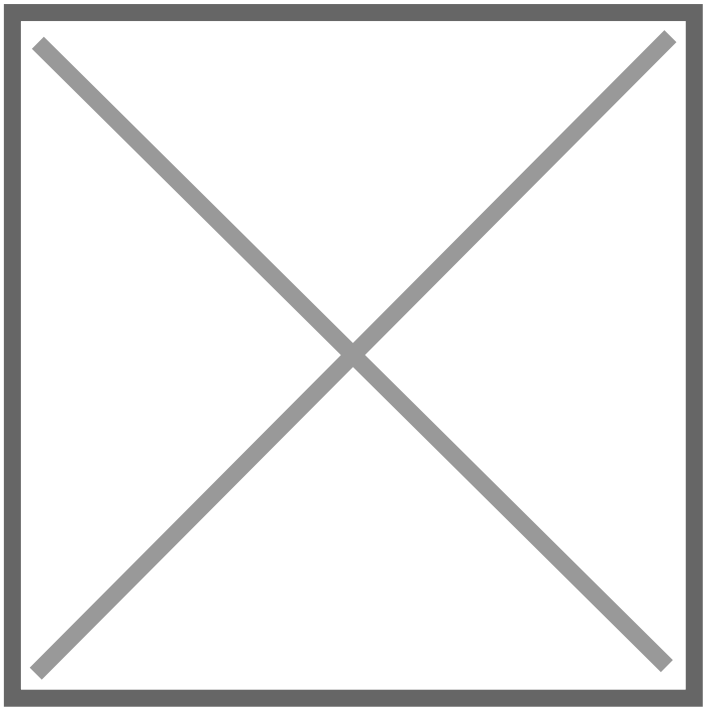
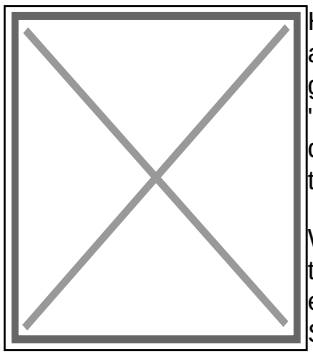
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From hunger to 'hidden hunger'

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Hunger is not something that can be eradicated with a click of a mouse. Nor can malnutrition be addressed by 'novel' and 'functional' foods. Knowing well that hunger cannot be removed by genetically modified crops, the industry has now shifted its focus to the talk of 'hidden hunger' or 'silent hunger' that continues to plague the developing societies. Addressing micro-nutrient deficiency has suddenly become the most important weapon in the hands of a discredited industry to win back consumer confidence.

While the political leadership and the development community is postponing till the year 2015 the task to halve the number of the world's hungry, the scientific community too has found an easy escape route. At almost all the genetic engineering laboratories, whether in the North or in the South, the focus of research is on crops which will produce edible vaccines, address the problems of malnutrition or 'hidden hunger' by incorporating genes for vitamin A, iron, and other micro-nutrients. But what is not being realized is that if the global scientific and development community were to aim at eradicating hunger at the first place, 'hidden hunger' will be automatically taken care off.

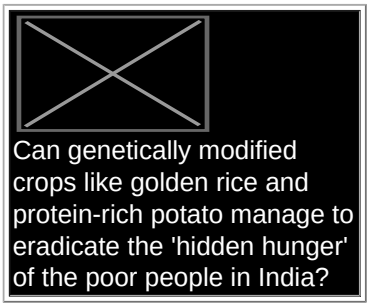
Take, for instance, the much-touted 'golden rice', the rice that contains the genes for beta-carotene. It is true there are 12 million people in India alone who suffers from vitamin A deficiency. It is also known that almost the entire vitamin A deficient population in India lives in marginalized areas and comprise people who cannot or who do not have access to two square meals a day. If only these hungry people were to get their adequate dietary intake or the two square meals a day, they would not suffer from this deficiency or for that matter any other micro-nutrient deficiency. If these poor people cannot afford to buy their normal dietary requirement of rice for a day, how do we propose to make available 'golden rice' to them is something that has been deliberately left unanswered.

To say that 'golden rice' would provide the poor with a choice of such 'novel foods' is to ignore the realities. Given a choice, all that the hungry need is food.

