

The Study and Evaluation of Flood-Prone Villages the Districts Western Mangor, City of Piranshahr in Iran

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ABSTRACT: *Iran on a climatic and geological conditions is located the constant damage caused by natural disasters. Meanwhile, flood imposes damages of many to people's lives. This article discusses, identified and analyzed the Flood-prone village's districts of West Mangor in Piranshahr city. The aim of this study was to assess flood impact on the regional economy, and is assess the damage caused by the floods. Research method is documentation and field studies the use of GIS. The results of the research It was that human factors (human interventions in the environment) are the most destructive factor in the losses suffered by area.*

Keywords: *natural disasters- floods - Villages of West Mangor- GIS*

I. INTRODUCTION

Although the risks are considered the natural world, but the degree of vulnerability to crises resulting from the risks related to human behavior. Flood forecasting as a method of flood management measures in institutions and organizations have been involved with this issue.

Unfortunately, have not been seriously considered the issue of flood management and reduce of damages in Iran and only when the current devastating floods (Badri, 2006, 15) But when tragedy comes, it will attract attention officials and experts. Obviously the flooding phenomenon it is possible to study despite all of its complexity in order to control and damage reduce, and economic exploitation of the flood, appropriate solutions to be found (Abdollahi,2004). In this study have been studied villages of Badinabad, ABkhordeh, Bazargan and Tarkesh Olya.

II. STATEMENT OF PROBLEM

At the end of the twentieth century, one of the most significant natural disasters is a disaster in the world. Natural disasters cause major losses in economic, environmental and social being, so will cause a delay in the progress. Timely and accurate decisions to assess risks and evaluate a range of social, political and environment can minimize the damage. Iran is the country of natural disasters occur such as droughts, floods, earthquakes, sandstorms, hail, frost, dust, etc. (Samadi, 2007: 5).

Disasters caused by natural hazards such as earthquakes, floods and landslides and dust are major accidents and natural hazards within the Vill is Mangor Piranshahr city that may affect the spatial arrangement of rural settlements. Area of research (Piranshahr) causes the because, rapid melting of snow, rain as showers, rainfall or severe and prolonged low flow rivers to rise and flooding dangerous though(Department of Natural Resources, 2012).

This flood event is usually in the spring. Depending on the type and amount of significant rainfall in the city Piranshahr, flood damages in different regions bring to the load. This natural phenomenon occurs Piranshahr Occasionally the city and its degradation depends on the location and actions taken? One of the most important factors in the incidence of sudden floods, the sand bed is Piranshahr city. With the removal of sand from the river bed by Lavine, Badin Abad, Little Zab, because thoughtless people in crisis is a jobber.

Another important factor in the incidence of sudden floods in the region, is the indiscriminate cutting of trees by local people for the construction of the box, to hold the fruit, farmers use the wood for fuel, animal feed, housing, etc(Department of Agriculture ,2011).

Importance and need for research

Natural disaster has been estimated that 97% of deaths in developing countries occur (Yakanifar, 2009: 5). Extent and diversity of the natural environment caused by natural disasters in the world is happening is that the 41, 31 are in possibility. Among these flood is the highest frequency, so that every so often, these natural disasters are part of this vast country in the beating and damage it has on the body Among these flood is the highest frequency, so that every so often, these natural disasters are part of this vast country in the beating and damage it has on the body (Flahtabar 2007: 7).

III. RESEARCH OBJECTIVES

- Measure and evaluate the effectiveness of flood damage on the economy
- Reduce the deleterious effects natural events in the region
- Evaluation of the vulnerability, the effects of natural disasters and crises.

IV. MATERIALS AND METHODS

Methods and its steps is deductive logic and relying on local resources trying to discover ways to crises and natural disasters the regional changes and examines the effect of the adjustment elements and indicators. In this study has been used a combination of methods descriptive and standardized (adjusted) that is used to describe the natural disasters and crises the descriptive method to evaluate the degree of damage direction and contributing factors proposed in the late period of the study criteria and comparative method.

