



CHANGING How Rice is Grown AROUND THE WORLD

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We take rice for granted. It is a cheap starch available in diverse forms in our supermarkets, ranging from rice that cooks in one minute to prized heirloom varieties. By now, most people are aware that rice is not just white. It can be brown, red or black. However, because U.S. consumption patterns are traditionally more wheat-based than rice-based, few consumers know how rice is produced except that it is grown with lots of water. The reality is that current rice production methods are at the root of serious environmental and social crises.

Worldwide, most fresh water withdrawals are for agriculture, and the lion's share of that water goes to irrigate rice. With global population on track to add two billion people by 2050, the amount of water used for agriculture is expected to increase further, creating intense competition from domestic, energy, and industrial sectors. And this comes at a time when major rice-producing nations are suffering from increasing water scarcity.

Flooded rice fields are also a major contributor to global warming. When soils are continuously covered in water

and deprived of oxygen, they release methane gas which is a more powerful greenhouse gas in the short term than carbon dioxide.

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WOMEN PLAY A MAJOR ROLE IN RICE PRODUCTION

Rice production has a huge, often overlooked, impact on women. The labor to produce most of the global rice crop, which feeds half of the world's population, is provided by women under conditions that most of us could not tolerate for more than one hour, let alone a lifetime.

It is estimated that about half a billion women are engaged in rice farming. They

simultaneously shoulder household, farm production and community responsibilities. They work mostly barefoot, using their hands and various small tools that have changed little over the centuries. They bend over in backbreaking postures in hot, humid and wet conditions with their hands and feet immersed in water for long hours over many days. Women's work is often unpaid, usually unrecognized, and taken for granted by researchers and policymakers. Rarely is any investment made to improve women's working conditions by providing better technologies and resources. Instead, billions of dollars are spent on improving rice productivity through developing new varieties and applying agrochemical inputs, assuming the availability of cheap or unpaid female labor. Yet, according to the United Nations Food and Agriculture Organization, providing more and

better resources to women could increase food production and reduce hunger among 100-150 million people.

MORE CROP PER DROP: A NEW APPROACH TO GROWING RICE

The good news is that there are solutions, like the System of Rice Intensification (SRI), which we have dubbed “More Crop Per Drop™,” so that consumers better understand what it is all about – essentially producing more rice with less water. What is SRI? SRI is an agroecological rice-growing method that enables farmers to produce more productive rice plants through optimum management of water, soils and inputs. It can enhance the yield of any variety, from heirloom varieties to the latest hybrids, from 25% to more than 100%, which translates directly into improved household food security and income.

SRI practices involve planting younger seedlings further apart to reduce competition among plants; doing frequent weeding; maintaining non-flooded moist field soil conditions to promote soil microorganisms and root growth; and relying mostly or only on organic inputs. These practices are dramatically different from how farmers have been advised to grow rice over the last sixty years, which emphasizes using new seeds, synthetic fertilizers and pesticides, and constant irrigation.

BETTER FOR WOMEN, BETTER FOR THE CLIMATE

These changes not only reduce the use of water by 25-50% and cut methane emissions by about 40%, but they also fundamentally alter the working conditions for women rice farmers. With 80-90% fewer and lighter seedlings to transport and transplant, their burden is drastically reduced. A simple mechanical weeder enables them to weed standing upright rather than constantly bent over, and since it is a mechanical tool, often men take over that onerous task. Most importantly, they no longer have to work in standing water, reducing their exposure to parasites, chemicals and water-borne diseases. Sabarmatee, our colleague in Odisha, India, which has done pioneering research into the impact of SRI on women’s bodies as compared with conventional methods, has estimated that SRI

can reduce the labor of women by as much as 380 hours per acre, or forty-seven eight-hour days!

What we have learned from formal and informal interviews with women in our supply chains who have adopted SRI is that women are able to spend less time in the fields and can work when the sun is not so hot. They say they have more time to take care of their children and their homes, they have less muscle pains and fewer infections because their hands and legs are not constantly immersed in muddy water, and thus they are spending less on medical bills. And they feel generally healthier eating rice grown without chemicals. Some even have time to start small entrepreneurial enterprises or focus on higher-value cash crops.

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SUPPORTING SMALL-SCALE FARMERS IN BUILDING BETTER LIVES

Lotus Foods is proud to be a leader in working with families that have embraced SRI and in raising awareness about the social and environmental consequences of rice production. With climate change, and the high cost of inputs and credit, most smallholder rice farmers are barely able to make ends meet. But with the combination of higher yields from SRI and organic and fair trade premiums, we are helping the farmers from whom we source our rice to stay together, farm together, and improve their quality of life. We are hopeful that as more consumers become aware of these issues, they will request – even demand – that more vendors provide rice grown using this women-, water- and climate-smart method.

More information on SRI can be found at:

LotusFoods.com, SRI4women.org and sri.cals.cornell.edu

PHOTO: Contrast the labor intensity of seedling transport in conventional rice production (below) with SRI (cover photo).

