

## Water treatment for reducing risks in Albanian conditions

#### PhD Alba Dumi, Associate Professor

Dean of Graduated School, Faculty of Economy, "Ismail Qemali" University of Vlore , Albania

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#### **Abstract**

The ultimate goal of the Health sector is to maximize the population's health, reforming health services must be part of broader package that recognize the impact of the wider social, physical and economic environment on Health status and vice versa. Public Policy in health is successful if it is leads from one side to the main health challenges facing today including income distribution, employment education, transportation and agriculture and from the other side the ability to asses health care needs and to identify, develop and implement appropriate services in response to them.

As we mention above the characteristics of health system are the results of a mix of economical, social, political and historical factors outside and the system itself. One important factor that have a great impact on health care reform is the involvement of the state in overall policy that includes levels of decentralization of a public health infrastructure as well as the presence of a public health input at decision making level. Sanitation presents even more problems than drinking water. Sanitation coverage in urban areas is almost the same as drinking water coverage. Urban areas have mostly combined sewage and storm water collection networks that discharge into near bay surface water-bodies.

About 40% of the urban population has a sewer connection. In rural areas, only a small portion of the areas with piped water supply is equipped with sever networks. Most rural areas have individual household wastewater collection systems, principally simple pit-latrines with no drainage pipes. Upgrading of sewer networks hasn't kept pace with the general development of infrastructure, and the materials and technology used haven't been improved. Presently, there's no treatment of wastewater in Albania; its discharge in water bodies, especially in coastal tourist areas and delicate ecosystems, is a major environmental concern for the government/business/community/wide public.

#### **Abstrakt**

Qëllimi dhe roli i sektorit të shërbimit shëndetësor është për të maksimizuar shëndetin e popullatës, në reformimin e shërbimeve shëndetësore, i cili duhet të jetë pjesë e paketës se shërbimeve të ofruara. Në kontekst më të gjerë në njohjen e ndikimit të mjedisit shëndetësor në kuptimin dhe vendin që zë ai në mjediset shoqërore, fizike dhe ekonomike për statusin shëndetësor dhe anasjelltas. Politika publike në shëndetësi është e suksesshme nëse ajo ve në plan të parë, nga njëra anë reformimet për shëndetin dhe zhvillon sfidat me të cilat ballafaqohet sot, duke përfshirë shpërndarjen e të ardhurave, arsimimit, punësimit, transportit dhe bujqësisë dhe nga ana tjetër aftësia për të vlerësuar nevojat e kujdesit shëndetësor dhe për të identifikuar, zhvillimin dhe zbatimin e shërbime të duhura në dobi të popullatës.

Siç kemi përmendur më lart karakteristikat e sistemit shëndetësor janë rezultate të një gërshetimi të faktorëve ekonomikë, socialë, politike dhe historike në vlerat komplekse të tyre. Një faktor i rëndësishëm që ka një ndikim të madh në reformën e kujdesit shëndetësor është përfshirja e shtetit në përgjithësi dhe qeverisjes lokale në veçanti për reformimin e këtij sistemi. Politika gjithëpërfshirëse përfshin nivelet e decentralizimit të një infrastrukture të shëndetit publik, si dhe prania e një vendimmarrje efektive.

Sanitariteti (ujë i kontrolluar nga pikëpamja sanitare), paraqet problem, i cili është më i dallueshëm në ujin e pijshëm. Zonat urbane janë identifikuar më së shumti me përzierje të ujërave të zeza. Rreth 40% e popullsisë urbane kanë probleme në lidhje me kanalizimet. Në zonat rurale, vetëm një pjesë e vogël e zonave me furnizimin me ujë të pijshëm është e pajisur me rrjetet e filtrave ose pompave ujë-filtruese. Në zonat rurale, disa familje kane sisteme individuale të

mbledhjes së ujërave të zeza, kryesisht thjeshtë gropë WC me tuba pa kulluese. Azhurnimi i rrjeteve të kanalizimeve nuk ka mbajtur ritëm të njëjtë me zhvillimin e përgjithshëm të infrastrukturës, si dhe materialet dhe teknologjia e përdorur nuk kanë investime dhe nivele të përmirësuara. Aktualisht, nuk ka trajtim të ujërave të zeza në Shqipëri; shkarkimi i tyre në organizmat ujore, sidomos në zonat turistike bregdetare dhe ekosistemet delikate, është një shqetësim i madh mjedisor për qeverinë / biznesit /komunitetin / publikun e gjerë.

