PART V

CONCLUSION
ACKNOWLEDGMENTS AND BIBLIOGRAPHY

Picture 140
Identifying social groups in Afghanistan is the next immediate and priority step in developing a water/natural resources management tool for Afghanistan. Here, a farmer met in Badghis while weeding his rain-fed wheat field, 23 May 2003

I. CONCLUSION

With this first edition of the Watershed Atlas, Afghanistan is amongst the few countries developing a national planning tool for watershed management. The Watershed Atlas provides a planning and management tool for watershed management programs, which immediate application includes hydrology, climatology and agriculture production analysis and monitoring. It is a technical tool supporting the implementation of the National Development Framework of the Government of Afghanistan, and a support frame water and natural resources programs coordination mechanisms at national level. The statistics and the maps (hard copy and GIS shapefiles) can help to prioritize watershed and river basins for future program planning.

The Atlas provides two levels of catchments classification;

1. *River Basins*. 5 River basins have been defined in Afghanistan, and
2. *Watersheds*. 41 Watersheds, which includes 5 none-drainage areas, have been defined in Afghanistan.

Both classifications fulfilled their own purposes as illustrated by the table 57.

Table 57
Level of Interventions and Terminology on Water Catchments

LEVEL	TERMINOLOGY	DEFINITION IN AFGHANISTAN	TYPE OF USE
International	River Basins	5 basins	Transnational Treaties Large reservoirs/dams for irrigation/hydro-power Water/Natural Resources Planning and Protection Aggregation at River Basin level of Watersheds Planning and Coordination
National	Watersheds	40 watersheds	River flow monitoring Agro-meteorology monitoring Water balance analysis Water/Natural resources management planning and coordination
Community	Micro-Catchments	3000-4000 micro-catchments[1]	Community participatory approach in natural resources management Land rights and land use issues
Micro-projects	Community Water-point Areas	Varies with the number of project implemented	Special protection of micro-catchment areas (i.e. drinking water, local salt extraction, protected water resources, etc..)

However, a finer classification for community watershed management work - which is broadly accepted as a key element for the success of watershed programmes – is yet to be defined. Work on defining 'social groups' is underway and preliminary work has estimated that the total number of 'social groups' in Afghanistan may be somewhere between 3000 and 4000[2]. This in turn would mean that on 'average', each watershed we would be composed 75-100 Micro-Catchments manageable by communities. Considering

[1] Based on preliminary work on social group definition in Afghanistan made by the author. See Favre, Raphy "*Interface between State and Society. An Approach for Afghanistan*", 30 October 2003.
[2] See Favre, Raphy, *Op. Cit.*, 30 October 2003.

the Central Statistic Office (CSO) 2003-04 the total population of 22.2 millions inhabitants (including *kuchi*), each 'social group' would represent around 5500-7400 people.

Other limitations of the first edition of the Watershed Atlas are these:

1. The FAO landcover data are aging, as they were produced 10 years ago. Maletta and Favre in 2003[3] conducted a ground checking of the landcover atlas to identify the major changes in the past year particularly for the agricultural land cover. The observations have been presented in the annexes of the 2002-2003 winter survey agriculture report and can be useful to consider for any program planning that requires landcover data. An update of the landcover is highly required.
2. The Atlas could not provide any analysis of slope gradient, which, in conjunction with the landcover, is an important tool for watershed management and prioritization of fragile zones within each watershed. Therefore, it is recommended that a finer classification of land by sensitivity to surface water degradation with a cross-section of landcover and slope gradient within each watersheds is conducted.

The Watershed Atlas aims to be an 'open source' of data and a repository of information relevant to watershed management in Afghanistan. The Watershed Atlas is a first edition and a working document for planners. Contributions/feed back from users of the Atlas is essential to continue improving the quality of the information. Contributions and any relevant survey/activity reports in this sector can be sent to info@aims.org.af. The Atlas aims to be updated every year.

Finally, by producing a Watershed Atlas for Afghanistan, we advocate for a watershed management approach or a natural resources management approach. Afghanistan's main natural resource affecting livelihood is undoubtedly Water. The economic development of Afghanistan is facing a dilemma as this will require an increased use of the available water-resources which in turn may result in:

a) a change of water share balance with neighbouring countries, and
b) a modification of water availability for the preservation of natural resources such as water bodies and wetlands in Afghanistan and neighbouring countries.