Steps to follow:

- Data collection
- Extraction and summarize data - prepared base maps - Tables – Charts
- Analysis of Findings

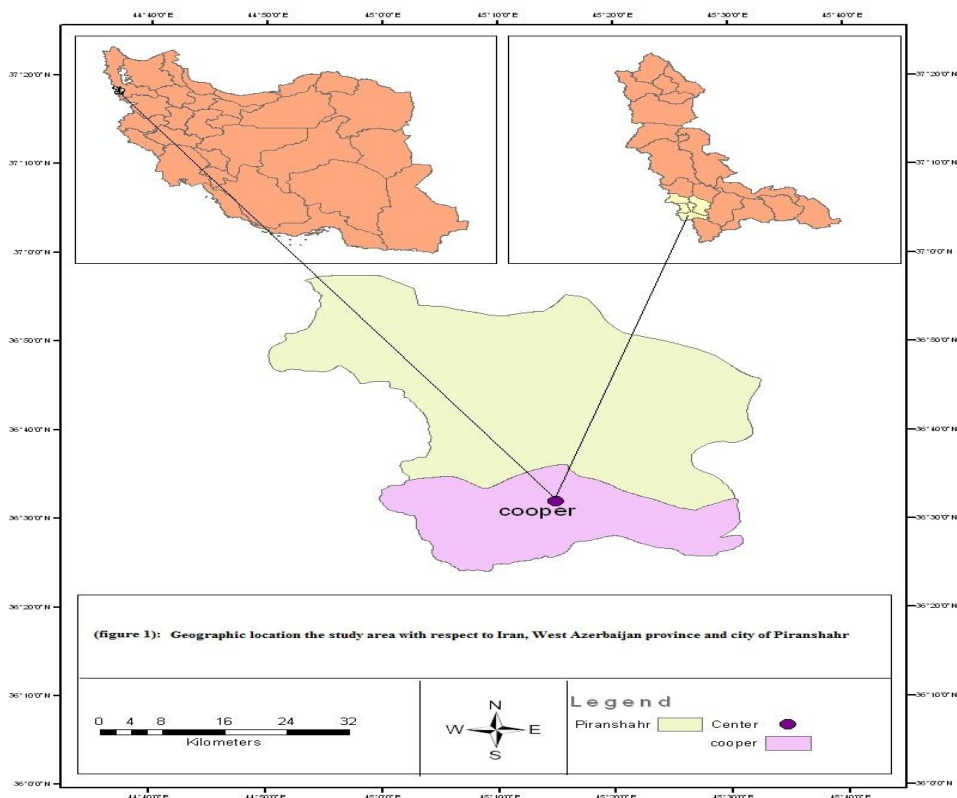
Theoretical Foundations

One of the issues that most cities in the world have faced natural disasters, annually Accidents and incidents will be causing considerable damage financial and human in Iran. One of important roles of management is the preparation and understanding of the crisis, But more importantly is predicted the crisis (Rudini, 2009: 66). On the other hand, Iran is according to statistics the number of the first ten countries disaster-prone world (Anberi, 2005, 88) Since most of crises and natural disasters are sleeping off a potential for creating damage (shakiba, 2009:100), Readiness is the an obvious need to confront and deal with it.

Introducing the research range

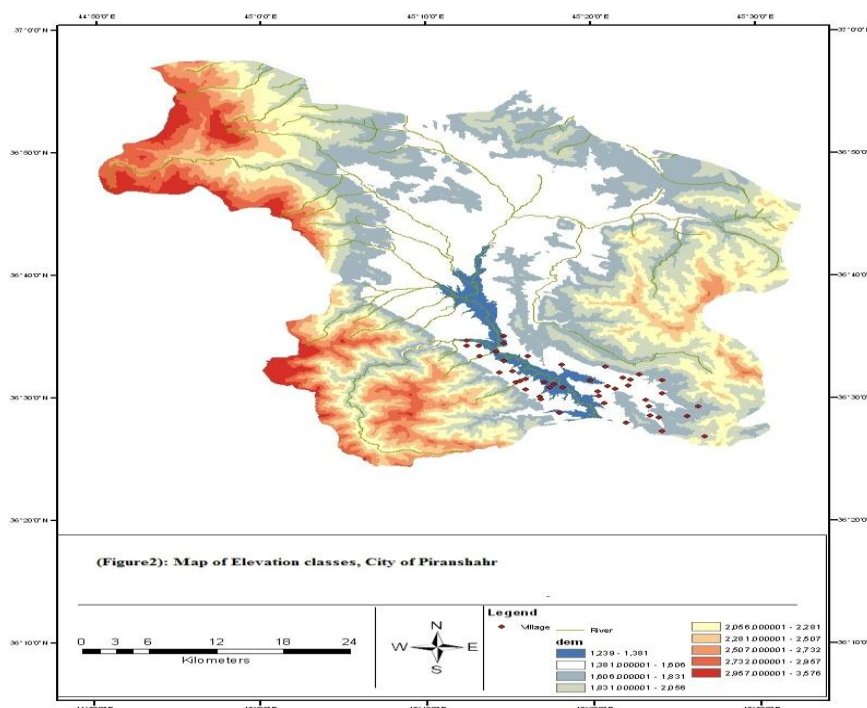
Rural district West Mangor is located in central part of city Piranshahr between 36 degrees and 31 minutes north latitude and 45 degrees 15 minutes 42 seconds eastern longitudes. The Rural district has an area of about 25,500 hectares, according to statistics in 2012, has 45 villages and has a population of 9,155 people (Census of Population and Housing, 2012).