#### **Апстракт**

Крајната цел на здравствениот сектор е да се зголеми здравјето на населението. Реформите на здравствените услуги мора да бидат дел од поширокиот пакет на понуди со кој ќе се препознае влијанието на пошироката општествена, физичка и економска средина на здравствениот статус и обратно. Јавната политика во здравството може да биде успешна доколку во прв план ги вклучи реформите во здраавството и се соочи со тековните предизвици, вклучително на распределбата на приходите, вработувањето образованието, транспортот и земјоделството и во втор план способноста проценка потребите за здравствена за на идентификување, развој и имплементирање на соодветните услуги во корист на населението. Според наведеното карактеристиките на здравствениот систем се резулта на испреплетување на економските, социјалните, политичките и историските фактори со нивните комплексни вредности.

Важен фактор кој има големо влијание врз реформите во здравствената грижа е вмешаноста на државата а посебно локалната власт за реформирање на овој систем. Севкупната политика ги вклучува нивоата на децентрализација на јавната здравствена инфраструктура, како и ефективното донесување одлуки.

Санитаријата (санитетски контролирана вода) претставува проблем кој се воочува повеќе кај водата за пиење. Урбаните области се идентификувани како области на кои најмногу има мешање на водата за пиење со отпадните води. Околу 40% од урбаното население имаат проблеми со канализацијата. Во руралните средини, само мал дел од населените места се опремени со систем за филтрирање на водата за пиење- пумпи за филтрираање на водата. Во овие места, некои семејства поседуваат сопствени системи за собирање на отпадните води, во главно едноставни септички јами или клозети кои немаат

дренажни цевки. Надградбата на канализациските мрежи не е во согласност со општиот развој на инфраструктурата и нема подобрување во употребените материјалите и технологијата. Тековно, во Албанија отпадните води не се третираат, а нивното празнење во чистите води, особено во крајбрежните туристички места и деликатните екосистеми претставува еден од главните еколошки проблеми за владата / бизнисот / заедницата / и пошироката јавност.

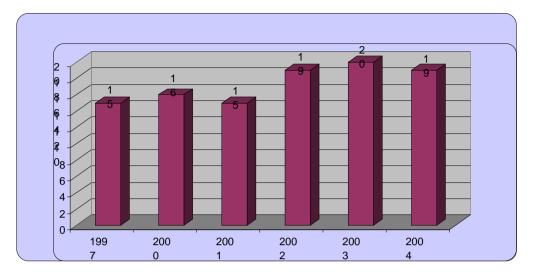
#### Introduction

Albania faces a water distribution problem, not a water production problem. Studies indicate that available sources of supply could provide more than enough to satisfy the country's overall water demand. In many cities, water availability at the source is about 500-700 litres per capita per day, but leaks and waste mean that only a small fraction of water produced is consumed. Almost everywhere problems of water scarcity can be considerably mitigated through metering, leakage detection and reduction, network improvements, disconnection of illegal connections, and optimization of storage and supply patterns. The distribution problem also has a seasonal aspect: much more water is needed during the summer growing season; when rainfall is scarce, rural drinking water is often misused for irrigation; and the tourist resort areas use large amounts of water.

#### 1.1 Albanian water distribution problem

The main issues handled out in this presentation are: strengthening local government leadership and initiative; partnership between municipalities and NGOs; concluding all of these in the community-based approaches to infrastructure services and neighbourhood revitalization. Almost everywhere problems of water scarcity can be considerably mitigated through metering, leakage detection and reduction, network improvements, disconnection of illegal connections, and optimization of storage and supply patterns. The distribution problem in Albania also has a seasonal aspect: much more water is needed during the summer growing season; when rainfall is scarce, rural drinking water is often misused for irrigation; and the tourist resort areas use large amounts of water.

On average, water is available only 3-4 hours per day, with certain areas receiving water only once in three days.