Improving water use efficiency is a key for a successful, smooth and sustainable development of Afghanistan as well as neighbouring countries. Irrigation is the chief user of water (99%) and improving irrigation efficiency and management is essential. A river basin approach is required. With the same amount of water, irrigated lands must produce greater quantities of food and fibre to feed and clothe a growing population. Such an approach requires to working closely with social groups and thus next immediate and priority step is identifying and acknowledging social groups in Afghanistan.

[3] Maletta, Hector and Favre, Raphy, "*Agriculture and Food Production in Post-war Afghanistan. A Report of the Winter Agriculture Survey 2002-2003*", FAO, Kabul, August 2003.

II. ACKNOWLEDMENT

We are grateful to the many organizations and individuals who assisted us with our work. In particular, this project would not have been possible without the support of Serge Verniau, FAO representative, David Saunders, AIMS program manager, Markus Mueller and Matthias Anderegg from the Swiss Development and Cooperation Agency and Andrew Wilder, AREU Director. It is thanks to an outstanding collaboration between these agencies that this Watershed Atlas - which was initiated and implemented mostly on a voluntary basis - could be finalised.

We acknowledge the support of Shawn Massic, AIMS Field Coordination, who prepared the first draft of watershed and river basin boundaries in early 2003 and which was the basis for field verification. The project benefited from the outstanding support of Mr. Sharif Shobair, FAO Irrigation Expert, who made available a number of important bibliographic references and liaised with the Ministry of Irrigation for the watershed team. Special thanks to Maharufa Hossain, AIMS field officer and Aimal Maiwand AIMS field officer assistant who assisted the GIS expert for producing the maps and to Mr. Ghulam Jelani, AIMS Liaison Officer, for useful comments of on a draft version of the watershed atlas report and reviewing the geographical names spelling in accordance to regional agreements.

We highly appreciated the good support and collaboration of the Ministry of Irrigation, Water Resources and Environment. In particular, Eng. Aziz, deputy Minister; Eng. Abdul Ghaffur Yayah, adviser to MIRWE Minister; Eng. Sultan Mohmud, Head of water and hydrology department; Najmuddin, Hydrologist in water and hydrology department; Dr. Rustaqi, Hydro-meteorologist in water and hydrology department; Eng. Gulbaharam Halimi; Deputy director, water and hydrology department; Eng. Ebadullah, Deputy director water management department; Abdul Lutfur Rahman Azizi, Hydrologist, water and hydrology department. The Ministry of Power provided equally good support, in particular Ghulam Rabani, Head of Planning department in Ministry of Water and Power and Gulajan Rabani, Deputy Head of Planning department.

Various Organizations and Individuals have actively supported the watershed atlas, in particular Mr. Emanuel Deval, ADB Hydrologist for sharing the hydrological data; Michael E. Budde, USGS/EROS Physical Scientist and Saud A. Amer, USGS Environmental Scientist for processing recent true colours composite satellite image for the Atlas; Rabah Lekhal, FAO agro-climatologist for sharing climatic data; Juan Gonzales, Louis Berger Group Inc., Senior Irrigation Engineer; Dr. Trevor Beaumont, EC GIS expert in Environmental and Resources Management; David Craven, DAI GIS Specialist; Mohammad Ibrahim Sultani, Chemonics Irrigation engineer and Arnault Cauchois, Food Security Advisor, EC.

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web, please contact FAO-Afghanistan or AIMS for a CD-ROM of the report, data, maps, shapefiles, charts, tables and pictures.

III. PICTURES CREDIT

The pictures 75 (Darunta dam), 132 and 133 (Bandi Chak dam) were taken by Juan Gonzales, Louis Berger Group Senior Irrigation Engineer on the 30th December 2004. courtesy of The Louis Berger Groups Inc.

The pictures 125 and 126 (Bandi Sultan dam) were taken by Dr. Anthony Fitzherbert on the 18 March 2003.

The pictures 20 (wood wholesale in Nuristan), 76 (Nuristan forest) and 137 (Kunar valley) were taken by Jeoffrey, FAO forestry consultant.

The picture 77 (Nuristan forest) was taken by Serge Verniau, FAO-Afghanistan Representative in July 2003.

All other pictures were taken by the author Raphy Favre. For each picture, the geographical coordinates are indicated as well as the direction the picture was taken (letter after the geographical coordinates). For instance, the front page picture was taken South-Eastward (N34.83, E67.21, SE).

