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## Invasive species, climate change "deadly duo" - report

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- \* Warmer world can give species an edge, disrupting nature
- \* Spread of more tolerant species threatens livelihoods
- \* Eradication, steps to control spread are key

By David Fogarty, Climate Change Correspondent, Asia

SINGAPORE, Oct 22 (Reuters) - Climate change is set to drive the spread of invasive plant and animals species, threatening forests, fisheries and crops, in a double blow to nature and livelihoods, a World Bank-funded report said on Friday. The study by Nairobi-based Global Invasive Species Programme says a warmer world, more extreme weather and higher levels of planet-warming carbon dioxide will give some species an edge, devastating ecosystems at sea and on land.

"The estimated damage from invasive species worldwide totals more than \$1.4 trillion annually -- 5 percent of the global economy," says the report issued on the sidelines of a major U.N. meeting in Japan aimed at combatting the destruction of nature.

The United Nations says climate change, pollution, deforestation and over-hunting have led to a rapid rise in extinctions, threatening the richness of nature that underpins services such as clean air, water as well as food and health.

"Individually, climate change and invasive species present two of the greatest threats to biodiversity and the provision of valuable ecosystem services," says the report for policymakers.

It outlines myriad examples of invasive plants and animals that have proven much more adept at survival than other local species, leading to erosion, damage to crops, livestock and fisheries and lost income for tourism.

In particular, climate change can lead to some local species becoming much less able to adapt to warmer temperatures or more extreme droughts and floods, making them vulnerable to other species that have much greater tolerance levels.

In some cases, invasive species can also curb the amount of carbon dioxide that nature can soak up from the atmosphere.

In North America, warmer winter temperatures have led to an explosion in the numbers of native mountain pine beetles, killing off large areas of forest.

GREEN CRABS, LIONFISH

In the Caribbean, the lionfish, which is native to coral reefs in the South Pacific, Indian Ocean and Red Sea, has quickly spread since first released in the mid-1980s.

The fish is a voracious predator with venomous spines and has no natural enemies in the Caribbean, threatening local fish, shrimp and crab populations. Warming ocean temperatures in the region have helped it thrive.

Along the west coast of the United States and Canada, the European green crab is threatening native clam, mussel and crab species and possibly arrived in ship ballast water.

Weeds, pests and diseases were also a growing threat to agriculture, the study says, undermining food security.

"Indirectly, climate change will impact agriculture by increasing the incidence and intensity of invasive species," says the report. Agriculture supports the livelihoods of more than a third of the world's population.

The study also pointed to the likely spread of diseases such as bird flu, plague, Rift Valley fever, dengue, ebola and malaria. "Climate change combined with global trade and transport networks may significantly increase the threat of such pandemics," the authors say.

The study urged policymakers to take steps to halt the spread of non-native species, develop early detection systems, restore and protect existing ecosystems to make them more resilient and eradicate or control species that limit nature's ability to soak up carbon.

(Editing by Miral Fahmy)

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