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“Golden Rice – the Partitioning of Influence”

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ABSTRACT

In the past decade very significant scientific progress has been made with the Golden Rice project. The idea was first mooted two decades ago at a Rockefeller Foundation meeting: that modification of rice could play an extremely significant role in alleviation of Vitamin A Deficiency (“VAD”). Following the proof of concept breakthrough of Potrykus and Beyer, they have continued their work, supported by a multidisciplinary team from both public and private sectors. It has been demonstrated that IP rights are not an impediment to progress. Very significant increases in carotenoid have been achieved: quite sufficient, it is anticipated, to significantly fulfill the initial “Rockefeller vision”. Transformations have been created in a variety of rice varieties. Golden Rice, for research, has been grown and harvested in the open field. Insights are being developed into the factors controlling gene expression and accumulation of carotenoids. Golden Rice tastes like rice.

Micronutrient malnutrition has been recognised as being a very major factor in total world malnutrition. The adverse impact of malnutrition on economic productivity, in developing countries especially, is known. The potential economic impact - through increased productivity of the rural workforce – of Golden Rice introduction in Asia has

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been calculated as ~US\$15 billion per annum. Any adverse trade impact on export of the rice would be less than 0.5% of this.

Yet progress in development and deployment of Golden Rice to those countries with high incidence of VAD has been slow. People don't react, by strong support for the Golden Rice project, to the quiet deaths caused by Vitamin A Deficiency, which kills more people – 180,000 per month: around 9 million in the last four years – than other high profile natural and man made disasters. Particularly paradoxical is the case of reaction to the January 2005 Tsunami disaster. The same countries are affected by it, and VAD.

What could be responsible for this public and political indifference? After all, the Golden Rice project has received lots of press interest. It is known about.

The answer may be related to the confluence of three influences on world society's attitudes to genetically modified crops: The Convention on Biological Diversity, (CBD), the Precautionary Principle, and some NGO's opposition to the technology. The interpretation of the first two provides an effective, if not intentional, mechanism to support the opposition. Combined with in-developing-country limitations of capacity and infrastructure, the resulting permit requirements are practically difficult to surmount. This is especially so for many public sector programmes, most of which have not been able to proceed to product deployment.

There is some hope. The CBD is to be reviewed, and submissions will include the voice of public sector scientists. Hopefully a rational balance of risk and benefit assessment will emerge. The EU moratorium on GM crops has been lifted. The governance of NGO's has been criticized. It is increasingly recognised that many have abandoned science and logic in favor of emotion and sensationalism.

Some suggestions for short-term measures to increase the velocity of public sector development programmes will be made.

Syngenta, Public: Private Partnership, Biotechnology, Developing Countries, Golden Rice, IP, Capacity Building, GM Crops, CBD, Precautionary Principle, NGO, Micronutrient Malnutrition