IV. BIBLIOGRAPHY

Anonymous,

"*Migratory waterfowl likely to be hit by war in Afghanistan*", Wildlife in India, October 2001. http://www.wildlifeofindia.com/artafghanwar.htm

"*Water Resource Development in Northern Afghanistan and its Implication for Amu Darya Basin*", 200?.

"*Underground Water Composition in Northern Afghanistan"*, Schematic map 1:50,000 (in Russian), 1968.

Afghanistan Info,

"*Importantes découvertes Archéologiques*", No 51, Sept. 2002.

Afzali H.,

"*Les ressources d'hydrocarbures, de métaux et de substances utiles de l'Afghanistan: aperçu général"*, Chronique Recherches Minières, No. 460, 1981.

Ahmad, Rashid,

"*Taleban. Militant Islam, Oil and Fundamentalism in Central Asia*", Yale University Press, 2000.

AFRANE,

"*Les karez d'Afghanistan*", 1994.

Banks, David.,

"*Guidelines for Sustainable Use of Groundwater in Afghanistan. Case Studies; Overview of Water Resources; Suggestions for Groundwater Management. Policy Document*", NCA, 17 April 2002.
http://www.nca.no/article/articleview/2291/1/280/

"*Water Assessment Mission to Afghanistan January-February 2002. Part E: Structure of Water and Sanitation Management in Afghanistan*", NCA, Oslo, 26 February 2002. http://www.nca.no/article/articleview/2291/1/280/

"*Water Assessment Mission to Afghanistan January-February 2002. Part F: Urban Water Supply Systems in Afghanistan*", NCA, Oslo, 26 February 2002.
http://www.nca.no/article/articleview/2291/1/280/

Berding, F.R.,

"*Promotion of Agricultural Rehabilitation and Development Programs. Land Management*", in Agricultural Strategy, FAO, Rome, January, 1977; a report part of the Afghanistan Agricultural Strategy, FAO, Rome, 1997.

Costa, Ravi,

"*Literature Review on Afghanistan's Water Resources*", H2O Ray of Hope, Ravi_costa@yahoo.com, USA

CSO,

"*Population Data 2003-04*", 2003.

Cullather, Nick,

"*Damming Afghanistan: Modernization in a Buffer State*", The Journal of American History, September 2002.
http://www.indiana.edu/~jah/teaching/404.shtml

Dupree, Louis,

"*Afghanistan*", Princeton University, 1973.

Dupree, Nancy Hatch,

"*An Historical Guide to Afghanistan*", Afghan Air Authority and Tourist Organization, Kabul, 1977.

Etienne, Gilbert,

"*L'Afghanistan ou les Aléas de la Coopération*", PUF, Paris, 1972.

"*Imprévisible Afghanistan*", presses de science PO, La bilbio. du citoyen, 2002.

English, P. W.,

"*The Origin and Spread of Qanats in the Old World*", Proceedings American Philosophical Society, Vol. 112, No 3, June, 1968.

Elphinstone, Monstuart,

"*An Account of the kingdom of Caubul*", Graz, Akademische Druck u. Verlagsansralt, 1969

FAO,

"*Report on Survey of Land and Water Resources. Afghanistan, volume I-IV - Geology and Topographic Survey; Hydrology; Soils and Land Classification; Water Control, Irrigation and Power; Irrigation Development*", FAO/SF: 9/AFG, Rome, 1965.

"*Food Security through Sustainable Crop Production in Afghanistan. An account of the Achievements of the AFG/96/004 Program 1997-1999 and Opportunities for 2000 and beyond*", November 1999.

"*Preparing the next Generation of Watershed Management Projects/Development Programmes. Concept Note*", Rome, 2003.
http://www.sabawoon.com/afghanpedia/Drainage.shtm

"*Strategies, approaches and systems in integrated watershed management, Conservation Guide 14*", 1986.

"*Developing Participatory and Integrated Watershed Management, Community Forestry Case Study Series 13*", 1998.

FAO/UNEP and OSU,

"*The Atlas of International Freshwater Agreements*", 2003. *http://www.transboundarywaters.orst.edu/publications/atlas/*

FAO/UNDP/Geodesy and Cartography Department,

"*Provincial Landcover Atlas of Islamic State of Afghanistan. Utilization of Remote Sensing for the Inventory and Monitoring of Agricultural Land in Afghanistan*", based on 1990/93 Landsat TM data in 1990/93, March 1999.

FAO/WFP,

FAO/WFP, "*Food and Crops Supply Assessment*", 8 June 2001.

FAO/WFP, "*Food and Crops Supply Assessment*", 16 August 2002.