Tab 1. Albania: Municipal Water and Sanitation Project – Agricultural ministry project 2004

### 1. Drinking water treatment for emergencies and remote location

Blue future Filters introduces our latest offering slow sand and roughing filters: our patented SSF/x drinking water treatment technology in a flexible, shippable, storable tank. The SSF/x has been reliably treating surface water to portability worldwide for many years. This new version of the tried and tested technology makes clean water for small communities available literally out of a box. The filters come in a carton, weigh 39 lbs. They can be stocked for ready deployment without taking valuable storage space. They can be transported in numbers by truck, mule, on the back of a motorcycle or even a backpack. Once on site, they are loaded with 30 cubic feet of local sand and water from any surface source, immediately eliminating common pathogens. Water gravity feeds into the filter and can produce up to 1800l/h, enough for a small village. Multiple units in parallel can accommodate hundreds of people within days or hours.

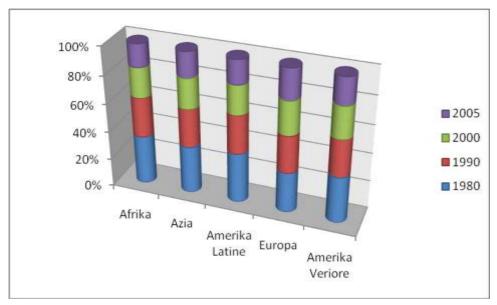
#### 2. Climate change and world view

The Earth's climate is changing and its atmosphere is warming. What might this mean for freshwater resources?

- Rising water demands. Hotter summers mean thirstier people and plants. Temperature increases will likely contribute to higher water demands. In addition, more evaporation from reservoirs and irrigated farmland will lead to faster depletion of water supplies;
- Increased drought. Scientific evidence suggests that rising temperatures in the south-western United States will reduce river flows and contribute to an increased severity, frequency, and duration of droughts;
- Seasonal supply reductions. Many utilities depend on winter snowpack to store water and then gradually release it through snowmelt during spring and summer. Warmer temperatures will accelerate snowmelt, causing the bulk of the runoff to occur earlier before crops can use the water—and potentially increasing water storage needs in these areas;
- Long-term water supply reductions. Many communities depend on seasonal water runoff from glaciers. Although shrinking glaciers create higher runoff (and thus more water) in the short term, the longer-term disappearance of glaciers threatens this important water resource.

Thinking about your local reservoir may conjure visions of water sports, fishing, or picnicking, but reservoirs serve a much more vital purpose. Reservoirs, or man-made lakes, are typically created by building dams across rivers (some also occur naturally). Reservoirs even out the fluctuations in a water supply by storing water when it is abundant and releasing it later, especially when the water supply diminishes during drought. Identify advances in detection, monitoring and modelling, analytical methods, information needs and technologies, research and development opportunities, and communication strategies that will enable the water supply industry and other stakeholders to further reduce risks associated with public water supply distribution systems.

Water towers, a familiar sight along nearly every highway in America, help to make sure that water deliveries remain relatively constant even during peak water use times. Their main purpose, is to elevate the water level high enough to supply adequate water pressure throughout a distribution system.



Tab 2. Long-term water supply reductions

• Water quality problems and issues are both local and regional as evidenced by a variety of reports included in, (Hydric Management, London 1989, 2005, 2010).

Water quality assessments are in charge of the Department of Environmental Protection (PADEP), and testimony received by the committee. Some of these water quality problems are associated primarily with urbanization vicinity; some are associated with activity in the Allegheny River basins; still others are common to the predominantly rural counties.

Large differences exist among the sources of problems, their potential effects on Albanian public health and environmental quality, and their likely solutions. Further, resolution of water quality issues is affected by other regional issues such as transportation, land use, and governance of the metropolitan area. Small hydro is gaining ground across the Balkans. The small (municipal) Albanian investor is looking for medium-size hydro and dam companies who know how to tap special funds. This has been traditionally the arena of big players such as Siemens or Alstoom with specific staff to handle the World Bank, the European Investment Bank and the EBRD. The Balkans show small funding is happening. Brussels and USAID also have small technical funds in the agricultural sector which can mesh nicely with reservoir building for irrigation and domestic water projects. American banks are also very active in Albania.

The extensive use of reservoirs for fish production as part of food security is expanding exponentially. There is a market for expertise on protecting big volumes of fish at the turbines, as well as fish ladders and other bypass schemes. Reservoir stocks for the market attract EU funding and may be worth tens of millions of Euros. Food ministers want clean river basin waters reaching the sea which will not damage high value shellfish beds and fish breeding grounds.

