



**NETWORK OF ASIAN RIVER BASIN  
ORGANIZATION (NARBO)**

**MINISTRY OF AGRICULTURE AND  
RURAL DEVELOPMENT  
RED RIVER ORGANIZATION - RRBO**

**WORKSHOP ON WATER RIGHTS AND WATER ALLOCATION  
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**ISSUES OF WATER ALLOCATION IN VIETNAM**

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**GENERAL**

There are about 215 large river basins in the world, making up for 47% of the total world area (Gleick,1993). In Africa, South America and Asian, the proportion of river basins to land area is higher (>60%). There is water, there is life. A humanitarian principle in water resources management is that the water resources should be shared and used in an equal manner, especially in transnational river basins. In many international forums, the sharing of water resources is becoming more and more hot subject to be included in agenda to seek for solutions to conflicts among riverine countries. These water related conflicts often occur in some developing countries due to sudden increase in water demands. Especially when water becomes a limited natural yet a very vital resource to development, these conflicts are deepened. In the future, due to the pressure of globalization policy, commerce, climate changing, population booming and economic growth, the conflicts become more and more pressing. The role of resources management becomes more important as natural resources are scarcer, especially water resources.

Legally, international laws regulating the use of global rivers have been issued for long time, e.g. Helsinki Law (ILA, 1966); draft law on water resources exploitation outlined by international law council of UN (1991-1994), and recently Agreement on water use (UN, 1997). In 1997, SADC/EU conference was held in Maseru to discuss the river basin management (Savenije & Van der Zagg, 1998, 2000). In this conference, river management has been analyzed by participants basing on 3 basic factors of the issue: "sharing of international water resources", say, (i) politics (ii) technical and (iii) institutions.

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As in many countries, Vietnam formerly made policies relating to development and exploitation of natural resources, putting emphasis on construction and efficiency improvement of infrastructure. At present, as the fresh water become more and more limited, the improved efficiency of water use is being considered by many administrative levels. In fact, Vietnam is being faced with many issues relating to proper allocation and use of water resources.

## **1. Issues of Vietnam**

### **1.1. Formation of legal system for water rights and water allocation**

As we may know, water is a vital part of Vietnamese culture. For a long time, Vietnam folk literature has numerous tales about the formation of Vietnamese society and people from the fierce fights between sea god and mountain god. Vietnam also had to fight against floods and storms from large rivers and monsoon hurricanes frequently landing on coastal areas every year. In coming decades, being affected by increasing population, growing economy, strong shift in cropping patterns, modernization and industrialization process, the requirement of environmental protection will be pressed. As a result, the water demands of different economic sectors will ever increase. From the above mentioned facts, in order to fulfill the task and function of water resources management in river basins, integrated exploitation of water resources, construction of hydraulic structures and natural disaster control as stipulated in Decree No. 86/2003/ND/CP, MARD has formulated Strategy for water resources development which means a vital significance to the development of our country.

Vietnam is located in monsoon area and is possessed with abundant sources of water yet these sources are not evenly distributed, both temporally and spatially. Every year, a total flow of 850 billion m<sup>3</sup> of water is found in Vietnam, of which 60% comes from outside of Vietnamese territory and the remaining 40% is born in Vietnam. Many large rivers and streams of Vietnam originate in other countries sharing the same catchment and some are located in the boundaries between Vietnam and neighboring countries. Drought and flood are become more frequent and harsh in all parts of our country, especially in Central Region. Therefore, the allocation of water to all sectors is a difficult task for a lot of forecasts of upstream water of large rivers have to be carried out in advance.

About mid-80s, Vietnam commenced its reform of legal documents in order to regulate the use and protection of water resources through various provisions. After many drafts, Law on Water Resources was approved by Vietnamese National Assembly in May 1998 and came into effect in January 1999. Law on Water Resources is a frame law in which all policies and rules on management, exploitation, use and protection of water resources in Vietnam are stipulated. In many provisions in this Law, the allocation of water resources and priority use of water are put as follows:

#### ***“ Art 20- Law on Water resources (1998): Regulation and allocation of water resources :***

1. The regulation and allocation of water resources for use purposes must be based on the river basin planning and actual potential of the water resource and must ensure principle of equality, appropriateness and prioritization order in terms of quantity and quality of domestic water.

2. In case of water shortage, the regulation and allocation of water should be prioritized to domestic supply, other water uses will be regulated and allocated in a

proportion set in river basin planning in a way that ensure equal and reasonable principle.

The government will stipulate the regulation and allocation of water resources.”

**Article 7.-** The regulation and distribution of water resources stipulated in Article 20 of the Law on Water Resources is specified as follows:

1. The agency in charge of State management over water resources shall base itself on the river basin zoning and the actual potential of the water source to announce the water sources' capacity to the concerned branches and localities, so that the latter can work out population distribution and socio-economic plans suitable to the water source potential.

When the water source is incapable of meeting the water use demand, the branches and localities shall have to readjust their plans for population distribution and socio-economic plans to make them suitable to the water sources' actual capacity.