FAO/WFP, "*Food and Crops Supply Assessment*", 13 August 2003.

Favre, Raphy,

"*Agriculture in Afghanistan. A Contribution for a better Understanding*", Afghanistan info, Comité suisse au peopl e afghan, No 52, Sept. 2002.

"*Monitoring of the Winter Agriculture and Food Security Survey and Field Observations on Agriculture Situation in Badakhshan, Takhar, Kunduz, Baghlan, Samangan, Balkh, Jawzjan, Sar-i Pul, Faryab, Badghis, Herat, Farah, Hilmand and Kandahar (Northern, Western and Southern Afghanistan). Field Mission Brief. 31 December 2002 to 18 January 2003*", FAO, Kabul 28 January 2003.

"*Grazing Land Encroachment. Joint Helicopter Mission to Dasth-i Laili. 25-27 March 2003*", FAO, Kabul 23 July 2003. http://www.fao.org/world/afghanistan

"*Interface between State and Society. An Approach for Afghanistan. Final Draft*", 30 October, 2003.

Favre, Raphy; Fitzherbert, Anthony & Escobedo, Javier,

"*MAAH/MRRD/FAO/WFP National Crop Output Assessment. First Phase. 10th May to 5th June 2003*", FAO, 25th July 2003. http://www.fao.org/world/afghanistan

Favre, Raphy; Sayed Nabi, Sayed Jan, Mohmand and Mohammad Ibrahim,

"*MAAH/FAO National Crop Output Assessment – Second Phase. Second Crops in Lowlands and First Crop in Highlands. 27th August to 26th September 2003*", FAO, Kabul, 23 October, 2003. http://www.fao.org/world/afghanistan

Fuchinoue, H., T. Tsukatani, and K.N. Toderich,

"Afghanistan Revival: Irrigation on the Right and Left Banks of Amu Darya, Discussion Paper No. 554". Institute of Economic Research, Kyoto University, Kyoto, 2003. http://www.kier.kyoto-u.ac.jp/DPindex.html

Garvey, Tom,

"*Water Resources and Irrigation in Afghanistan Medium Term Development Framework*", World Bank, May 2002.

GEOCART,

"*National Atlas of the Democratic Republic of Afghanistan*", Warsaw, 1984.

Giordano, Meredith A. and Wolf, Aaron T.

"*The World's International Freshwater Agreements. Historical Developments and Future Opportunities*", Oregon State University, in FAO/UNEP, "The Atlas of International Freshwater Agreements", 2003.
http://www.transboundarywaters.orst.edu/publications/atlas/

Government of Afghanistan,

"*Reports by Governments of the Progress made in the Standardization fo Geographic Names. Submitted by the Government of Iran to the Third United Nations Conference of the Standardization of Geographic Names*", Athens, 1977.

Government of Afghanistan, MEA,

"*Assessment Report for Rehabilitaiton fo Khanabad Irrigation Project*", submitted by Water and Power Consultancy Services, India, November 2002.

Government of Afghanistan, MWP,

"*Power Sector Master Plan Update, Drate Final Report*", report prepated by Norconsult-Norplan for MWP (Ministry of Water and Power), October 2003.

Government of Afghanistan, MIWRE,

"*Classification and Numbering of Hydrological Stations*", Kabul, 1976.

"*Hydrological Yearbook, Area of the Kabul river, Hydrological years 1960-1964*", Published by German Water Economy Group of Afghanistan and the Ministry of Agriculture of the Kingdom of Afghanistan, 1967.

"*Hydrological Yearbook 1965-1975, Part I-1A, Lower Kabul River Basin up to Panjshir Confluence*", *1977*.

"*Hydrological Yearbook 1965-1975, Part I-1B, Upper Kabul River Basin, above Panjshir Confluence*", 1977.

"*Hydrological Yearbook 1963-1975, Part I-2, Khurram river basin*", 1981.

"*Hydrological Yearbook 1961-1975, Part II-3, Ghazni river basin*", 1978.

"*Hydrological Yearbook 1961-1975, Part II-4A, Hilmand river basin (excluding Arghandab river basin)*", 1978.

"*Hydrological Yearbook 1961-1975, Part II-4B, Arghandab river basin*", 1978.

"*Hydrological Yearbook 1961-1975, Part III-5 to 7, Khash, Farah and Adraskan river basins*", 1977.

"*Hydrological Yearbook 1962-1975, Part III-8, Hari Rud river basin*", 1976.