The significance of this is reflected in tensions between Italy, Croatia, Slovenia and Albania over their coastal stocks. One side of the Adriatic is only about 148km from the other, so the potential for pollution from the land is very high. In 1993 fertiliser land runoff coated 600km of the Yugoslav to Italian coastline with toxic algae. This cost several billion Euros in today's money through lost fish and collapsed tourism.

The existing pattern of water supply and water quality services in the region is highly fragmented, with more than 1,000 providers operating in the multicounty region area, like many other metro areas in the United States, large-special purpose authorities such as the Allegheny County Sanitary Authority (ALCOSAN) can achieve substantial economies of scale through joint management agencies. Although private organizations may not have direct voting power in what mix of organizations is chosen to implement the plan, they could very well influence how the public and its elected and appointed representatives make these choices. Decentralization has given local governments the discretion and scope they need to take a lead role in responding to the challenges of economic down-turn, degradation of the urban environment, and social hardship.

They institute bold initiatives and innovative practices. Western European nations have put in place sophisticated frameworks to provide local governments with technical and financial assistance. The European Union supplements these

national programs with coordinated assistance aimed at promoting economic development, assisting distressed localities and fostering social inclusion. Infrastructure is an important component of these programs.

In strong local government leadership and active community participation were key to implementing an integrated plan involving urban planning, infrastructure, and economic development. Despite its location in an industrialized province Jerez's economy relies on wine production which, in recent years has been declining. Weak community participation, inadequate infrastructure, poor accessibility to regional resources and an unskilled labour force compounded the effects of massive job cuts in the wine industry. To address these problems, Jerez launched a new strategy for economic recovery in 1993, shifting the emphasis from seeking to attract investments from sources outside the municipality to fostering local integrated development.

There are seven key factors:

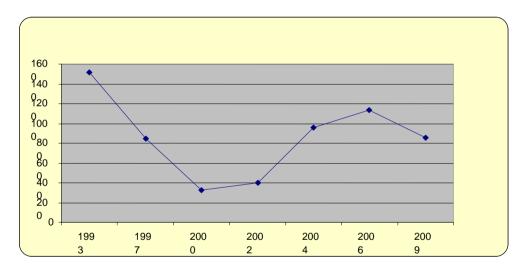
- A dynamic local government leadership
- A coherent strategy acted upon with determination
- A healthy climate of cooperation with business
- Local government's investment initiatives to jumpstart the stagnant economy
- Creative use EU funds to implement local policy
- Efficient municipal administration
- Coherent links among urban planning, infrastructure and economic development

#### 3. THE MUNICIPALITIES AND NGOs PARTNERSHIP

Albania, one of the smallest and poorest countries in Eastern Europe, has experienced a transition marked by sharp economic swings and periods of civil strife. The early phases of decentralization witnessed the transfer of political autonomy and limited administrative and fiscal authority, to local governments, inadequate legislation outlining central/local responsibilities, scarce financial resources and deficient infrastructure strained the capacity of local governments to mange urban services. In January 2000, the government promulgated a national

Strategy for Decentralization and Local Autonomy which includes lows to strengthen the autonomy of local governments and increase their capacity to manage local infrastructure and services.

In the absence of fiscal resources to improve infrastructure in urban and rural areas, the government, with donor assistance, initiated community-driven development strategies to provide infrastructure services based on a cost sharing formula and to set up participatory management structures. In Tirana sustained population growth since 1991-1999 led to rapid expansion of the urbanized area, resulting n the proliferation of informal settlements. With an estimated population of 575.000 in 1997, 6.500 families were seeking new housing each year. Local government, even with central transfers, could accommodate only five percent of the demand for new infrastructure.



Tab 3 Water Users Association Survey Report for 2009, Irrigation Season.

Supported by donor assistance and international and local NGO's the city initiated a community-based development strategy in the informal development. The program brought together local government teams, NGO's and residents to formulate a development plan for the neighborhood define priorities for improvements and determine equitable cost-sharing formulas to finance infrastruc-ture. This partnership led to the upgrading of roads and electrical networks, the construction of community buildings and schools, improved public

spaces and programs for youth. Clarifying the legal status of residential land and formalizing an urban plan resulted in the sufficient leveraging of community and house4hold resources to provide infrastructure and build new housing.

