1. Introduction
Afghanistan is located in central Asia and is occupied of dry land (652000 km$^2$), due to the rugged mountainous relief. The climate ranges from arid in the south and southwest to semi arid in the other parts of the country in Mt.Hindu-Kush and Pamir are moderately humid. Precipitation ranges from less than 100 to 500mm and the annual temperature ranges from -20 to 45 C degree (ANDS, 2007) and evapotranspiration rate is between 5 to 10 mm/day. Because of this climate, the usage potential irrigation water for agriculture is less than potentiality volume of water resource in Afghanistan. In this reason, the water resource management and irrigation water usage methodology are now important theme.

2. Water resources in each river basin
Afghanistan has considerable water resource; more than 80% of the country’s water comes from Snowmelt in the Mt. Hindu-Kush. The most of the snow accumulation melts each summer (June-Aug). Water resources in the country are divided into five the major river basins: (1) Amu Darya, (2) Northern, (3) Harirud-Murghab, (4) Helmand, and (5) Kabul-Indus which every basin consist of several watersheds. Studies have shown that the Amu Darya accounts for 48,12 M m$^3$/y (57 % of the annual water discharge), the Kabul River for 21.6 M m$^3$/y(26%), the Northern for 1,88 M m$^3$/y(2%), the Harirud-Murghab for 3 M m$^3$/y(4 %), and the Helmand for 9,3 M m$^3$/y(11 %). Referred from Watershed Atlas of AF (2004), the water is coming from precipitation (snow) over 2,000 m height in winter, and this is 80% of water resources. The amount of water in these areas through precipitation is estimated to be 150,000 million m$^3$. The other 30,000 million m$^3$ is coming from annual rainfall, resulting in a total of 180,000 million m$^3$ for the whole country. Referred from WAA Which the ratio becomes 1:2 .

2. Irrigation usage and agriculture land use
More than 80% of the population is working in agriculture sector in AF, but 12% of Afghanistan’s 65 million ha is arable; the total arable land area is 7.9 million ha, and in 1980, only 3.3 million ha were under cultivation. Agricultural production has been increasing rate of only 0.2%/year during the conflict period (1978-2001), compared to 2.2%/year in the pre-conflict period (1961-78). Because of the destruction of irrigation infrastructures, and also because about 90% of irrigation infrastructures consist of the traditional system, the efficiency of irrigation network system is workable in only 25-35% of all system. Therefore, because of the last war and several droughts, the 2.6 million ha farm is now under cultivation, and the problem is water shortage in cultivation. Irrigated land is classified as followings; (1) rivers and streams 85%, (2) springs 6%, (3) Karez or Kanat (underground water system) 8%, and (4) wells 1%. In other hand, the poorly managed water resources is one of the water shortage problem in agriculture facilities and water resource is inefficiency in this irrigation system, which this special issue stands the country to use only 32% of agricultural land. The irrigation systems and rural water supply infrastructures have damaged by conflict of the country, drought, and lack of maintenance of system. The estimated surface water and underground water is 75 BCM, which from this amount 20 BCM is used in case 98% is used in agriculture and 2% is used in urban or domestic (Qureshi, 2002).

3. The Afghan Irrigation system:
The irrigation system is divided into traditional and modern systems. Traditional system: constitute nearly 90% of all irrigation system in Afghanistan covering about 2,3 million ha (Frank S.P., 2009). The surface water systems range from a few hectares to thousands ha, and the infrastructures have been built up and improved over centuries. Small-scale traditional river systems are often located in remote valleys along a stream or river and vary in size (up to 100 ha). Large-scale traditional diversion structures can cover an area of up to 200,000 ha. There are three different methods for the ground water to be extracted such as Karez, Wells and springs. The Karez system is an ancient regional method of exploiting groundwater-using gravity. Karez systems are very delicate irrigation systems made up of vertical wells, underground canals, aboveground canals and small reservoirs [ICARDA, 2002]. The Mirab (water master system in Afghan) plays important role in water usage and water management in the traditional system. The Mirab is a service provider; he does the inspection, decision-making, operation, and maintenance of the irrigation system in the area. Formal irrigation systems: Formal, large-scale and state-owned irrigation systems were engineered in the 1950s and 1970s, mostly with the assistance of the USSR and the United States of America. By the late 1970s, five large-scale modern irrigation systems with storage capacity had been built and were in operation. These systems require a trained maintenance staff and often, if the system is broken, mechanical parts need to be ordered from outside the local community. The systems is controlled by the government (Frank S.P., 2009) and the indirect impact of the 30 years of conflict on modern irrigation systems is much more serious than on the traditional schemes.

4. Conclusion:
A non-efficient use of available water resources could have in great impact on both agriculture and natural environment in AF. Therefore, an effective water use should be important to obtain a sustainable agriculture development. The impact of precious drought (1998-2004) on production of cereal was significant; hence a more effective use and water storage is very necessary to stabilize the future production. As much of the afghan agriculture is dependent on irrigation because of fall of precipitation does not coincide with the agriculture need so focusing on Dam construction and a new and efficient water management should be undertake.

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