"*Hydrological Yearbook 1964-1975, Part IV-9 to 13, Murghab, Shirintagab, Sarepul, Balkh and Khulm river basins, 197?*",

"*Hydrological Yearbook 1960-1975, Part V-14 & 15, Kunduz and Kokcha river basin*", 1979.

"*Hydrological Yearbook 1976-1978, Part I, Rivers of Indus basin (Kabul, Khuram and Shamal)*", 1985.

"*Hydrological Yearbook 1976-1978, Part II, Rivers of Hilmand basin (Ghazni and Hilmand)*", 1982.

"*Hydrological Yearbook 1976-1978, Part III, West flowing rivers (Khash, Farah, Adraskan & Harirod)*", 1980.

"*Hydrological Yearbook 1976-1978, Part IV, North flowing rivers (Murghab, Shirin Tagab, Sarepul, Balkh & Khulm)*", 1980.

"Hydrological Yearbook 1976-1978 Part 5, Rivers of Amu Basin (Kunduz and Kochka)", 1976.

"*Hydrological Yearbook 1979-1980, Part I and II, Rivers of Indus and Hilmand basin (Kabul, Khuram, Hilmand and Ghazni)*", 1985.

"*Afghanistan National Water Resource Investment Program*", MIWRE, February 2003.

"*Afghanistan National Water Resource Investment Sub-Programme*", MIWRE, February 2003.

"*Natural Resources Investment Programme, Submission to the Ministry of Finance for the SY 1382 – 1384 National Development Budget*", MAAH, MIWRE, MRRD, February 2003.

Government of Afghanistan and USAID,

"*Hilmand River Basin Soil and Water Survey Study Report Part I*", Kabul, 1976.

Gholam Zadik,

"*Hydrogeological Condition of Afghanistan. Presented to Honorable Dr. W. Klemm*", 1996.

Humlum, J.,

"*La géographie de l'Afghanistan. Etude d'un pays aride*", Scandinavian University Books, 1959.

ICARDA,

"*Needs Assessment on Soil and Water in Afghanistan. Draft*". 2002. http://edcw2ks21.cr.usgs.gov/afghan/product.php?image=so

International Center for Mountains Development,

"*Protected Areas in Afghanistan*", http://www.icimod.org.np/focus/biodiversity/afg_prot.htm

Jidikov, A.P.,

"*Hydrology*", volume III, in FAO, "*Report on Survey of Land and Water Resources. Afghanistan*", Rome, 1965.

Kapos, V., J. Rhind, M. Edwards, M.F. Price and C. Ravilious,

"*Developing a map of the world's mountain forests*"; In M.F. Price and N. Butt (eds.) "*Forests in sustainable mountain development: A state-of-knowledge report for 2000*", CAB International, Wallingford, 2000.

Kohler, Thomas and Breu, Thomas,

"*GIS based Watershed Classification in the Lower Mekong Basin*", Center for Development and Envorinment, Univeerstiy of Bern, Switzerland, 2003. www.mrcmekong.org .

Klemm, Walter,

"*Promotion of Agricultural Rehabilitation and Development Programs in Afghanistan. Water Resources and Irrigation"*, FAO, Islamabad, November 1996; a report part of the "*Afghanistan Agricultural Strategy*", FAO, Rome, 1997.

Tennyson, Larry C.,

"*Review and Assessment of Watershed management. Strategies and Approaches. Phase 1. Draft*", FAO, Rome, November 2002.

Maps

Maps of Amu Darya watershed, http://multimedia.wri.org/watersheds_2003/as1.html

Russian 1:50,000 topographic maps

1:100,000 topographic maps

Climatic maps, www.iri.columbia.edu

Maletta, Hector and Favre, Raphy,

"*Agriculture and Food Production in Post-war Afghanistan. A Report of the Winter Agriculture Survey 2002-2003"*, FAO, Kabul, August 2003. http://www.fao.org/world/afghanistan

Monsutti, Alessandro,

"*Guerres et migrations: réseaux sociaux et stratégies économiques des Hazaras d'Afghanistan*", Neuchâtel: Faculté des lettres et sciences humaines (thèse de doctorat), Switzerland, 2003.

Nanni, Marcella,

"*The Aral Sea Basin: Legal and Institutional Issues*". Review of European Community and International Environmental Law, 5(2): 130-137, 1996.

