A Good Rain's a-Gonna Fall

The supply is in the sky: learning to capture and manage the rain.



no water, no food

Water is the number one food-limiting factor in many parts of Asia and sub-Saharan Africa. Currently some 850 million people in the world are undernourished and, with another three billion in the world by 2050, the challenge to increase food production is daunting. Existing water resources are already under severe pressure and even the most optimistic calculations show that the water used in irrigation farming from rivers, lakes and aquifers simply will not be enough.

But has the potential of the ultimate water resource, rain, been understood and utilised, particularly in water-short, dry climate countries?



Facts:

It takes approximately 1,000 litres of water per day to produce a survival diet for one person. Roughly the same amount is needed to make seven cups of coffee or 60 grams of beef.

the neglected resource

Historically, water and food discussions focused mainly on irrigation, but 60–70% of global food production is produced by rain-fed agriculture. By switching perspectives, acknowledging the rain as the main resource for food production, the problem is not so much a shortage of water as an uneven distribution of the resource. Studies show clearly that if farmers can learn how to better capture and manage the rain, they will have enough water to cover their needs.

Facts: It takes about 3,000 litres of water per day to produce an average diet with 20% animal protein for one person. The daily household need for that same person is 50–60 litres.



local possibilities: harvesting rainwater

In many of the world's dry regions uneven rainfalls lead to dry spells (even during the rainy season!) that risk destroying the crops. By learning how to better capture the rain, for instance by building reservoirs, local farmers will be able to water their plants during the dryspell periods. Today, such methods of harvesting rainwater for protective irrigation is common practice in parts of India and China, and an ancient survival strategy in the Middle East and North Africa. However, the methods are now being introduced in other parts of Asia and the dry areas in sub-Saharan Africa.



Facts: In the west Bengal area in India it only rains about 200 hours a year. However, if captured and managed properly, this resource will be enough to water crops during the 8500 or so dry hours of the year.



national possibilities: creating awareness

On a national level, a lot can be done to take more advantage of the rain. Water-intensive non-native trees can be removed and education programmes teaching farmers how to minimise water waste can be implemented. But above all, national leaders will have to seriously address possible water constraints and ask themselves three fundamental questions:

- 1. How much can we increase food production without damaging valuable ecosystems?
- 2. How much can we diminish water losses in food production and post-harvest food losses?
- 3. Once we have increased production and diminished losses, will there be enough water and food for the country?

If the answer to question three is 'no', then we might need national plans of how to bring in additional food from other sources.

Facts: About 49 million people could be fed annually by the food lost at the retail, consumer and food service levels in the U.S.

There are many different ways to make better use of the rain. In South Africa the government has instigated a 'Working for Water' project, in which non-native, water-intensive trees are removed in order to save water for the streams. With the 'heavy drinkers' gone, the rain can more efficiently replenish existing sources of water.





the perspective: global solutions

With another three billion people on the planet by 2050, waterscarce nations might need to import food products that require a lot of water rather than producing them domestically. In order to give the question the necessary authority, discussions on the implications for the food trade and its regulation need to be held on a global level – for example within the WTO.

Facts: Nearly 80% of all the water withdrawn in developing countries is used by irrigated agriculture.

the possible future: the new global farmers

In fifty years time, the global food trade could have been turned on its head. At this stage water-scarce countries might only grow crops suitable to their climate and import the rest. Foods that require a lot of water to cultivate might only be produced in countries with a lot of rain. Where there is rain, there can be farming. So if you live

in a country such as England, Sweden, Holland, Belgium or Germany chances are that it might only be a matter of time before you become part of the new global farming community.

Facts: It takes eight times more water to produce 1,000 kilocalories (kcal) of beef than it does to produce 1,000 kcal of vegetarian food. By moderating our diets we can make much water available for other purposes.



rain: the global water resource

Rain is the global water resource. How well it is captured and managed will go a long way in determining if the planet's nine billion inhabitants in 2050 can be fed. For more information download the report: 'Rain: the neglected resource' from www.siwi.org



SWEDISH WATER HOUSE

The Swedish Water House is an initiative that stimulates cooperation and networking among Swedish-based actors within water issues. The Swedish Water House is administered by SIWI. www.swedishwaterhouse.se

The Stockholm International Water Institute (SIWI) is a policy institute that contributes to international efforts to find solutions to the world's escalating water crisis.



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