Abstract

Afghanistan is a land locked country with 32.2 million population and total area of 65.2 million hectare, while 2.1 million hectare area is irrigated despite having 3.2 million hectares of arable land. Water is the most important element of life that plays a vital role in socio economic development and preservation of safe environment. About 80% of people rely on agriculture in Afghanistan. As population increases and demand for food rises, there is need to supplement water use for agriculture production. In order to meet growing demand of agricultural production and bring more land under irrigation, it is essential to conserve water, modernize the irrigation system, manage the water and initiate high efficiency irrigation systems.

Introduction

According to FAO, the economy of Afghanistan relied on agriculture and about 80% of people depends on agriculture income. Therefore, water means food for the people.

Available Water Resources

- Total internal renewable surface water resources (IRSWR) is an estimated 37.5 km³/year
- Total internal renewable groundwater resources (IRGWR) an estimated 10.65 km³/year
- Total internal renewable water resources (IRWR) to 47.15 km³/year

Water Use

<table>
<thead>
<tr>
<th>Water Use by Sector</th>
<th>Agriculture</th>
<th>Industrial</th>
<th>Municipalities</th>
</tr>
</thead>
<tbody>
<tr>
<td>98%</td>
<td>1%</td>
<td>1%</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Water Use by Source</th>
<th>Surface Water</th>
<th>Ground Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>17%</td>
<td>83%</td>
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</tbody>
</table>

Water Conservation

A general definition of water conservation is:

i. To reduce water losses and wastage.
ii. Efficient use of water.
iii. Saving water by using less of it; the care, preservation, protection, and wise use of water.

Water Conservation Methods

- Precipitation water harvesting (reservoirs, dams, plantation in watershed)
- Effective use of ground water
- Application of High efficiency Irrigation systems (Sprinkler, Drip and Smart system)
- Better Irrigation Practices (minimizing losses due to evaporation, runoff or subsurface drainage)

Conclusion

- In order to have a sustainable water management system, it is necessary that the Afghan Government consider Integrated Water Resources Management Approach.
- Development of national water management policy.
- Awareness and capacity building workshops for Rain water harvesting throughout the country.
- Transfer the water management to subsidies and Water User associations
- Development of complete information system that have all necessary information relevant to water management.

References

UNFAO, Rome 2017, Water for Sustainable Food and Agriculture
https://www.mfa.gov.af/fa/about-afghanistan/country-profile.html
Figure 1: https://images.app.goo.gl/s6TbiUt7AxPujcme7
Figure 2: https://images.app.goo.gl/4oZBuSomXsCLA3uc6
Figure 3: https://images.app.goo.gl/BWSKyjpMbfpTv7Nw5
Figure 4: https://images.app.goo.gl/34a4WrXR6gxqddQi6
Figure 5: https://images.app.goo.gl/iHMlz7PjG8Gc9YaL5