CENTRAL ASIAN COMMUNITIES IN TRANSITION SHOCK: MOSLEM/TRADITIONAL HABITS AND WATER-PRIVACY

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Abstract
The Central Asia is one of the largest loop eco-systems of the planet, which has no outer to sea. The region has an area 3882 thousand square kilometers and population over 55 mln people. There are two types of rural areas: 1) the mountain region with a lot of ice-producing water; 2) dry valley regions – extremely depending on water flow from water-storages and canals net. The new organized farmers of the region (after 70 years of state control) faced on several types of the problems: a) absence of commercial structures for canals net supporting; b) confusion between traditional (adat and shariat) mentality with image on Nature as God Gift, and "privacy" - image of water as salable goods; c) unfortunate climatic dangers (tenth dry period beginning, and Global Warming additionally). There are several tenth of NGOs (waters users unions, and "green" for river ecosystem save) working in the region. The bigger number of NGOs is acting in Kyrgyzstan and Kazakhstan, but last two years they take place in Uzbekistan too.

Key words
Central Asia, water deficit

introduction
The Central Asia is one of the largest loop eco-systems of the planet, which has no outer to sea. The region has an area of 3882 thousand square kilometers and population over 55 mln people. After economic stagnation of 90-s period, the states of the region begin economical growthing, and expending water-depending agricultures plantation under cotton, melons, vegetables, vineyards.
There is difference between two types of rural areas: 1) the mountain region contains a lot of ice-producing water, but not regulating and unfortunate seasons spreading; 2) dry valley regions extremely depending on water flow from water-storages and canals net, but on drainage system too (as a high level of ground water).
Water problems are complicated with other: global warming, hydro-energetic and irrigation contradiction seasonal needs.

river and water consumption
There are over 6 thousand rivers in the region (including 3580 in Tien-Shen only). Most part of mountains water (Pamir-Tienshen) volume go out to Kazakhstan, Uzbekistan, North China region. There are 21 big water-keeping in the big rivers of Pamir-Tienshen (Chu, Talas, Ak-Buura, Karadarja, etc.). The square of these keeping over 500 sq km (so, very intensive evaporation without any useful for nature and man), the total volume about 50 cubic km.
Water problems are complicated with other problems: global warming (reducing Tien-Shen ice plane 15% latest 40 yeas, and expected 40% in future 25 years) which resulting 35% reducing volume of water-stock..
Total consumption of water in the region differs year by year and season by season, very march.
Recent water problems are results of ambitious projects that had been done in Central Asian region during the Soviet period (especially in 60-s – 70-s of the last century). It was hight up cotton production, involving wild aride region in agriculture. Artificial-irrigated square 1990: 4,2 mln hectares in Uzbekistan, 2,8 mln hectares in Kazakhstan. They were non water-thrifty irrigation net canals, non thrifty water-reservoir (for Fergana valley mostly) in the region. Non-thrifty behaviour of population and economy too - are resulting useless loose of 70% water. For example, the water-consumption per person in Central Asia (Uzbekistan, Turkmenistan

especially) is 2-3 times higher compared with Canada. The results were: Aral Sea death, desertification, salinization, biodiversity loose, ecosystems crash down, pesticides pollution, human health damage - immunity fall, spreading of eco-illness, child and fruit anomaly /Hadjamberdiev I., 2001/. There are several old water-depending diseases in the region during the latest two years: malaria, abdominal typhus, viral hepatitis. Additional example, the decline of the flow in the Amu-Darya river during the droughts of 2000 to 2001 "resulted in poorer quality water remaining stagnant in canals for long period of time " /WHO, 2002/. Population growth and soil degradation results even in mountain states – shortage of soil square per capita: (Kyrgyzstan) irrigated are per capita in 1975 – 0,27 but in 2000 – 0,18; (Todjikiston) in 1975 - 0,17 and in 2000 - 0,13. Tenths rivers drainage totally sharing for agriculture and community needs: Isfara, Isfana, Kattasay, Daganasay, Varzob, Karatag , Iljag, Shirkent, Jakhsy, etc.
Water and soil privatisation (2001-2002) unfortunate consequences: quick degradation of poor-farms land, rise up both upper- and ground water pollution, and others.
It is need to restore old-tradition water-consuming communities control (similar as in all South Asian Moslem areas): micro-canal ("arik") net and delicate spreading of water for each village and families by high skilled "mirabs". There are three years 1999-2002 propaganda (TV, papers) programme for thrift of water in Kyrgyzstan additionally.
Focal point of regional Sustainable Development Concept is to restore balances between Nature conservation and Nature using aspects, especially in the energy field (oil, gas, coal, and alternative energy from sun and wind). The essential solution of Central Asian water problem is reduce irrigation space in all Central Asian territory (with rise of corn productivity, simultaneously moderate demographic growth), change of energy sources of Pamir-Tienshen states from hydroelectricity to other (non-traditional). The latter are sun energy (potentially helio-installation space may be increased from 89 to 1350 thousands sq. km, and power from 28 to 600 gkal/hour in Tien-Shen), wind energy (potentially it may rise from 100 kwt to 25 thousand kwt).

