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Migration in response to environmental change

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EU migration under environmental change: impact depends on current infrastructure

Environmental changes in the future, such as an increase in floods, land degradation and drought could result in changes in migration patterns in Europe, researchers write in a recent analysis. It is difficult to predict these exact migration patterns, however, as they are determined by a complex interplay of economic, political and social factors with environmental change, as well as adaptive capacity.

Environmental factors already influence population movement in Europe. For example, desertification in northern Africa is partly behind a recent increase in migration from the region to the European Mediterranean. The only recent displacement of people to Europe from natural environmental causes was from Montserrat in the West Indies, after the volcanic eruption that started in July 1995, which devastated much of the island. Also, many Europeans seeking better quality of life may move to other parts of the continent with a more agreeable climate; tourism in such areas would be expected to increase.

The analysis by UK researchers considers the potential impacts of environmental change on migration both within Europe and to Europe from neighbouring Mediterranean countries in northern Africa and the Middle East.

Economic, political, social and cultural factors are the main drivers of migration. However, they cannot be considered in isolation of each other and can be influenced by environmental factors. For example, the desertification in northern Africa has exacerbated poverty and contributed to the population movement. This complexity of drivers does make it difficult to predict the exact effects of the environment on migration.

Environmentally forced migration is currently rare in Europe, but there is a possibility that environmental change will play a bigger role in human movement in the future. Climate change will bring an increased risk of hazards, such as flooding and water shortages, in and around Europe.

The analysis highlights hazards in northern Africa and the Middle East which may indirectly, and in conjunction with other factors, increase migration levels into Europe. For example, dryland cropping agricultural techniques in Morocco, Algeria, Tunisia and Egypt are very vulnerable to the effects of drought. A 1-metre rise in sea levels would have a major impact on populations in the southern Mediterranean around the Nile delta, affecting around 6 million people and causing the loss of 10% of arable land.

Although people in less developed countries are most vulnerable to environmental degradation, Europe has some vulnerabilities too. These could increase pressures on population movement. For instance, there is significant risk of flooding around the North Sea, despite flood defences being in place. Increased rainfall and snowmelt in future will increase this risk. Furthermore, a catastrophic 2m sea level rise would inundate large areas of Europe, in parts of the northern Mediterranean (Venice), as well as around the North Sea (UK and Netherlands). This could force populations to move from large areas in these countries.

Environmental change, such as an increase in flooding and drought, is inevitable in Europe and beyond, which is likely to increase pressures on people to move away from more hazard-prone and degraded areas, particularly from south to north, from south to east and from rural to urban areas. The analysis also comments that highly urbanised and developed parts of northern Europe could actually be the most vulnerable to climate change's impacts, owing to their dense populations and infrastructure.

However, good emergency planning and adaptation policies which mitigate the wet and dry extremes of our changing climate will reduce these pressures on migration, the authors say. They note that more significant investments in mitigation and emergency planning currently exist in the northern Mediterranean and northern Europe, than in the southern Mediterranean and southern Europe. They also note that, although the wealthier northern countries may seem more adaptable, these areas also host the greatest populations and intensive agriculture near the limits of water sustainability, so may actually be more vulnerable to loss of ecosystem services and increased climate change hazards.