Number: 0486679.

Volker, A. 1983. "Rivers of Southeast Asia: Their Regime, Utilization and Regulation." Hydrology of Humid Tropical Regions IAHS Publication no.140, 1983. Proceedings of a Symposium Held at the 18th General Assembly of the International Union of Geodesy and Geophysics. Hamburg, West Germany. Volume August 15-27, Pages 5 ref. Descriptors: Rivers; Asia; Water use; Water management; Rainfall; Agricultural watersheds; Rainfall-runoff relationships; Water availability; Irrawaddy River; Burma; Mekong River; Chao Phya River; Thailand; Red River; Vietnam. Abstract: Southeast Asia is a region with copious rainfall, large rivers and a high population density. The population is concentrated in the lower river valleys and deltas where lowland rice, the staple diet is produced. Therefore river flooding and high rainfall play an important role in agricultural water supply. The annual average per capita volume of water available is 4,000 cu m, which is below the world average and about equal to that for Europe. The intimate relationship between man and rivers in southeast Asia is due both to these facts and to the warm climate. The paper deals mainly with the hydrological regime, utilization and possible regulation of large rivers such as the Irrawaddy (Burma), Chao Phya (Thailand), Mekong (an international river), and the Red River (Vietnam); some smaller rivers are also considered. Emphasis is given to the effects of human intervention in the river valleys and deltas on the river regime. Some of these effects are: 1) possible rise of flood levels due to embanking, 2) possible rise of river levels due to embanking, 3) elimination of silt creating a situation where agricultural lands are being deprived of the fertilizing effect of silt, and 4) elimination of the beneficial flushing and rinsing effects of the floods removing dirt, waste products and human disposal. (See also W87-00086) (Lantz-PTT). Database: Environmental Sciences and Pollution Mgmt.

Volker, A.; Boekelman, R. H.; de Haas, A. W., et al. 1993. "Hydrology and Water Management of Deltaic Areas." Netherlands (NLD): Volume: 93-5, Descriptors: Africa; aquifers; Argentina; Asia; Burma; case studies; coastal environment; deltaic environment; deltas; discharge; drainage basins; ecology; ecosystems; Egypt; estuarine environment; Europe; Far East;

floods; geologic hazards; ground water; human activity; hydrology; Irrawaddy Delta; land use; marshes; Mekong Delta; mires; Netherlands; Niger Delta; Nigeria; Nile Delta; North Africa; Parana River; planning; policy; pollution; preventive measures; protection; reclamation; Rhine River; salt-water intrusion; sea-level changes; soils; South America; surface water; urban environment; Vietnam; water management; water quality; water resources; water supply; West Africa; Western Europe. Notes: Includes seven appendices; FE: References: 195; illus.; CY: GeoRef, Copyright 2007, American Geological Institute. ISSN/ISBN: 9054101687. Database: GeoRef. Centre for Civil Engineering Research and Codes, Gouda, Netherlands OCLC Accession Number: 1997-057206.

Vorosmarty, Charles J., Ericson, Jason P., Dingman, S. Lawrence, Ward, Larry G. and Meybeck, Michel. 2007. "Future Impacts of Freshwater Resource Management; Sensitivity of Coastal Deltas; Water Quality and Sediment Behaviour of the Future; Predictions for the 21st Century." IAHS-AISH Publication. International Association of Hydrological Sciences, International (III): International (III). Volume 314, Pages 231-238. Descriptors: Andaman Sea; Asia; Burma; coastal environment; deltaic environment; deltas; economics; environmental management; Far East; fresh water; geologic hazards; hydrocarbons; hydrology; Indian Ocean; Irrawaddy Delta; land subsidence; landform evolution; organic compounds; risk assessment; sea-level changes; sedimentation; water management; water resources; watersheds. Notes: CD: PIHSD9; FE: References: 19; illus. incl. 3 tables, sketch map; LL: Latitude:N163000,N183000 Longitude:E0963000,E0943000; CY: GeoRef, Copyright 2008, American Geological Institute. Abstract: We present an assessment of contemporary and future effective sea-level rise (ESLR) using a sample of 40 deltas distributed worldwide. For any delta, ESLR is a net rate defined by eustatic sea-level rise, natural gross rates of fluvial sediment deposition and subsidence, and accelerated subsidence due to groundwater and hydrocarbon extraction. Present-day ESLR, estimated from geospatial data and a simple model of deltaic dynamics, ranges from 0.5 to 12.5 mm year (super -1) . Reduced accretion of fluvial sediment from upstream siltation of reservoirs and freshwater consumptive irrigation losses are primary determinants of ESLR in nearly 70% of the deltas, while for only 12% eustatic sea-level rise predominates. Future scenarios indicate a much larger impact on deltas than previously estimated. Serious challenges to human occupancy of deltas worldwide are conveyed by upland watershed factors, which have been studied less comprehensively than the climate change and sea-level rise question. Database: GeoRef. ISSN/ISBN: 1901502145.