The position on the map of the study area villages and in Table 1, have been studied in normal human and villages.



Natural hazards of the study area

Earthquake, flood, flow, drought, and nip are such as natural hazards in the region that may occur in the area and causes demolition and harm, both human and financial. Piranshahr city's climate is mainly influenced by moist air currents in the Mediterranean Wind flow region is affected Mediterranean air currents and the Atlantic Ocean. According to statistics of monthly and annual piranshahr synoptic stations is the percentage of calm winds in this region 61% According to statistics of monthly and annual piranshahr synoptic stations is, the percentage of calm winds in this region 61%. According to Rose, piranshahr weather station, the prevailing winds occurring wind in the 5/10% of the West (Ranjbar, 2005, p, 36). During the rainy city piranshahr started from October and will continue until late June. Based long-term statistics of the Ministry of Energy is the annual precipitation about 650 mm and occurs minimal precipitation with 89 mm in January and monthly maximum of 136 mm in December. In the southwestern part of the district is because of narrow valleys and slope area, more runoff and time of concentration very low and is increased the flooding in this part of the field. Among the villages that are prone to floods can be named Badinabad Mangor -Abkhordeh - Tarkesholya - Bavooleholya, Gazgsk - Karmandar -Koneh Kach - Galat - Shahrastin and Hojran.



Badin Abad

There is in the area intense rains in spring and flooding dated 2/2/90 in which 2 days causing flooding upstream in the watershed as the first place seal and record flooding .it has been flooding peak time 10 hours flood discharge of 150 cubic meters per second and the storm center of the outlet basin 3500 m. the causes of floods is effective Approximate area, flooding retention area, 200 hectares and the average depth of the flooded 3 m, the vegetation is low and irregular slopes Pasture animals.

Table (1) the amount of damages caused by floods in 2012 Badini Abad Rural district Mangor

Row	Group Damage	Subgroup Damage	Name of subgroup	scal es	Unit	Percent	Rial loss (Milion)
1	Losses of Life	Killed, missing injured	-	-	-	-	-
2	Livestock Losses	Cow, sheep, etc.	Fish farming	2	Laver	100%	500
3	Cultivation	Wheat, alfalfa, etc	barley	-	-	-	-
4	Gardens	Apples, almonds, grapes, etc.	-	-	-	-	-
5	Linear Construction	Sfalth way, rural	-	-	-	-	-
Overall damage						500 million Rial	

Reference: Department of Natural Resources Piranshahr city(Units Watershed Management)

Village of Abkhordeh

The village has been flood witness dated 02/02/90 for 2 days due to flood flow and bed blockage in the spring rains. It has been flood discharge 80 cubic meters per second and the distance from the Showers center of the outlet catchment 3,000 meters and an area of approximately 50 hectares and average depth of the flooded area Floodgate 5/2 meter period flooded 7 hours.

Table (2) the amount of damages caused by floods in 2012 Abkhordeh Rural district Mangor

Row	Group Damage	Subgroup Damage	Name of subgroup	scales	Unit	Percent	Rial loss (Million)
1	Human casualties	Killed, missing injured	Killed	-	-	-	-
2	Cultivation	Wheat, barley alfalfa, etc	Wheat	2	Laver	100%	500
3	Gardens	Apples, almonds, grapes, etc	Almonds, Populus,	-	-	-	-
4	Linear Construction	Sfalth way, rural	Rural road	-	-	-	-
5	Buildings	Home, warehouse	Hay loft	1	Portal	50	%50
Overall damage						500 million Rial	

Reference: Department of Natural Resources Piranshahr city (Units Watershed Management)

Village of Tarkesh Olya

In this village was flooding in on 12/8/2008 that the effect of rainfall in the upstream of the village the first site despite the flood is the flood history of the region but is unprecedented the flooding.

