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ENGLISH ESSAY

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Water Crisis In Pakistan: A Shared Responsibility of the Government and the People.

Outline:

(1) Introduction:

(a) Attention Grabber: "People can live without love but not without water."
- Churchill.

(b) General Statements.

(c) Thesis Statement:

Water crisis in Pakistan is result of the actions of both, the government, and the people and these actions include rapid growthⁱⁿ population and urbanization, inefficient agriculture water use, water mismanagement and many more. The steps taken to counter these include efficient water management, modernization of irrigation systems, increasing water storage capacity and adapting climate change strategies.

(2) Main Body

(A) Challenges / causes of Water Crisis in Pakistan-

(i) Climate Change and Glacial Melt

(ii) Rapid population growth and Urbanization

◦ UN Report

◦ PCRWR Report

(iii) Inefficient Use of Water in Agriculture
◦ Food and Agriculture Organization Report

(iv) Ground Water Depletion.

(v) Water mismanagement and Governance Issues
◦ Asian Water Development Outlook Report

(vi) Transboundary Water Disputes with India and Afghanistan.

(13) Solutions: for existing water crisis in Pakistan.

(i) Efficient Water Management and Infrastructure Development.

- i - Modernization of irrigation systems
- ii - Increase water storage capacity.

(ii) Ground Water Regulation and conservation

(iii) Adapting to Climate Change strategies

(iv) Transboundary Water Agreements.

(13) Conclusion:

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The Essay:-

"People can live without love but not without water," Churchill said. Water is a necessity and water crisis is neither a new issue nor a fully settled one. Developed countries are dealing with it successfully. Whereas, developing and underdeveloped countries are still struggling. Unfortunately, Pakistan is one of them. Water crisis in Pakistan is result of the actions of both the government and the people and the action include rapid growth in population and urbanization, inefficient agriculture water use, water mismanagement and many other. The steps taken to counter these include efficient water management, modernization of irrigation systems, increasing water storage and capacity and adapting climate change strategies.

From all the causes leading to water crisis in Pakistan one of the main and very concerning cause is Climate change. Climate change is result of actions of humans, for what they are doing with their own planet. According to Climate Risk Index (CRI) 2015 Pakistan ranked 5th among most climate vulnerable countries.

Resultantly, the phenomenon of Glacial Lake Outburst Flooding (GLOF) is a matter of normal routine. Unpredictable monsoons, flash floods, prolonged droughts, all of these exacerbates Pakistan's water crisis. All the fresh water that is a blessing actually is ~~can~~ turned into condemnation ~~when~~ due to Climate change.

The second main cause for water crisis in Pakistan is the rapid population growth and urbanization. The United Nations projects Pakistan's population to reach over 380 million by 2050. This would make Pakistan the world's third most populous country, surpassing the United States, Indonesia, Brazil and Russia, and trailing only India and China. This results in shortage of per capita water availability. The Pakistan Council for Research in Water Resources (PCRWR) reported in 2023 that per capita water availability in 1947 stood at 5600 cm³ and now it is less than 1800 cm³. This has pushed Pakistan in "Global Water Scarce" category.

Third cause for water crisis in Pakistan is the inefficient water use in agriculture. Agriculture consumes over 90% of Pakistan's fresh water. Food and Agriculture Organization in 2023 reported that irrigation methods like flood irrigation leads to 50 to 60 percent water wastage. Moreover, water intense crops like sugar cane, rice and cotton stress the already limited water supply. Farmers often lack the knowledge and resources to effectively manage irrigation water, leading to over-watering and further water loss. Inequalities in water access and distribution across different regions further compound the problem, making it challenging for farmers to access

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water when they need it.

Fourth cause leading to water crisis in Pakistan includes ground water depletion, water mismanagement and governance issue.

Ground water extraction in Pakistan is unregulated, about 60% water for Pakistan's irrigation and about 90% of drinking and cooking water comes from ground water sources. Water tables in Punjab and Sindh are rapidly declining because aquifers are depleting at a fast rate. According to PCRWR study over-extraction of ground water is resulting in this decline. Moreover, Pakistan ranks 14th out of 48 Asian countries in water governance. (ASIAN WATER DEVELOPMENT OUTLOOK (2020)). The water apportionment accord of 1991 between provinces has already lead to disputes over water allocation and now the Green Pakistan Initiative (GPI) for Cholistan canal project is ~~resulting~~ ^{thought} ~~to~~ to irrigate 2.3 million Acre land, leaving behind 12 million Acre land barren and water scarce ~~is~~ is causing disputes between Sindh and federal government.

Finally the transboundary water dispute with India and Afghanistan has been a greater cause of Pakistan's water crisis. The suspension of Indus Water Treaty recently may result into greater conflicts later. Also, the construction of Kishan Ganga and

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and Braham Putra head works in ^{India} resulting into water shortage for Pakistan. Moreover, the Afghan construction of Kamal Khan Dam on Helmand river shortens the amount of water reaching Pakistan.

Although water crisis devoured Pakistani society, there are some remedies by acting out upon which Pakistan can again be set on the path to progress.

First of these solutions to water crisis includes efficient water management and infrastructure development. The methods of irrigation should be modernized for example, flood irrigation wastes a lot of water so, instead drip or sprinkler irrigation should be used. Moreover, Pakistan's water storage capacity currently stands at thirty days of river water compared to India's that is 220 days of river water. Construction of new dams is desperately needed to store water wasted in floods.

Second comes ground water regulation and conservation. Government needs to implement strict groundwater extraction laws to prevent over extraction. Also, aquifer recharge projects should be taken into consideration like small dams and artificial recharge wells. A framework for sustainable groundwater management should be provided.

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Finally climate change strategies should be adapted and transboundary water issues should be solved by negotiations. Rainwater harvesting and strengthening disaster management is important to overcome climate change issues leading to water crisis. Also, negotiations under Indus Water Treaty and engagement with Afghanistan to ensure equitable distribution of Helmand river water can help in dealing with water crisis in Pakistan.

Conclusively one may say that the picture of water crisis seems to paint a bleak future for people in Pakistan; however, it is a false impression. By acting on the suggested solutions we can surely overcome the water crisis and reduce its negative effects for the better future of coming generations. It is never too late to pledge for a new change to create a new tomorrow. Where there is a will there is always a way, regardless of the obstacles and hindrances we can definitely achieve our goals.