Vouillamoz, J. M., Baltassat, J. M., Legchenko, A., Chatenoux, B. and Mathieu F. Affiliation: J.M. Vouillamoz, Institut de Recherche pour le Développement, Indo-French Cell for Water Science, Indian Institute of Science, 560012 Bangalore Country: India E-mail: Jean-Michel.Vouillamoz@ird.fr. 2007. "Efficiency of Joint use of MRS and VES to Characterize Coastal Aquifer in Myanmar." J. Appl. Geophys. 2007 Elsevier B.V., All rights reserved.: Volume 61, Issue 2, Pages 142-154 Additional Info: Netherlands. Descriptors: Electricity -- 72.11.5; Geophysical techniques -- 77.5.3; vertical electrical sounding; coastal aquifer; water quality; hydrogeology; geophysical survey; site investigation; magnetic survey; electron spin resonance; phreatic zone; borehole logging; drilling; pumping; electrical conductivity; electrical resistivity. Notes: References: Number: 23; Geographic: Myanmar Southeast Asia Asia Eurasia. Abstract: The productivity and the water quality of coastal aquifers can be highly heterogeneous in a complex environment. The characterization of these aquifers can be improved by hydrogeological and complementary geophysical surveys. Such an integrated

approach is developed in a non-consolidated coastal aquifer in Myanmar (previously named Burma). A preliminary hydrogeological survey is conducted to know better the targeted aquifers. Then, 25 sites are selected to characterize aquifers through borehole drillings and pumping tests implementation. In the same sites, magnetic resonance soundings (MRS) and vertical electrical soundings (VES) are carried out. Geophysical results are compared to hydrogeological data, and geophysical parameters are used to characterize aquifers using conversion equations. Finally, combining the analysis of technical and economical impacts of geophysics, a methodology is proposed to characterize non-consolidated coastal aquifers. Depth and thickness of saturated zone is determined by means of MRS in 68% of the sites (evaluated with 34 soundings). The average accuracy of confined storativity estimated with MRS is  $\pm 6\%$  (evaluated over 7 pumping tests) whereas the average accuracy of transmissivity estimation with MRS is  $\pm 45\%$  (evaluated using 15 pumping tests). To reduce uncertainty in VES interpretation, the aquifer geometry estimated with MRS is used as a fixed parameter in VES inversion. The accuracy of groundwater electrical conductivity evaluation from 15 VES is enough to estimate the risk of water salinity. In addition, the maximum depth of penetration of the MRS depends on the rocks' electrical resistivity and is between 20 and 80 m at the study area. (c) 2007 Elsevier B.V. All rights reserved. ISSN/ISBN: 0926-9851. Availability: FirstSearch indicates your institution subscribes to this publication. Libraries worldwide that own item: 375 US ARMYCOPRS OF ENG RES DEV CT Connect to the catalog at your library.

- Vouillamoz, J. M., Chatenoux, B., Mathieu, F., Baltassat, J. M. and Legchenko, A. 2007. "Efficiency of Joint use of MRS and VES to Characterize Coastal Aquifer in Myanmar." *J. Appl. Geophys.* Elsevier, Amsterdam, Netherlands (NLD): Netherlands (NLD). Feb. Volume 61, Issue 2, Pages 142-154. Descriptors: aquifers; Asia; boreholes; Burma; coastal aquifers; electrical methods; Far East; geometry; geophysical methods; geophysical surveys; ground water; heterogeneous materials; nuclear magnetic resonance; pump tests; saturated zone; sounding; spectroscopy; surveys; transmissivity; vertical electrical sounding; water quality. Notes: Based on Publisher-supplied data; CY: GeoRef in Process, Copyright 2008, American Geological Institute. After editing and indexing, this record will be added to Georef. Reference includes data from CAPCAS, Elsevier Scientific Publishers, Amsterdam, Netherlands. Abstract: The productivity and the water quality of coastal aquifers can be highly heterogeneous in a complex environment. The characterization of these aquifers can be improved by hydrogeological and complementary geophysical surveys. Such an integrated approach is developed in a non-consolidated coastal aquifer in Myanmar (previously named Burma). A preliminary hydrogeological survey is conducted to know better the targeted aquifers. Then, 25 sites are selected to characterize aquifers through borehole drillings and pumping tests implementation. In the same sites, magnetic resonance soundings (MRS) and vertical electrical soundings (VES) are carried out. Geophysical results are compared to hydrogeological data, and geophysical parameters are used to characterize aquifers using conversion equations. Finally, combining the analysis of technical and economical impacts of geophysics, a methodology is proposed to characterize non-consolidated coastal aquifers. Depth and thickness of saturated zone is determined by means of MRS in 68% of the sites (evaluated with 34 soundings). The average accuracy of confined storativity estimated with MRS is + or -6% (evaluated over 7 pumping tests) whereas the average accuracy of transmissivity estimation with MRS is + or -45% (evaluated using 15 pumping tests). To reduce uncertainty in VES interpretation, the aquifer geometry estimated with MRS is used as

a fixed parameter in VES inversion. The accuracy of groundwater electrical conductivity evaluation from 15 VES is enough to estimate the risk of water salinity. In addition, the maximum depth of penetration of the MRS depends on the rocks' electrical resistivity and is between 20 and 80 m at the study area. Database: GeoRef In Process. ISSN/ISBN: 0926-9851.

Vouillamoz, J. M., Chatenoux, B., Mathieu, F., Baltassat, J. M. and Legchenko, A. 2007. "Efficiency of Joint use of MRS and VES to Characterize Coastal Aquifer in Myanmar." *J. Appl. Geophys.* Elsevier, Amsterdam, 1000 AE, Netherlands: Volume 61, Issue 2, Pages 142-154. Descriptors: Geophysics; Oceanography; Aquifers; Water quality; Hydrology; Groundwater; Magnetic resonance. Notes: Compilation and indexing terms, Copyright 2008 Elsevier Inc. Abstract: The productivity and the water quality of coastal aquifers can be highly heterogeneous in a complex environment. The characterization of these aquifers can be improved by hydrogeological and complementary geophysical surveys. Such an integrated approach is developed in a non-consolidated coastal aquifer in Myanmar (previously named Burma). A preliminary hydrogeological survey is conducted to know better the targeted aquifers. Then, 25 sites are selected to characterize aquifers through borehole drillings and pumping tests implementation. In the same sites, magnetic resonance soundings (MRS) and vertical electrical soundings (VES) are carried out. Geophysical results are compared to hydrogeological data, and geophysical parameters are used to characterize aquifers using conversion equations. Finally, combining the analysis of technical and economical impacts of geophysics, a methodology is proposed to characterize non-consolidated coastal aquifers. Depth and thickness of saturated zone is determined by means of MRS in 68% of the sites (evaluated with 34 soundings). The average accuracy of confined storativity estimated with MRS is  $\pm 6\%$  (evaluated over 7 pumping tests) whereas the average accuracy of transmissivity estimation with MRS is  $\pm 45\%$  (evaluated using 15 pumping tests). To reduce uncertainty in VES interpretation, the aquifer geometry estimated with MRS is used as a fixed parameter in VES inversion. The accuracy of groundwater electrical conductivity evaluation from 15 VES is enough to estimate the risk of water salinity. In addition, the maximum depth of penetration of the MRS depends on the rocks' electrical resistivity and is between 20 and 80 m at the study area. © 2007 Elsevier B.V. All rights reserved. ISSN/ISBN: 0926-9851.