Table (3) the amount of damages caused by floods in 2012 Village of Tarkesh Olya district Mangor

Row	Group Damage	Subgroup Damage	Name of subgroup	scales	Unit	Percent	Rial loss (Million)
1	Human casualties	Killed, missing injured	Killed	1	Person	-	-
2	Human casualties			2	Person		
3	Cultivation	Wheat, barley alfalfa, etc	Wheat	20	Hectare	100%	200
4	Gardens	Apples, almonds, grapes, etc	Almonds, Populus,	2000	Trees	100%	500
5	Linear Construction	Sfalth way, rural	Rural road	1	Kilometer	%50	11
6	Natural Resources	Forest, grassland	grassland	50	Hectare	%30	%50
Overall damage						265 million Rial	

Reference: Department of Natural Resources Piranshahr city (Units Watershed Management)

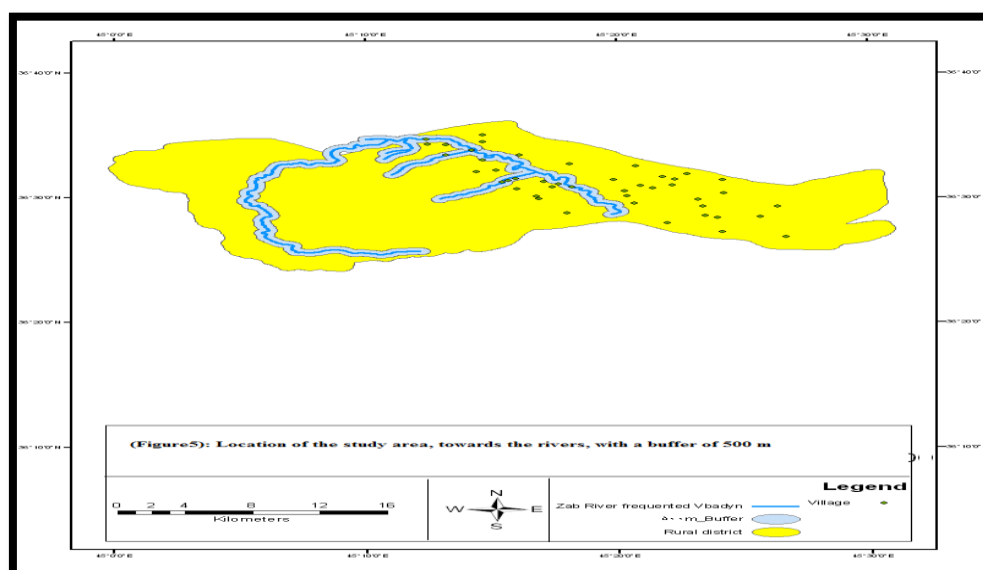
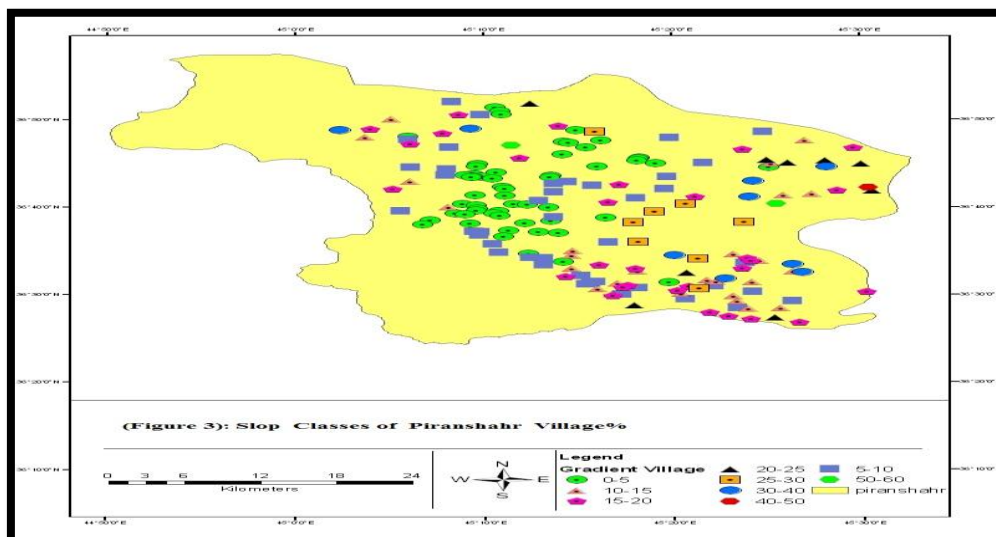
Bazargan Village