pollution and catastrophe aspects

This part of the subject is included because of existence of 48 uranium-waste storages in Pamir-Tienshen territory, 14 poly-metallic storages, 12 big water-reservoirs and over 200 small one, over 350 cemeteries of Anthrax-mortal cows (30th – 50th years of last sencury); secondly, 87% of road-net situated in landslides, snow-slides or earthquakes danger territory.
The influence of climate conditions on the development of landslides, connected in the mountains with high altitudes, appears not only in defining the regime and time-frames, but also with geological and geomorphological conditions on the formation of centers of landslides. In foothill area or dry "sais" (Turk word for type of landslide moved by swift mountain river) landslides can move for the longest periods of time - from March to September, in areas with middle mountain relief they move only from May to September. They move from the end of July to the middle of August in Alpine areas.
Most of the rivers flowing from the Tien-Shen mountain may cause "sais". Thus, old military-industry storages are situated in a zone of very insecure natural conditions. Any of the natural disasters listed above (earthquake, breakdown, or landslide) may destroy them. Especially dangerous uranium-storages number 3 and 7 near Mayluu-Syy river, by possibility of burst to rivers and to wastage big square of Fergana Valley (Uzbekistan territory mostly).
An absolute guarantee of security may be provided only if the storages and dumps on the North and South-West regions are demolished and the harmful substances are removed to the areas with good natural conditions.
But palliative practical methods offered by experts are:
- recognition of all old dumps, and estimation of all storages stability,
- using a high natural ultraviolet irradiation for chemical secure (open liquid storages, recultivated zones),
- using a limestone conservation of deserted mines and water-pumps, and high

situated storages,
- introducing the groundwater anaerobic remediation,
- introducing the diaphragm wall-cement method /Minoru Aoi, 1996/,
- analytic ranking / Hadzhamberdiev I. , 1996/ and GIS comparative prognosis of eco-dangers,
- social arrangements (transmigration, habit change, etc.).

international organisations involvement

Several international conferences (UN conference with The Presidents of regional states on Aral Sea problem in Nukus, 1995; Regional Ecology Ministries meeting in Tashkent 1998; Consultative meeting of all Central Asian Ministers Ecology and Finance in Almaty Oct 2000, and others) don't produce any visible results. Any UN and WB financed programs (Int Fund Aral Save, Global Environment Fund) too. Reasons of these non-affectivity are "week of environment politic, ignoring of public opinion nontransparency of financial and technical supporting" (quitted from Central Asian NGOs meeting Declaration for mentioned Ministry meeting in Almaty).

There is the latest project of regional Officials/Ministers (prepared by Regional Ecological Center experts in Almaty) "Environment, Water and Security in Central Asia". It has been supported by PanEuopean Ministerial conference in Kiev (21-22 May 2003). May be it will be more successful.

official law and traditional/islamic law

The new organizing farmers of the region (after 70 years of a strong communist-state total economy control) faced on several types of the problems:
- confusion between old traditional (adat and shariat) mentality and habits on Nature as God Gift, and "privacy" on water and soil;
- absence of commercial structures for canals net supporting;
- slow-changing unfortunate climatic dangers (regions tenth dry period beginning, and Global Warming additionally).

There are over 20 water-consumer Unions has been founding in 2002 in Kyrgyzstan – the most prominent state of the region in privatization. There are complicate traditions in regional society, they consist of interlacing Adat (pagan law) and Shariat (Moslem rules of life). Our NGO has published adapted booklet on soil-water privatization and do several radio-circles and seminars for farmers in three local languages. We try to implement non-alternatively both bases: dogmas on "h`imsa, t`arim (untouchable areas - in K`uran), sans area by traditional Mythos – on one hand, and new duties of customers on drenage and micro canals systems care on.

One know, most part of Moslem countries were resists on the principle "water is an economic good" in Dublin UNEP water conference 1992, argued that it is against Islam.

We need to consider the new reality, and to use the Moslem principles in an eco-propaganda. For example: "Khima"- delicious-touching territory (nature reservation); "Kharim" – strictly non-touching territory (biosphere keeping); Right of Thirst in Al-Bukhari (2, 104 in Hadith Encyclipedia), Special "Fatwa" of the Council of Leading Islamic Scholars (Saudi Arabia, 1978), on eco-crisis (K`uran, 2:204-206, 30:41), etc. 4). It needs on using eco-positive sides Moslem in a programs.

public participation

There are over 20 water-consumer Unions has been founding in 2002 in Kyrgyzstan – most prominent state in privatization. Several ones were founded in Todjikiston. They base on new forming "farmers class" in the region (over 8 thousands farmers in Kyrgyzstan, 4 in Tojikiston). It needs support, and get a new skills. Except the liberal "Law on Water" (Kyrgyzstan), it has been implementing a Micro Loans – line by WB for supporting new farmers. There are new real NGOs when were organized in Uzbekistan due to new more liberal government policy of 2002-

03. Our NGO has published an adapted booklet on soil-water privatization and do several radio-circles and seminars for farmers on three local languages /ed Hadjamberdiev I., 2001/. Several NGOs try to implement non-alternatively both bases: dogmas on untouchable areas by K`uran and new duties of customers on drenage and miclocanals systems care on. It has been held all region NGOs conference “Public purticipation in water problems of Central Asia” in 30-31 May 2003. They concluded, that all tips of NGOs (grass-root, scientific group, independent expertise, right-action, etc) must do extraordinary efforts for overcome water-sharing problems of the region.

conclusion

Nature aspects. The base solving of the rivers problem are to reduce irrigation square in all Central Asian territory (with rise corn fruitfulness, simultaneously moderate demography grow), change energy sources of Pamir-Tienshen states from hydroelectricity to other (nontraditional). The last are sun energy (potentially it may rise helio-installation squae from 89 ad 1350 thousands sq km, and power 28 to 600 gkal/hour in Tien-Shen), wing energy (potentially it may rise from 100 kwt ad 25 thousands kwt).

And human mentality aspects. It needs on change of “unlimited using” habit, and implementing image about water-resource limiting, and introduce habit of “non-threaten” water using.

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