Vouillamoz, J. M., Chatenoux, B., Mathieu, F., Baltassat, J. M. and Legchenko, A. 2007. "Efficiency of Joint use of MRS and VES to Characterize Coastal Aquifer in Myanmar." *J. Appl. Geophys.* Elsevier, Amsterdam, 1000 AE, Netherlands: Volume 61, Issue 2, Pages 142-154. Descriptors: Geophysics; Oceanography; Aquifers; Water quality; Hydrology; Groundwater; Magnetic resonance. Notes: Compilation and indexing terms, Copyright 2008 Elsevier Inc. Abstract: The productivity and the water quality of coastal aquifers can be highly heterogeneous in a complex environment. The characterization of these aquifers can be improved by hydrogeological and complementary geophysical surveys. Such an integrated approach is developed in a non-consolidated coastal aquifer in Myanmar (previously named Burma). A preliminary hydrogeological survey is conducted to know better the targeted aquifers. Then, 25 sites are selected to characterize aquifers through borehole drillings and pumping tests implementation. In the same sites, magnetic resonance soundings (MRS) and vertical electrical soundings (VES) are carried out. Geophysical results are compared to hydrogeological data, and geophysical parameters are used to characterize aquifers using conversion equations. Finally, combining the analysis of technical and economical impacts of

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- Vouillamoz, J. M., Chatenoux, B., Mathieu, F., Baltassat, J. M. and Legchenko, A. 2007. "Efficiency of Joint use of MRS and VES to Characterize Coastal Aquifer in Myanmar." *Journal of Applied Geophysics*,. 2. Volume 61, Issue 2, Pages 142-154. Descriptors: Aquifer; Magnetic resonance soundings; Vertical electrical soundings; Conversion equation; Hydrogeophysics; Myanmar. Abstract: The productivity and the water quality of coastal aquifers can be highly heterogeneous in a complex environment. The characterization of these aquifers can be improved by hydrogeological and complementary geophysical surveys. Such an integrated approach is developed in a non-consolidated coastal aquifer in Myanmar (previously named Burma). A preliminary hydrogeological survey is conducted to know better the targeted aquifers. Then, 25 sites are selected to characterize aquifers through borehole drillings and pumping tests implementation. In the same sites, magnetic resonance soundings (MRS) and vertical electrical soundings (VES) are carried out. Geophysical results are compared to hydrogeological data, and geophysical parameters are used to characterize aquifers using conversion equations. Finally, combining the analysis of technical and economical impacts of geophysics, a methodology is proposed to characterize non-consolidated coastal aquifers. Depth and thickness of saturated zone is determined by means of MRS in 68% of the sites (evaluated with 34 soundings). The average accuracy of confined storativity estimated with MRS is  $\pm 6\%$  (evaluated over 7 pumping tests) whereas the average accuracy of transmissivity estimation with MRS is  $\pm 45\%$  (evaluated using 15 pumping tests). To reduce uncertainty in VES interpretation, the aquifer geometry estimated with MRS is used as a fixed parameter in VES inversion. The accuracy of groundwater electrical conductivity evaluation from 15 VES is enough to estimate the risk of water salinity. In addition, the maximum depth of penetration of the MRS depends on the rocks' electrical resistivity and is between 20 and 80 m at the study area.
- Vuoristo, K. -V. 1994. "Kaakkois-Aasian Eriyistalousalueet Translated Title: The Special Economic Zones and Regions in Southeast Asia." Terra. 2005 Elsevier Ltd. All rights reserved.: Volume 106, Issue 2, Pages 96-104. Descriptors: GEOGRAPHICAL ABSTRACTS: HUMAN GEOGRAPHY -- 70; WATER -- 74.13; international cooperation; developing region; economic zone; regional development; export processing zone; special economic zone; trade; foreign direct investment; industrial development. Notes: Geographic: Asia -- (Southeast). Abstract: A lot of economic zones and regions have been established during last decades in the Asean member countries in order to improve industrial regional development and foreign trade and to get foreign direct investments to Southeast Asia. Some development projects cross the state borders. They are known as triangles or quadrangles, and most of them are still not in operation. One regional project (The Golden Quadrangle)

will be developed in cooperation between an Asean (Afta-) country (Thailand) and three non-member neighbours (Myanmar, Laos, China). The most interesting inter-state economic region is The Southern Triangle (Singapore-Johore-Batam) around the globally important "Straits of Malaka". Most of these economic regions are however areas or zones which are situated in one country or province. In this article, the different types of economic triangles and regions are presented and analyzed, especially the most important ones. -from English summary. ISSN/ISBN: 0040-3741.

