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Urban runoff and flood management

(Comprehensive management of urban flood control)

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Abstract:

Floods in urban areas are due to factors such as continuous migration to cities, unplanned development, climate change and increasing operating costs and maintenance of growing priorities. In this article, the need for comprehensive management of urban flood control with a plan Urban detail is highlighted. Urban flooding should be mitigated by having a rational model of both structural and non-structural strategies, selected with the full participation of all stakeholders. Comprehensive management of urban flood control is considered as a complete system and any action to reduce the risks of floods and urban runoff should be effective in one part of the city.

In this article, while examining the existing structural problems in the country and city of Shiraz after the occurrence of effective rains and floods and urban runoff, effective solutions in this city for flood and urban runoff management will be presented. Usually, after some effective rains in the watershed of Shiraz, especially the surface runoff on the surface of communication roads creates problems for pedestrians and vehicle traffic. In this article, rainfall of 20 mm and above will be examined. In the event of floods, according to the proposed definition, more attention should be paid to non-structural solutions in developing areas such as developing cities, but in developed and old areas of cities, inevitably structural and more costly measures should be taken. Strategies to reduce urban flooding include increasing the vegetation of pastures and planting trees around settlements and conducting the necessary research from species selection to their effect on reducing the volume and maximum flood discharge and land cover by materials without negative effects on the environment such as (Hydroseeding) Use of irrigated seeding, construction of dams or flood storage lakes upstream of the city to store floods in addition to the capacity of the urban drainage canal, identification of nodes in the flood route within the main discharge river canal. Establishment of an urban flood and runoff management committee in the city council or municipality with a special composition will cause it to play a role in the education, information and software management of floods. One of the main tasks of this committee is to provide accurate information through the mass media, parliamentarians and housing agencies not to build facilities in the area or natural corridors of the river in order not to create special problems for government organizations such as municipalities in the future. In this article, considering Shiraz urban watershed as a complete system, we will try to solve classical flood and drainage problems by presenting classic and new



solutions, some of which have not been introduced by city managers or are not familiar enough with them. .

Introduction:

The relentless migration of people from rural to urban areas is putting increasing pressure on urban services, especially emergency and disaster management. Certain sections of society, especially the poor, are forced to live in areas at high risk of natural disasters such as floods and landslides, and in shelters that are easily vulnerable.

Statistics show that flood damage in the last 5 decades has accounted for more than half of the total damage caused by natural disasters in the world. The climatic and geographical conditions of Iran are such that every year we witness the occurrence of floods with its many damages.

The occurrence of floods in Iran is not specific to a specific region and the whole country is affected by this phenomenon. Changing attitudes is necessary to prevent and reduce flood damage in the country. "Operational and executive activity" in flood management, the use of flood control and containment methods, in other words, structural methods are considered only as one of the management components, and in this view, non-structural methods such as flood warning systems, flood zoning And flood insurance is also considered as another important component of flood management. In Iran, various activities to prevent and reduce flood damage in both structural and non-structural areas have been done, but what is evident in this regard, for example. The scattering of these activities and the implementation of study and executive plans by various governmental and semi-governmental agencies in certain parts of the discussion and mostly without coordination with each other. On the other hand, due to the trans-sectoral nature of the flood and the involvement of each

National institutions in part of the flood management cycle during floods, lack of transparency of their responsibilities and duties and how they interact and coordinate lead to problems in mitigation and take the necessary measures in the response and rehabilitation phase in addition to the prevention phase. To be.