In 1990-2005 the experience was expanded to a citywide effort and was subsequently funded by the Word Bank. As the local government teams and NGO's gain experience and residents begin to trust the local government, Tirana Land management Program is scaling up and expanding to other formal and informal residential zones in Tirana.

#### a. The Government role in development

The Government accepts binding international arbitration on investment disputes and has over 40 internationally accredited arbiters on the country arbitration list. The arbitrators will use the appropriate law based on issues determined by the parties. If the parties cannot agree on the issues involved in the case, the arbitrators will make the appropriate assessment. The judicial system continues to suffer from corruption and unreliability. The GOA has established the High Council of Justice to investigate claims of judicial misconduct, but the results are still lacking. Although the situation is improving, investors cannot yet fully rely on the enforceability of contracts. Foreign firms and institutions have also been subject to nuisance lawsuits aimed at receiving cash settlements. Recent investment disputes have focused on the ownership of land considered ideal for tourism, mostly along the southern coast.

The Albanian Government has established a Credit Guarantee Fund for Small and Medium Enterprises with the assistance of the Italian Government. The \$3.5 million Fund is used as collateral for companies applying for commercial loans. ALB-Invest, the business promotion agency, has also established an annual fund of \$300,000 to assist exporting companies. Similar community-based initiatives were structured in rural areas. As part of an IDA funded Irrigation Rehabilitation Project, 250 Water uses Associations (WUAs) were created to manage irrigation and drainage systems. In 1997, the government permitted the transfer of primary system management responsibilities to WUAs and allowing them to set irrigation charges restored trust in partnering with government. Finally, the engagement of senior government officials in the dissemination of project information secured commitment among communities and farmers. However, the inability to generate

local revenue has undermined the effectiveness of local govern, it has adopted a "Two –Point Strategy", incorporated in the community infrastructure program:

- To work closely with Community- Based organizations so as to enhance their capacity to participate in development programs and strengthen the City Council's capacity to respond to requests from communities
- To adopt a new approach to Environmental Planning and Management based on capacity building.

#### b. The law applies to a wide range of sectors, including:

Transport (railway system, rail transport, ports, airports, roads, tunnels, bridges, parking facilities, public transport); Production and distribution of water, treatment, collection distribution and administration of waste water, irrigation, drainage, cleaning of canals, dams;1. Generation and distribution of electricity and heating; 2 Collection, transfer, processing and administration of solid waste; 3.Telecommunication; Education and sport; Health; Tourism and culture; Prison infrastructure; 4.Recycling - projects, rehabilitation of land and forests.

#### c. Management contract or provision of public services.

In order to promote investments in priority sectors for the economic development of the country, in line with the government's strategic objectives, the GOA may offer concessions to local or international investors for the symbolic price of one euro. The GOA, with the approval of the Minister of Economy, authorizes concessions in other sectors besides the ones listed above. The law does not apply to grant licenses where needed, except to the extent that a license is issued within the framework of a concession contract.

# 4. COMMUNITY-BASED APPROACHES TO INFRASTRUCTURE-SERVICES AND NEIGHBORHOOD REVITALIZATION Albania and Kosovo

After decades of being the natural, but politically closed door to the Balkans, the economic emergence of Albania combines with its key geographical location and electricity-producing role.

The European Bank for Reconstruction and Development (EBRD) has been active in simplifying clearance for, and funding of small hydro in the region, including in Kosovo. Kosovo's recent moves for autonomy have increased day-to-day collaboration with Albania. In July 2008, the Organization for Security and Co-operation in Europe (OSCE) reported on the water difficulties facing Kosovo.

Democratic local governance is a prerequisite to the meaningful decentralization of infrastructure management. When people participate in defining visions for sustainable development for their communities, in formulating strategies for equitable access to services and resources and in setting priorities for action, they have endorsed. Participation also sharpens their awareness of the interrelations between economic, social and environmental issues.

This is a highly significant feature of infrastructure programs and carries important implications for local development. The main objective was to build a new working relationship between residents and city officials, based on a shared vision of the future and "a lasting trust".