- Wain, Barry. 2004. "THE MEKONG'S TOOTHLESS GUARDIAN." FER. Dow Jones & Company Inc Aug 26, 2004: Aug 26. Volume 167, Issue 34, Pages 50. Descriptors: Asia & the Pacific; Natural resources; Short articles; Rivers; Resource management; Conservation; Water resources. Notes: Geographic: Mekong River Asia. Abstract: Efforts to ensure that the Mekong isn't ruined by development are hampered by the lack of an umbrella organization with authority over the entire river. The Mekong River Commission, formed by Thailand, Vietnam, Laos and Cambodia in 1995 to coordinate the management and conservation of the Mekong basin, has some obvious flaws: China isn't a member. Nor is Burma, also along the river's upper reaches. ISSN/ISBN: 0014-7591.
- Walker, Andrew. 1999. *The Legend of the Golden Boat : Regulation, Trade and Traders in the Borderlands of Laos, Thailand, China, and Burma*. Richmond: Curzon. page(s): 232. Descriptors: Boundaries -- Mekong River Region; Ethnology -- Mekong River Region; Inland water transportation -- Mekong River; Trade regulation -- Laos; Trade regulation -- Thailand; Trade regulation -- China; Trade regulation -- Burma; Mekong River Region -- Commerce; Southeast Asia -- Commerce. Notes: xviii; , [4] leaves of plates : ill., maps ; 25 cm.; Note(s): Includes bibliographical references (p. 196-224) and index.; Responsibility: Andrew Walker.; Entry: 19991021; Update: 20080323. ISSN/ISBN: 0700710744; 9780700710744. OCLC Accession Number: 42682034.
- Walker, Andrew. 1999. *The Legend of the Golden Boat : Regulation, Trade and Traders in the Borderlands of Laos, Thailand, China, and Burma*. Honolulu: University of Hawaii Press. page(s): 232. Descriptors: Ethnology -- Mekong River Region; Inland water transportation -- Mekong River; Trade regulation -- Laos; Trade regulation -- Thailand; Trade regulation -- China; Trade regulation -- Burma; Frontières -- Mékong, Région du; Ethnologie -- Mékong, Région du; Transports de navigation intérieure -- Mékong (Fleuve); Commerce -- Réglementation -- Laos; Commerce -- Réglementation -- Thaïlande; Commerce -- Réglementation -- Chine; Commerce -- Réglementation -- Birmanie; Mekong River Region -- Commerce; Borderlands -- Mekong River Region; Asia Sudoriental -- Comercio; Mékong, Région du -- Commerce; Government publication (gpb); State or province government publication (sgp). Notes: xviii; ill., maps ; 25 cm.; Note(s): Includes bibliographical references (p. 196-224) and index.; Responsibility: Andrew Walker. Vendor Info: Baker & Taylor Baker & Taylor Ingram Baker and Taylor YBP Library Services (BKTY BKTY INGR BTCP YANK) 20.00 39.00 Status: active active; Entry: 19990406; Update: 20080325. ISSN/ISBN: 0824822552 (cloth : alk. paper); 9780824822552 (cloth : alk. paper); 0824822560 (pbk. : alk. paper); 9780824822569 (pbk. : alk. paper) LCCN: 99-28886. OCLC Accession Number: 41143078.
- Walker, Leanne. 2007. "Lake of the Floating Gardens." Geographical Additional Info: United Kingdom. June. Volume 79, Issue 6, Pages 60-4, 66. Descriptors: Indigenous peoples -- Myanmar. Notes: Details: il map.; Date of Entry: 20070827. Abstract: The unusual way of life of Myanmar's Intha people, who live and work on the waters of Inle Lake, is described.

The Intha, known for their unusual technique for rowing with one leg, live in houses on stilts above the water and earn their living from fishing or growing vegetables in extremely fertile floating gardens created from lake mud carried by reed mats. Availability: Connect to the catalog at your library.

WALTER REED ARMY MEDICAL CENTER WASHINGTON D C. 1966. "Health Data Publications no. 30. Burma (Union of Burma)." JAN. Descriptors: PUBLIC HEALTH; BURMA; TRANSPORTATION; GOVERNMENT(FOREIGN); NATURAL RESOURCES; DEMOGRAPHY; DISEASES; COMMUNICATION AND RADIO SYSTEMS; MAPS; ANIMALS; INFECTIOUS DISEASES; MEDICAL SERVICES; NUTRITION; AGRICULTURE; GEOGRAPHY; SOUTHEAST ASIA; EPIDEMIOLOGY; PLANTS(BOTANY); SANITARY ENGINEERING; DISEASE VECTORS; MEDICINE AND MEDICAL RESEARCH. Abstract: ;Contents: Geography, area, and population; Socio-economic; Government and education; Resources and commerce; Transportation and communications; Diet, nutrition, and food sanitation; Housing and water supplies; Sewage waste, garbage disposal; Plants of medical importance; Animals of medical importance; Diseases of Burma; Community health services; Medical personnel and facilities. Notes: Distribution Statement: APPROVED FOR PUBLIC RELEASE. OCLC Accession Number: ADA001424.