2. When a drought occurs, thus causing severe water shortage, the agency in charge of State management over water resources shall regulate and distribute water resources on the following principles:

a/ Ensuring the water supply with prescribed minimum rations for daily life in any circumstances;

b/ Meeting the demand for water for cattle and poultry raising, and aquatic and marine product culture;

c/ Ensuring sufficient water supply for important industrial establishments and scientific research institutions;

d/ Ensuring the water supply in service of the food security program and crops of high economic value;

e/ Other water exploitation and use purposes.

The agency in charge of State management over water resource defined in Clauses 1 and 2 of this Article shall have to work out plans for regulating and distributing water resources.

**Art 13- Decree 179/1999/NĐ-CP: MARD is responsible before the Government for implementing state water resources administrative function nationwide, including:**

Para. 4: depending on corresponding jurisdictions, MARD will regulate and allocate water resources as stipulated in Para 3 – Art 7 of the Decree; MARD will issue, revoke and extend water use permit or authorize the Provincial People Committees to will issue, revoke and extend water use permit, license for geological investigation and exploration, construction of ground water structures as regulated in this decree.

## **2.2. Problems in allocation and use of water in different sectors**

Vietnam is a developing country in the region. Upon implementing the Action plan on “accelerating modernization and industrialization in agriculture and rural area during 2001-2010”, as required by Prime Minister, MARD has completed **Strategy for water resources development up to 2020** and submitted for review and approval of Prime Minister. The Strategy mentioned many challenges in management in general and water allocation in particular. Following are main points in the strategy which relate to the future water use and view of water allocation to various sectors.

### **2.2.1. Problems to be solved in water resource sector**

❖ Baseline documents are limited which affect the calculation results.

❖ Water resources plans still have unprecedented problems in the context of strong development of industry sector, urbanization and shift in agriculture-forestry pattern etc...

❖ Due to low investment ratio, beside new headworks and main canals, on-farm systems are incomplete. So design capacity can not be brought into play.

❖ At present, more than 1.3 million ha of rice land in Cuu Long River Delta, Central Region, Central Highland and part of waterlogging areas in North Region Delta are not well drained due to the lack of drainage structures. Water supply for remote areas and some small towns is limited. Irrigation water for upland crops is not available.

❖ In some cases, impacts of hydraulic structures on environment and ecosystem are not well assessed.

**2.2.2. Challenges:** Vietnam is now being faced with many challenges in management and allocation of water resources in a sustainable manner. The Government always prioritizes the water uses for domestic supply. However, irrigation is of no less importance for water is very necessary for cash tree and foodstuff production. The industry sector also needs water to gain a growth rate of 6-8% annually as one of economic goals.

**a. Water resources are being deteriorated** and continued to be affected by wood cutting, pollution and global climate changes. Natural disasters as flood, drought, saline intrusion, inundation, high tide, water pollution are increasing in scale and magnitude. They are frequent threats and may cause enormous damages to human and properties everywhere.

**b. Economic growth** is continuously improved at a fast rate. As a result, water demands of economic sectors are ever rising. Water conflicts between different sectors requires better solutions to ensure adequate water for all and an appropriate adjustment to water allocation to meet social-economic goals of the country in industrialization and modernization process.

**c. Population pressure and improve living standards in** coming decades: it is forecasted that by 2020 our population will reach 98 million and stay at 120 million in 2-3 decades. Population growth and requirements for better living quality will need more water for production and domestic supply which represents one of the largest challenges to the development and management of national water resources.

**d. Conflicts in water rights between international riverine countries are increasing.** Water in international rivers as Red river and Mekong rive are expected to change in a negative trend for Vietnam for upstream nations are accelerating their exploitation. This situation is a big and potential challenge to our country in terms of water resources conflicts.

**e. Conflicts relating the water rights between localities** are raised and expected to escalate in inter-provincial irrigation systems.

**g. Investment:** investments in water resources development since 2001 have been reduced whereas large funding for this sector in coming years is urgently required which can not be met by national budget.

**h. Existing water resources management** is the responsibility of many sectors and ministries, which means a difficult task and inefficient performance.

The above mentioned challenges require better coordination between Ministry of agriculture and rural development (MARD) and related ministries, sectors and localities in formulating a uniform management mechanism and proper measures for development and management of water resources to ensure sustainable development and equal allocation between different stakeholders.

**2.2.3. Development viewpoints:** once main challenges that the sector faces are identified, MARD will submit Prime Minister the “Strategy for Water Resources Development up to 2020” which reflect following views:

**a. Sustainable use and development of water resources should guarantee reliable protection.**

❖ The exploitation and use of water resources should be carried out in an integrated, appropriate and synchronous manner basing on specific river basin and hydraulic system rather than on administrative boundary.

❖ Use and protection of water resources should not be separated in order to avoid degradation and exhaustion of water resources. The water resources can be regenerated through structural and non-structural measures, or agriculture-forestry development programs can be integrated for better performance.

**b. Multipurpose operation:** more attention should be paid to water resources development to change the agricultural and forestry pattern, diversify crops, ensure food security and meet water demands of different sectors of industry, fishery, tourism, domestic use etc... and provide adequate discharge for environment protection and power generation.