Because the districts were designated as urban renewal sites, residents in the older zones could not upgrade their infrastructure and households in the unserviced extensions could not connect to existing networks. Repairs to buildings are also prohibited, except in the case of roof leaks. This state of affairs lasted over 30 years resulting in resentment and distrust of municipal authorities.

In 1992- 1999, the city's Urban Planning unit decided to initiate participatory process to rehabilitate and revitalize the districts. The process required an extensive outreach effort, involving consultations with every household. Regularly scheduled public meetings were held and gradually residents became aware of the role they could play in shaping the future. In December 1993 the city council adopted a new strategy to stimulate local investment in infrastructure and buildings based on partnership between the city and the residents.

The act for support of local investment committed the municipality to cover 50 percent of the cost of water, sewerage and power lines, 70 percent of the cost of roadbeds and sidewalks and 100 percent of the cost of drainage and street paving. The cost sharing formula can be modulated to take into consideration issues of

equity and cost burden. As an incentive to private rehabilitations of buildings, investors are granted a three year exemption from property taxes.

During the years 1994 - 2010 in Albania, the partnership between the municipality and the residents was institutionalizes through the Local Initiatives Program to ensure its continuity as a citywide development strategy. The key features of the program are:

- 5. Introducing participatory planning and community-based development processes through neighborhood development committees and street representatives working in partnership with the city
- 6. Creating an enabling environment for private investment
- 7. Empowering citizens to pursue their own self improvement
- 8. promoting privatization of the housing a stock and fostering the development of micro- enterprises
- 9. Ensuring the sustainability of activities initiated
- 10. Promoting the reliability of successful initiatives.

This process allowed the canton to build consensus, prepare a development plan, allocate municipal funds equitably leverage additional resources and improve infrastructure and living conditions. The participatory municipal management improve infrastructure and living conditions.

#### CONCLUSIONS AND RECOMMENDATION

In reality, the law on the bankruptcy has never been implemented in Albania and according to statistics there have been no bankruptcy procedures so far. The recent amendments aim to facilitate the implementation of the law. The main amendments include reducing the time frame of a business reporting loss to two years, are insolvent since two years and have a passive status in the NRC. Also the courts will act more promptly in dealing with bankruptcy cases as they will have to consider the case within 30 days.

#### **Performance Requirements and Incentives**

Albanian law generally does not establish performance requirements or detailed incentives for foreign investors. Legal incentives include:

Equal treatment of foreign and domestic investors

Full profit and dividend repatriation (after taxation)

Funds from the liquidation of a company may be repatriated

Bilateral agreements on the promotion and protection of reciprocal investment.

One important exception concerning performance requirements is the investment requirement relating to the purchase of commercial property by foreigners. Such a purchase can be made only if the investor plans to improve the value of the property by three times the purchase price. Some foreign firms operating in Albania have also complained that capital goods and raw materials, on occasion, have been subjected to the same taxes as consumer goods. Although no single unit of Albanian government has all the necessary power to implement the Three Rivers Comprehensive Watershed Assessment and Response Plan (CWARP) recommended and discussed in, (Studies & Center of Economic CESS, 2001; 2009) it is desirable to have some mechanism to facilitate continued oversight of regional progress (or lack thereof) toward clean water and its relationships to other regional goals and activities, and to help realize the benefits of cooperation.

This process allowed the canton to build consensus, prepare a development plan, allocate municipal funds equitably leverage additional resources and improve infrastructure and living conditions. The participatory municipal management improve infrastructure and living conditions The participatory municipal management process was institutionalizes ensuring representation of women and marginalizes groups.

#### These conclusions are present in this paper research:

- 1. Introducing participatory planning and community-based development processes through neighborhood development committees and street representatives working in partnership with the city
- 2. Creating an enabling environment for private investment
- 3. Empowering citizens to pursue their own self improvement
- 4. promoting privatization of the housing a stock and fostering the development of micro- enterprises
- 5. Ensuring the sustainability of activities initiated
- 6. Promoting the reliability of successful initiatives.

#### Albanian government will be reality these points:

- A dynamic local government leadership
- A coherent strategy acted upon with determination
- A healthy climate of cooperation with business
- Local government's investment initiatives to jumpstart the stagnant economy
- Creative use EU funds to implement local policy
- Efficient municipal administration

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