Wan, X., Wu, Y. and Li G. Affiliation: X. Wan, China University of Geosciences, Beijing 100083 Country: China E-mail: wanxq@cugb.edu.cn. 2003. "Distribution of Mid-Cretaceous Orbitolinids in Xizang (Tibet) and its Paleobiogeographic Implications." *Acta Geologica Sinica*. 2005 Elsevier Ltd. All rights reserved.: Volume 77, Issue 1, Pages 8-14 Additional Info: China. Descriptors: Palaeoecology and palaeobiogeography -- 72.8.8; Tethys; Cretaceous; paleobiogeography; continental drift; foraminifera Species Term: Orbitolinidae. Notes: References: Number: 37; Geographic: China -- Tibet. Abstract: Orbitolinids is a kind of larger foraminifera. It occurred frequently during late Barremian to Cenomanian of Cretaceous and distributed worldwide, especially in the shallow marine belts surrounding the Tethys ocean. Its distribution in Xizang (Tibet) is limited in the Lhasa Block and some parts of the Qiangtang Basin. To both sides of this area, the distribution extends to Myanmar in the east and Ladakh to the west. Along the coast of Tethys, it migrated to Japan, Malaysia, Indonesia, Kashmir, Afghanistan, Mid-East, West and South Europe, North Africa and Caribbean regions. It never migrated into the Indian Plate where a mixed planktonic and smaller benthic foraminiferal fauna appeared during that time. Orbitolinids was found in the Tanganyika region in east Africa, but it did not migrate eastward into the Indian Plate either. Like Orbitolinids, a bivalve fauna of *Isodomella*-*Caestocorbula* found in the Lhasa Block belongs to the Japanese-East Asia sub-province (Wen, 1992), and no affinity has been found from the Indian continent. Whatley and Bajpai (2000) described an ostracod fauna of *Limnocythere falsocarinata*-*Frambocythere tumiensis*-*Gomphocythere gomphiomatos*. The fauna is shown to be an endemic Indian fauna without links to the specific level with China or Mongolia. The distribution of Orbitolinids and relative biotas support the tectonic geography. It is firmly established that the rise of the Tibetan plateau is the result of convergence of different terranes. During mid-Cretaceous, the Lhasa block had attached to the Eurasian continent. The Bangong Lake-Nujiang River suture closed at the end of Jurassic. By that time the Lhasa block was at the south margin of the Eurasian continent, thus the shallow water faunas like Orbitolinids and bivalves could migrate along the east and west margin of the Eurasian continent. Paleobiogeographically, the Lhasa Block belongs to the north temperate

realm. The Indian Plate started to move away from Africa by early Cretaceous and drifted to the north. It was isolated from Eurasian continent to the north and from Africa to the west by Neo-Tethys ocean that was a barrier for migration of shallow water faunas. No Orbitolinids have been found from Indian Plate where faunas are shown not to be closely related to contemporary shallow water biota of the Eurasian continent. ISSN/ISBN: 0001-5717.

Wang, Dandan; Yuan, Xiping and Gan, Shu. 2008. Study on Land Cover Remote Sensing Monitoring and LUCC Analysis in Frontier Small River Basin. Barcelona, Spain: Institute of Electrical and Electronics Engineers Inc., Piscataway, NJ 08855-1331, United States. page(s): 3482-3485. 2007 IEEE International Geoscience and Remote Sensing Symposium, IGARSS 2007. Conference: Jun 23-28 2007. Descriptors: Remote sensing; Geographic information systems; Land use; River basin projects. Abstract: Selected WanDing river basin as a case study which is located in Yunnan frontier area, based on comprehensive integrated application of remote sensing and GIS technology, this research used interpretation method to extract study area's land use/land cover information in 2004, and adopted spectrum direct comparison method to extract its land use/land cover change information from 1990 to 2004. In consideration of the small river basin's special character that its land cover or landscape not only has spatial integrity of surface unit, and internal characteristic similarity, but also has some difference in land use forms and intensions between different neighboring nations, in order to obtain LUCC information in this study area, this research analyzed each land use type's quantity, spatial distribution characteristic and their land use/land cover change's quantity, spatial distribution characteristic, land use change degree characteristic etc, emphasized on those characteristics' difference between different neighboring nations. Finally, took the area in china in this basin as example, discussed and analyzed the main driving factors which caused its land use/land cover change, and their influence process. The preliminary results indicate that: 1) remote sensing monitoring and GIS processing technology is necessary, progressive, and scientific when apply to this kind of special area, and after field sampling analysis we could come to conclusion that the interpretation precision of this study area's monitoring result comes near to 90%; 2) the landscape pattern in 2004 was that the percentage of woodland was the biggest one(47.35%), the next was farmland(30.68%), the remaining lawn, water area, construction land and unused land were 14.14%, 1.06%, 4.43%, and 2.34% respectively; 3) contrasted the land use structure status belongs to our country and Burma in this basin, we can find that there existed obvious difference in land use forms and its effect in 2004, the most obvious representation was construction land use, its proportion in our country was 6.34%,while 3.62% in Burma, this phenomena shows that the urbanization level was higher in our country, and our land use degree was greater than that of our neighboring country; 4) it can be concluded from LUCC monitoring result that, from 1990 to 2004, the total area whose land use type had changed in this basin up to 25.81Km<sup>2</sup>, reached 12.06% of the whole basin's area, it indicates that, the land use changed greatly, the most prominent performance was that construction land expanded to a large degree, its grow index up to 6.02% per year, the spatial distribution of this expansion main occurred along important road regions on the edge of WanDing economic development zone, and expanded at the cost of occupying a mass of farmland. The next prominent performance was that water area and woodland reduced in a large-scale. 5) contrasted and analyzed the two neighboring countries' LUCC in this basin, we can conclude that, except water area and construction land changed in a consistent way, the others were all presented a different tendency, this distinction fully presents land use difference between the

- two countries; 6) made analysis to nature factors and humanities factors which affects land use and land cover change in the part of china in this basin, it indicates that, the special climate and terrain landform natural factors, the rapid growth of population and economical, the progress of social product level and technical, and the guidance function to land use by system and policy were the main driving forces, within them, the driving function of social economy factor was dominant. &copy; 2007 IEEE. Notes: Compilation and indexing terms, copyright 2008 elsevier inc.; T3: International geoscience and remote sensing symposium (IGARSS). ISSN/ISBN: 1424412129. URL: <http://dx.doi.org/10.1109/IGARSS.2007.4423596>.
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were resistant. Earliness in fruit maturity was positively correlated with susceptibility to gummy stem blight ( $r = 0.424$ ). Cucumber accessions differed in the incidence of stem and hypocotyl cankers. In greenhouse grown plants at the 2nd-3rd leaf stage, differentiation of resistant lines was obtained by spraying plants with an aqueous suspension of  $10^6$ /ml *D. bryoniae* spores followed by 48 hr incubation at 20 C, 100% RH in the dark. One cycle of mass selection in Homegreen #2 resulted in improved gummy stem blight resistance. Notes: Degree: PH.D. OCLC Accession Number: AAG8410804.