**c. Natural Disaster mitigation:** we should gain efforts to ensure reliable prevention and control against natural disasters to minimize damages and loss. Suitable measures and plans should be well prepared for each region, i.e. prevention, adaptation or avoiding to these disasters. All these plans should ensure balanced benefits between different regions and sectors in the country.

**d. Poverty reduction:** Water resources development in remote and mountainous areas should be one of high priorities where water shortage is prevailing. Together with social policies, water use preferences will help meet part of domestic water supply of local people and economic development. This is one of the goals in poverty reduction programs to facilitate settlement of local population and protection of country's frontier.

#### **2.2.4. Water resources management and development objectives**

**Objective 1:** This objective will orient the actual water resources allocation to different sectors to realize the modernization and industrialization process of Vietnam. Development of hydraulic measures is emphasized to ensure adequate supply for domestic use and other economic sectors.

❖ Up to 2010:

- Irrigation water will be enough for 10.5 million ha of cultivation land, in which 6.48 million ha is for annual crops (rice land will be 4.032 million ha), and 2.74 million ha of perennial trees. The foodstuff trees area is expected to increase to 7.408 million ha and maize area 1.2 million ha<sup>2)</sup>, about 75 % of the areas will have been stably irrigated.

- Aquaculture: most of water surface area is for shrimp raising, i.e. 0.563 million ha in which advanced extensive farming area is 0.4 million ha, semi-intensive 0.086

million ha, intensive 0.077 million ha. About 70% of aquaculture area is supplied with stable water source. These shrimp raising areas are mainly found in Cuu Long and Red River deltas.

- Domestic water supply: about 85% of rural people area provided with clean water at the rate of 60 l per person per day; urban area: 100% of class I city people will be receiving 165 l/per person per day; 95% class II city people 150 l/per person per day, and 90% class III city people 120 l/per person per day.

❖ Up to 2020:

- Irrigation water will be enough for 11.4 million ha of cultivation land, in which 6.7 million ha is for annual crops (rice land will be 4.1 million ha), and 3.2 million ha of perennial trees. The foodstuff trees area is expected to increase to 7.6 million ha and maize 1.2 million ha, about 85 % of the areas will have been stably irrigated.

- Aquaculture: most of water surface area is for shrimp raising, i.e. 0.65 million ha which advanced extensive farming area is 0.35 million ha, semi-intensive 0.15 million ha, intensive 0.15 million ha. About 80% of aquaculture area is supplied with stable water source. These shrimp raising areas are mainly found in Cuu Long and Red River deltas.

- Domestic water supply- 100% of rural people area provided with clean water at the rate of 60 l/per person per day; urban area: 100% of class I city people will be receiving 180 l/per person per day, 165 l/per person per day for class II city people, and 150 l/per person per day (city class III, IV and V) <sup>6)</sup>.

- Water supply for industry is expected to reach 50-100 m<sup>3</sup>/ha of construction volume.

**Objective 2:** To enhance flood control safety level and minimize damages and loss caused by natural disasters.

**Objective 3:** better management of river basins; proper use and exploitation of water resources; sustainable development of river basin to avoid water pollution, exhaustion in main rivers (by 2010) and the entire national river network (2020).

**Objective 4:** building capacity of staff and improving science and technology level in studying and assessment of water resources. It is expected that the planning, designing and construction of hydraulic structures will be ranked at average level in the Asian region by 2010 and above average level by 2020.

### **3. Comments:**

At present, Asian region, many river basin organizations have been established for large river systems. In order to promote the water resources management in the river basin, a holistic approach should be applied. This should ensure effective use, exploitation and protection of water resources in the river basin so as to realize sustainable development in all river basins.

As lessons learnt from many documents, we would like to recommend some major measures for water resources management at river basin level in the future:

3.1. To create such a balance for all water uses in different river basins and encourage the involvement of many nations, organizations, institutions and individuals in water resources management and the regeneration of water. Sectors using water should produce detailed assessment of their water uses and demands in the territory and rivers. This will be a basis for balancing various water uses and solving conflicts between different water users.

3.2. Countries using the same water sources in a river basin should build water use scenarios on the view of sustainable development; related countries should be notified of proposed water use plans so that proper allocation of water resources can be worked out. Basing on the forecasted inflow of the catchment, equal allocation of cost and benefits in using water between existing and future water users can be calculated. Countries sharing the same river basin should exhibit their international cooperation spirit as they will ensure that their water use related activities will not affect other countries in the same international river basin.

3.3. Nations should formulate specific programs for resources protection in their river basins, especially water resources, which will include the management of water demands, water quality and ecosystem conservation which is the main drive to hydrological cycle.

3.4. There should be more intensive information exchange and mutual understanding either multilaterally or bilaterally between various RBOs and nations in order to develop a common concept for equal water use among different countries, between downstream and upstream users.

3.5. Solutions to changes: experience exchanging and international cooperation and interregional in seeking for solutions to water resources changes as flood, drought, saline intrusion etc... in the river basins.

3.6. Building institutional capacity, especially for management staff who monitor and develop water related policies; developing a proper management system, ensuring equal water rights allocation, stakeholder participation, management and sharing mechanism for water resources.