Orris, G. J. and Bliss, J. D.,

"*Mines and Mineral occurrence in Afghanistan*", USGS, Arizona, 2002. http://www.geopubs.wr.usgs.gov/open-file/of02-110/of02-110.pdf

Price, M.F. and Butt, N.,

"*Forests in sustainable mountain development: A state-of-knowledge report for 2000*". CAB International, Wallingford.

Petocz G. Ronald, Habibi Khushal, Jamil Abdul, Wassey Abdul,

"*Report on the Afghan Pamir. Part 11. Biology of Marco Polo Sheep (Ovis ammon poli)*", FAO and Ministry of Agriculture, 1978.

Pirouz Mojtahed-Zadeh,

"*Lake Hamun, a Disaster in the Making. Hydropolitics of Hirmand and Hamun*", University of London, UNEP, March 1995.

Ramsar,

"*Convention on Wetlands of International Importance especially as Waterfowl Habitat*", Ramsar List of Wetlands of International Improtance, Gland, Switzerland, 2002.

Roussel, Frédéric,

"*Contraintes et perspectives dans le contexte actuel pour l'élaboration d'une stratégie de réhabilitation immédiate des zones rurales afghans*", UNORSA, Peshawar, Juin 1993.

Saba, D. S.,

"*Afghanistan: Environmental Degradation in a fragile Ecological Setting*", Int. J. Sustain. Dev. World Ecol. No 8, P. 279-289, 2001.

Schimann, Peter,

"*Water Shortage in Afghanistan. An Approach of the Problem*", UNHCS/HABITAT workshop on 20 September 2000, Islamabad, Pakistan, 2000.

Schindler J. Stephen,

"*Afghanistan: Geology in a Troubled Land*", February 2003. http://www.geotimes.org/feb02/feature_afghan.html

Scott, Derek A.

"*A Directory of wetlands in the Middles East*", Wetlands International Publication, 1995. http://www.wetlands.org/inventory&/MiddleEastDir/AFGHANISTAN.htm

Sheladia Associate Inc.,

"*Draft Final Report for Rapid Assessment and Draft Report for Framework of Water Resources Management*", Submitted to AACA, October 2003.

Staempfli, H. and Hunzinger, L.,

"*River Engineering for Engineers in Afghanistan*", SDC and UNJLC, January 2004.

Tapper, Nancy,

"*The Advent of Pashtun Maldar in North-Western Afghanistan*", Bull. School Oriental and African Studies, No 34 (1), p. 55-79, 1974.

"*Abd Al-Rahman's North-West Frontier: The Pashtun Colonisation of Afghan Turkistan*", in: "The Conflict of Tribe and State in Iran and Afghanistan", Edited by Tapper, Richard, Ed. Croom Helm, NY, 1983.

Tennyson, L. C.,

"*Review and Assessment of Watershed management. Strategies and Approaches. Phase 1. Draft*", FAO, Rome, November 2002.

UN Economic Commission for Asia and the Far East,

"*Multi purpose River Basin Development, Part 2D, Water Resources Development in Afghanistan, Iran, Republic of Korea, Nepal*". Flood control Series No. 18., 1961.

UNEP,

"*Afghanistan. Post-Confict Environment Assessment*", 2002. www.unep.org

UNESCO,

"*Afghanistan on the (rocky) road to recovery*", July 2003. http://portal.unesco.org/en/ev.php@URL_ID=13582&URL_DO=DO_TOPIC&URL_SECTION=201.html

United Nations,

"*Agenda 21, Chapter 13 "Managing Fragile Ecosystems-Sustainable Mountain Development*", Earth Summit (UNCED), Rio de Janeiro, Brazil, 1992.

Votrin, Valery

"*Transboundary Water Disputes in Central Asia: Using Indicators of Water Conflict in Identifying Water Conflict Potential*", Master's thesis Vrije Universiteit Brussel, Faculty of Medicine and Pharmacy, Master programme in Human Ecology, Academic year 2002-2003. http://www.transboundarywaters.orst.edu/publications/related_research/votrin/votrin_thesis.html

WFP/VAM,

"*Rainfall Trends in Afghanistan: 1958-1988*", WFP VAM Afghanistan, August 1999.

Wily, Lize Alden,

"*Land Rights in Crisis: Restoring Tenure Security in Afghanistan*", Issues Paper Series, AREU, March 2003.

Wolf, Aaron T.,

"*Thematic Maps: Visualizing Spatial Variability and Shared Benefits*", Oregon State University, in FAO/UNEP, "*The Atlas of International Freshwater Agreements*", 2003. *http://www.transboundarywaters.orst.edu/publications/atlas/*