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Yamamoto, K., Fukuda, Y., Nakaegawa, T. and Nishijima J. Affiliation: K. Yamamoto, Department of Geophysics, Graduate School of Science, Kyoto University, Kitashirakawa Oiwake-cho, Sakyo-ku, Kyoto Country: Japan E-mail: yamamoto@kugi.kyoto-u.ac.jp. 2007. "Landwater Variation in Four Major River Basins of the Indochina Peninsula as Revealed by GRACE." Earth, Planets and Space. 2007 Elsevier B.V., All rights reserved.: Volume 59, Issue 4, Pages 193-200 Additional Info: Japan. Descriptors: Applications: hydrosphere -- 71.8.8.4; estimation method; gravity field; hydrological modeling; numerical model; river basin; satellite imagery; water storage. Notes: References: Number: 26; Geographic: Asia Central Region [Thailand] Chao Phraya Basin Eurasia Indochina Irrawaddy River Mekong Basin Myanmar Salween Basin Southeast Asia Thailand. Abstract: We estimated mass variations in four major river basins - the Mekong, Irrawaddy, Salween and Chao Phraya river basins - of the Indochina Peninsula using the newly released GRACE (Gravity Recovery and Climate Experiment) monthly gravity field solutions of UTCSR RL02 (University of Texas at Austin, Center for Space Research Release 02), JPL RL02 (Jet Propulsion Laboratory Release 02) and GFZ RL03 (GeoForschungsZentrum Potsdam Release 03). The estimated variations were compared with that calculated from a numerical model. The results show that there is a good agreement between the GRACE estimations and the model calculation for the Mekong and Irrawaddy basins, while the agreement for the Salween and Chao Phraya basins is poor, mainly due to the spatial scale of the areas concerned. The comparison over the combined area of the four river basins shows fairly good agreement, although there are small quantitative discrepancies. The amplitudes of the annual signals of the GRACE solutions are 0.9- to 1.4-fold larger than that of the hydrological model, and the phases are delayed about 1 month compared with the model signal. The phase differences are probably due to improper treatments of the groundwater storage process in the hydrological model, suggesting that the GRACE data possibly provide constraints to the model parameters. Copyright (c) The Society of Geomagnetism and Earth, Planetary and Space Sciences (SGEPSS); The Seismological

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- Zangaki. 1889. [Album of Photographs of Burma, India and Egypt]. Descriptors: Buddhist temples -- Burma; Carts & wagons; Castles & palaces -- Burma; Churches -- India; Clubhouses -- India; Dancers -- Burma; Forts & fortifications -- Burma -- Mandalay; Forts & fortifications -

## Myanmar Water

- India; Gardens -- India; Markets -- India; Men -- Clothing & dress; Monks -- Burma; Monuments & memorials; Mosques -- India; Nuns -- Burma; Pagodas -- Burma; Palms; Railroad stations -- India; Sailing ships -- Egyptian; Schools -- Burma; Taj Mahal (Agra, India); Tombs & sepulchral monuments -- India; Water buffaloes; Wells -- Egypt; Women -- Burma -- Clothing & dress; Graphic (grp); Photograph (pht). Abstract: Views in Burma: Mandalay: fort and moat, and the King Thibaw's classroom in the fort; the palace; pagodas; pagodas and monasteries at Wunsho, Rangoon and other locations, and including view of Phomsee school, and monks with begging bowls; individuals and groups, including group from Sagiang, a Burmese princess in court costume, Shan woman, Kachin woman, Hunthol (?) woman, women and girls including one identified as "Sussanah, the artist's wife"; a Burmese nun; men, a father and child; women cleaning rice; men and water buffalo at oil cake factory; water buffalo-drawn carts; dancers who performed for Prince Albert Victor. Views in India: Taj Mahal at Agra, including interior view of tomb, masoleum of "Prince Dowlah" [Itimad ud-Daula?]; Pearl Mosque; Iron Pillar, Dehli; Lahore gate, entrance to fort at Dehli; Agra Fort; Kasuali: Taps Nose or Monkey Point; Christ Church; market and depot; club house and recreation grounds; Lawrence Military Asylum, Sanawur, near Kasauli; Ootacamund [Udagamandalam]: St. Stephen's Church, Government Gardens, Ootacamund Lake; general view of Coonoor, showing people and carts gathered in center of village; an encampment in a valley; bridge over mountain stream, and men with carts. Banana trees and group of people; 99th Regiment memorial pillar. Views in Egypt or vicinity: water buffalo drawing water, men harvesting dates and one mounted on camel; Alexandria: boat moored near bridge, and a general view; man drawing water; palm trees; views of water buffalo in a river. Portraits of unidentified men, all wearing turbans, some with embroidered jackets, medals and swords. Notes: 1 album (68 photographic prints); Named Person: Thibaw, King of Burma, fl.1875-1885 -- Homes and haunts.; Genre/Form: Albums. Group portraits. Portraits. Albumen prints. Photographic prints. Silver gelatin prints.; Geographic: Agra (India) Alexandria (Egypt) Coonoor (India) Dehli (India) Mandalay (Burma) Rangoon (Burma) Udagamandalam (India); Note(s): Title devised by cataloger./ Photographic prints are mounted on heavy paper in a half-leather-bound album. "Early photos of the East" in pencil on inside cover./ Two images depict dancers who performed for Prince Albert Victor who visited Burma beginning late 1889. See Rees, H.R.H. The Duke of Clarence and Avondale in Southern India, 1891./ Most are captioned in English on page below photographs. Those that lack captions are silver gelatin prints which may have been added to the album later. Some are numbered and captioned in English in negative; images by "Zangaki," have photographer's name, captions in French and numbers in negative.; General Info: Admission is granted through application to the Office of Special Collections./ Transfer from Dance Collection, 1985.; Other Titles: Early photos of the east.; Entry: 19930916; Update: 20070201. OCLC Accession Number: 81220913.