Village of Bazargan is the terms of having location and condition of natural and human the mountainous with its height from sea level is 1513 m. flooding dated 12.08.1385 has been in effect rain showers catchment area upstream zevah Qorah village which is site the original Flood. It is mentioned Time Spent to peak flood 4 hours and Debbie Flood 220 m³ per second, and an area of approximately 400 hectares and an average depth of 1/5 meter. The Fundamental reason is the seal the mining on slopes excessive trap the plow is wrong.

Table (4) the amount of damages caused by floods in 2012 Village of Bazargan district Mangor

Row	Group Damage	Subgroup Damage	Name of subgroup	scales	Unit	Percent	Rial loss (Million)
1	Human casualties	Killed, missing injured	Killed	1	Person	-	-
2	Livestock losses	Cow, sheep, goats	-	2	Person	-	-
3	Cultivation	Wheat, barley alfalfa, etc	Wheat, barley	100	Hectare	100%	50
4	Gardens	Apples, almonds, grapes, etc	Walnut, Populus	3000	Trees	100%	80
5	Linear Construction	Sfalth way, rural	Rural road	2	Kilometer	%70	30
6	Natural Resources	Forest, grassland	grassland	350	Hectare	%500	-
Overall damage						610 million Rial	

Reference: Department of Natural Resources Piranshahr city(Units Watershed Management)



V. CONCLUSION

Crises caused by natural disasters have inflicted significant adverse effects on human society. Flooding is a natural phenomenon when they occur, like any other natural disaster, the destructive effects cannot be avoided. The geography of Iran's natural disasters seismicity there are some areas where in some cases the adverse effects caused by the flooding disaster rather than a lack of prevention there has been human and financial damage irreversible. Although flooding is a natural event but as human factors significant role, played in the incidence and aggravation. In this role often unintentionally and lack of awareness. Most important and indiscriminate acts of man which is flowing flooding can include: The most important factors, and the indiscriminate actions of man, which, in the flood zone were investigated, namely:

1 - Destruction of vegetation by livestock grazing, cutting of bushes for fuel cut down trees order to expand agricultural land, indiscriminate use of wood for construction of buildings and houses and trees and making charcoal from branches of trees for feed and fuel.

2- the indiscriminate plowing the land, particularly in areas with a slope in the vertical direction and plow marginal land and cause hardening of the pasture land and help is the flow of water and flooding on the slopes Especially located in the homebred land and in the villages mountains points piranshahr city.

3- Watercourse manipulation, and creating new obstacles and restrictions to the movement of flowing water is created to reduce the rate of water flow and flooding.

4- Invasion of privacy Watercourse and rivers, thereby slowing the movement of water and change the water current is through the construction of houses, or expand agricultural land and orchards.

5- Not according to the rules, regulations and warnings from authorities and practitioners of natural resources and the environment.

In this study, we determined the villages, districts Mangor West located at greater risk of flooding mostly due to a valley and mountain, and lack of vegetation and increased Overgrazing of livestock and plow inappropriate. Flooding has occurred in recent years in the study area, due to the destruction of nature, and the unwise business, the environment surrounding countryside is mainly the source of profit, and the uncontrolled exploitation of natural resources, and modify it to prevent flooding in future years, it is very efficient and effective.

VI. SUGGESTIONS

- Teaching of proper operation of the rancher's pastures.
- Teaching correct methods and technical rain fed cultivation on slopes.
- Construction, diversion dams, and operation of watershed in the upstream area.
- Prevention of dry land Crop and cultivation in all parts of the land units of which more than 12% the slope and the areas that they cover the earth is very shallow so shallow.
- Avoid the current situation of grassland degradation in the short-term and long-term.
- Prevent degradation and soil erosion, a soil conservation operation and Correct methods to promote the utilization of land resources according to their fitness.

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