After 'golden rice', another magic bullet is being developed in India for the malnourished Ã¢â?¬â? protein-rich potato. The transgenic potato that is under field trials, has a gene called AmA1 from amaranth that gives it some 30 percent more protein than normal, including substantial amounts of the essential amino acids lysine and methionine. Scientists say that the Western-based environmental groups and charities should not criticize the potato as they did to "golden rice" developed by AstraZeneca to make more vitamin A. Very true. After all, the 'protein-rich' potato has been developed by a team of Indian scientists, led by the former vice-chancellor of the Jawaharlal Nehru University, who is known to have used his influence to corner bulk of the research grants from the department of biotechnology.

Nevertheless, let us make an attempt to decipher the great 'scientific' achievement. It is true that potato is part of the common Indian diet. It is also true that potato is priced so low that it can be afforded by even the slum-dwellers. Although potato (especially the way it is cooked in India) has been held responsible for obesity and other health-related problems that affects the trendy generation, it is very low in proteins. Potato, on an average, contains 1.98 percent protein (most varieties contain only 1.60 percent proteins). Even if its availability has been enhanced by a third of the normal, the protein percentage comes to 2.5 percent at the maximum. How will this 'protein-rich' potato help solve malnutrition in the country? With 2.5 percent protein how will the country's nutritional security be addressed?

It must also be ascertained as to what has been the cost involved in producing and developing the transgenic potato. Isn't it time the scientists question the need for such expensive research projects when simple and adaptive technological solutions and the right policy mix can make a monumental difference? If only the plant scientists had focused more on the policy framework that needs to be put in, hunger and hidden hunger would have disappeared by now.


Can genetically modified crops like golden rice and protein-rich potato manage to eradicate the 'hidden hunger' of the poor people in India?

But then, you are not supposed to ask uncomfortable questions. And don't forget, the team leader is also the chairman of the Review Committee on Genetic Manipulations (RCGM), which can, if need be, stall your research progress. You cannot even question the wisdom of ignoring research on pulses - the common daalÃ¢â?¬â? that contain on an average 20-26 proteins. Don't forget that the cutting-edge technology must get precedence over traditional wisdom and crops !

About the availability of amino acids, this is what Dr Arpad Pustzai has to say: "As regards the claims of increased essential amino acids; it is meaningless. The nutritional value of potato proteins is high because its amino acid composition is balanced, containing the right amounts of lysine and methionine. It is not clear that the increased essential amino acid content is the result of the increased protein content or not." At the same time, some reports point to another flaw. The protein is expressed more in the leaves than in the potato itself.

The global effort therefore to shift the focus of agricultural research from addressing immediate hunger to 'hidden hunger' is in reality an effort to postpone the real problems confronting the society. Scientists and socio-economists need to come out with strategies that make available the abundant food rotting in the countryside to the needy. By diverting attention from the more pressing problems of hunger and starvation, scientists are merely trying to protect their own livelihood security. They know for sure that any attempt to eradicate 'hidden hunger' is bound to fail unless an all out attack is launched to first remove hunger. 'Hidden hunger' cannot be removed without eradicating hunger. That is what the 'cutting-edge' science refuses to accept.

And this reminds me of what exactly a former Indian Prime Minister, the late Ms Indira Gandhi, used to do when it came to addressing problems. If the ethnic crisis confronting the northeast Indian State of Assam becomes unmanageable and goes out of her hands, she would create another problem in northwestern Punjab. In simple words, the national attention gets diverted to the fresh crisis confronting Punjab, and the country would forget Assam. And when terrorism in Punjab goes out control, create another problem in down south, in Tamil Nadu. And slowly, people would forget about Punjab. For political leaders, Ms Gandhi's proven mantra does provide an easy escape route.

Scientists, biotechnology industry and the policy makers (and now of course the United Nations) too seem to have derived their futuristic vision from the political sagacity of Ms Indira Gandhi. After all, the only way to divert the attention of international community from the more pressing and immediate problems of abject hunger and poverty is to either postpone the priorities for removal of hunger (and that too by only a half) to the year 2015 as the FAO(Food and Agriculture Organization) has done or is to talk of the virtues and potentials of biotechnology for eradicating 'hidden hunger' and malnutrition in the next two decades.

Who will take on the biggest challenge of all times - the elimination of hunger - which forms the root cause of real poverty and the lopsided human development is an issue no one is willing to stick his neck out for. With even the UN buckling under industrial pressure, the monumental task to feed the hungry - and that too at a time when food grains are rotting - may eventually be left to the market forces. The underlying message is very clear: the poor and hungry will have to live on hope.

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