Zaw, Khin. 2004. "Geological Setting and Formation of the Bawdwin Deposit, Northern Shan State, Myanmar; a Silver-Rich, Volcanic-Hosted Polymetallic Massive Sulfide Deposit; Dynamic Earth; Past, Present and Future." Abstracts - Geological Society of Australia. Geological Society of Australia, Sydney, N.S.W., Australia (AUS): Australia (AUS). Volume 73, Pages 139. Descriptors: Asia; Bawdwin Deposit; Burma; Cambrian; Far East; hydrothermal vents; igneous rocks; intrusions; isotope ratios; isotopes; marine environment; massive deposits; massive sulfide deposits; metal ores; mineral deposits, genesis; Paleozoic; pipes; polymetallic ores; rhyolitic composition; S-34/S-32; Shan State Burma; silver ores;

stable isotopes; sulfur; volcanic rocks; volcanoclastics. Notes: LL:  
Latitude:N210000,N241100 Longitude:E1010500,E0961000; CY: GeoRef, Copyright 2007,  
American Geological Institute. Produced under license from the Commonwealth of Australia  
as represented by Geoscience Australia, Canberra, ACT, Australia. Database: GeoRef.  
ISSN/ISBN: 0729-011X.

- Zaw, Khin. 2002. "Sediment-Hosted Gold Mineralisation at Kyaukpahto, Kawlin-Wuntho District, Northern Myanmar; Geoscience 2002; Expanding Horizons; Abstracts of the 16th Australian Geological Convention." Abstracts - Geological Society of Australia. Geological Society of Australia, Sydney, N.S.W., Australia (AUS): Australia (AUS). Volume 67, Pages 349.  
Descriptors: aliphatic hydrocarbons; alkanes; Asia; Burma; carbon dioxide; Cenozoic; clastic rocks; disseminated deposits; Eocene; epithermal processes; Far East; faults; fluid inclusions; fractures; gold ores; hydrocarbons; inclusions; Kawlin-Wuntho mining district; Kyaukpahto Burma; laser ablation; laser methods; Male Formation; metal ores; methane; mineral deposits, genesis; Miocene; Neogene; northern Burma; organic compounds; Paleogene; Sagaing Fault; sandstone; sedimentary rocks; strike-slip faults; sulfides; sulfur; Tertiary; transfer faults.  
Notes: FE: References: 2; CY: GeoRef, Copyright 2007, American Geological Institute. Produced under license from the Commonwealth of Australia as represented by Geoscience Australia, Canberra, ACT, Australia. Database: GeoRef. ISSN/ISBN: 0729-011X.
- Zaw, Khin. 1998. "Geological Evolution of Selected Granitic Pegmatites in Myanmar (Burma); Constraints from Regional Setting, Lithology, and Fluid-Inclusion Studies." *Int. Geol. Rev.* Winston & Son, Silver Spring, MD, United States (USA): United States (USA). Jul. Volume 40, Issue 7, Pages 647-662. Descriptors: Asia; beryl; Burma; dikes; Far East; fluid inclusions; gems; geologic thermometry; granites; granitic composition; hydrothermal conditions; igneous rocks; inclusions; intrusions; kaolin deposits; lithofacies; metal ores; mineral deposits, genesis; mineral exploration; mineralization; ore-forming fluids; P-T conditions; pegmatite; petrography; plutonic rocks; ring silicates; S-type granites; silicates; structural controls; tin ores; tungsten ores; veins. Notes: CD: IGRAP; FE: References: 71; illus. incl. 3 tables; CY: GeoRef, Copyright 2007, American Geological Institute. Abstract: Pegmatite deposits commonly occur in the 1500 km long, N-S-trending, tungsten-tin-bearing granitoid belt in Myanmar. Pegmatites are emplaced as veins and dikes that cut granitoid, migmatite, gneiss, gneiss, and schist. The pegmatite veins and dikes are mostly 2 to 5 meters wide and 30 to 150 meters long, and some are traceable over a distance of 300 meters. The pegmatites are composed of quartz, orthoclase, albite, microcline microperthite, and muscovite, with minor biotite, tourmaline, beryl, garnet, topaz, lepidolite, magnetite, wolframite, cassiterite, and rare columbite. They are commonly zoned, feldspars and muscovite being more abundant in the center and quartz more common at the margin. The zoning pattern is rather distinct in the pegmatite body, where tourmaline is present. The light-colored felsic minerals are confined to the core zone and the dark-colored tourmaline crystals to the outer zone. Numerous fluid inclusions have been found in quartz, topaz, and beryl. Most of the inclusions are rounded to elliptical, with a variable degree of liquid filling. All inclusions are aqueous, two-phase (liquid and vapor) inclusions with no daughter minerals. Homogenization temperatures of 173 fluid inclusions were measured in this study. Geothermometric studies indicate that the pegmatites were formed over a homogenization temperature range of 230 degrees to 410 degrees C. Salinities of fluid inclusions in pegmatite minerals yielded from 1.0 to 10.8 NaCl equiv. wt%. Topaz and quartz single crystals (several cm across) from the Sakangyi pegmatite provide an opportunity to extract the fluids trapped in these minerals. The Na/K ratios of the

fluid inclusions in two topaz samples were 3.0 to 4.9, and those of two quartz samples were 2.9 to 10.5, suggesting the presence of substantial potassium in the pegmatite-forming fluids. In this study, evidence for phase separation of the pegmatite-forming fluids was not observed. The post-magmatic, hydrothermal fluids responsible for the pegmatite veins evidently emanated from cooling S-type granitoids, with which they are spatially associated. Database: GeoRef. ISSN/ISBN: 0020-6814.

- Zhu, B. Q., Mao, C. X., Lugmair, G. W. and Macdougall, J. D. 1983. "Isotopic and Geochemical Evidence for the Origin of Plio- Pleistocene Volcanic Rocks Near the Indo-Eurasian Collisional Margin at Tengchong, China." *Earth & Planetary Science Letters*. 2005 Elsevier Ltd. All rights reserved.: Volume 65, Issue 2, Pages 263-275. Descriptors: MINERALOGY -- 72.1. Notes: Note(s): Special Feature: 10 figs, 2 maps. Abstract: In Yunnan Province, China, regional extensional stresses associated with the collision between India and Asia have formed a series of downfaulted N-S-trending basins. Near Tengchong, in extreme W Yunnan, close to the Burma border, one of these basins is characterized by volcanism which began in the Pliocene (approx 7 m.y. B.P.) and has continued until historic times. This suite ranges in composition from basalt to dacite, with most lavas being K- rich. Five chemical groups are recognized, which are broadly consistent with previous groupings made on the basis of geological and age data. The main series of lavas was derived by partial melting of a metasomatized and heterogeneous mantle source, with crustal and possibly sea-water components probably related to prior subduction beneath Asia. An andesite-dacite series with similarities to Tibetan calc-alkaline lavas shows clear indications of assimilated crust and crystal fractionation. There is no evidence for a strongly depleted subcontinental mantle such as has been recognized elsewhere. -P.Br. Availability: Connect to the catalog at your library.
- Zhu, B-Q, Mao, C-X, Lugmair, G. W. and Macdougall, J. D. 1983. "Isotopic and Geochemical Evidence for the Origin of Plio-Pleistocene Volcanic Rocks Near the Indo-Eurasian Collisional Margin at Tengchong, China." *Earth and Planetary Science Letters*,. 11. Volume 65, Issue 2, Pages 263-275.
- Ziegler, Jean and UN. Commission on Human Rights. Special Rapporteur on the Right to Food. 2003. *The Right to Food : Report*. Geneva: UN. Descriptors: RIGHT TO FOOD; FOOD SECURITY; RIGHT TO DRINKING WATER; GUIDELINES; HUNGER; MALNUTRITION; FOOD POLICY; CASE STUDIES; NIGER; BANGLADESH; BRAZIL; HUMAN RIGHTS VIOLATIONS; ZIMBABWE; MYANMAR; TERRITORIES OCCUPIED BY ISRAEL; RECOMMENDATIONS; FAO; UN. Committee on Economic, Social and Cultural Rights; World Food Summit : Five Years Later (2002 : Rome); Government publication (gpb); International government publication (igp); Internet resource (url). Abstract: Reports on the Special Rapporteur's activities to promote greater awareness and implementation of the right to food; focuses on the development of International Guidelines on the Right to Food, under the auspices of FAO, and a new General Comment no. 15 on the right to water by the Committee on Economic, Social and Cultural Rights; describes the process in place for receiving and responding to allegations of violations of the right to food; ends with conclusions and recommendations. Notes: 23 p.; Title Subject: International Guidelines on the Right to Food (Draft) International Covenant on Economic, Social and Cultural Rights (1966); Note(s): Includes bibliographical references (p. 21-23)./ UN Job no.: G0311070 E./ UN Job no.: G0310236 E./ Material type: Reports/studies./ Issued under agenda item 10, agenda document E/CN.4/2003/1.; General Info: Distribution: General.; Responsibility: submitted by the Special Rapporteur on the Right to Food, Jean Ziegler, in

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accordance with Commission on Human Rights resolution 2002/25.; Date of Entry: 20030214; Update: 20070202. OCLC Accession Number: 81285490. URL: <http://daccess-ods.un.org/access.nsf/Get?Open&DS=E/CN.4/2003/54&Lang=A>; Materials specified: Full text: Arabic File transfer mode: PDF <http://daccess-ods.un.org/access.nsf/Get?Open&DS=E/CN.4/2003/54&Lang=A> Note: Click here; Materials specified: Full text: Chinese File transfer mode: PDF <http://daccess-ods.un.org/access.nsf/Get?Open&DS=E/CN.4/2003/54&Lang=C> Note: Click here; Materials specified: Full text: English File transfer mode: PDF <http://daccess-ods.un.org/access.nsf/Get?Open&DS=E/CN.4/2003/54&Lang=E> Note: Click here; Materials specified: Full text: French File transfer mode: PDF <http://daccess-ods.un.org/access.nsf/Get?Open&DS=E/CN.4/2003/54&Lang=F> Note: Click here; Materials specified: Full text: Russian File transfer mode: PDF <http://daccess-ods.un.org/access.nsf/Get?Open&DS=E/CN.4/2003/54&Lang=R> Note: Click here; Materials specified: Full text: Spanish File transfer mode: PDF <http://daccess-ods.un.org/access.nsf/Get?Open&DS=E/CN.4/2003/54&Lang=S> Note: Click here.