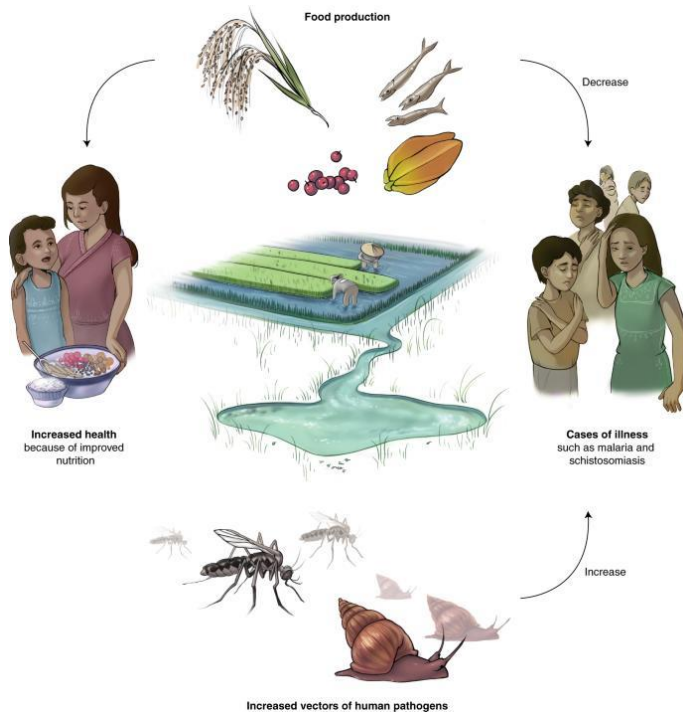


Is the Bio-Film Fertilizer (BBF) venture a big Scam? Duping farmers since 2010?



Uncontrolled insects and bugs produced in organic farming affect the health of farming communities (Picture credits, journal *Nature*)

I have been reading the debate arising from a big sales promotion by a representative of a bio-film fertilizer company based in Sri Lanka who was asking why the Dept of Agriculture and the government do not join their "microbial fertilizer" bandwagon. It also engaged very distinguished scientists like Prof. Dharmawardana who used to be the Vice Chancellor of SJP University (then Vidyodaya University) in the mid-1970s, and now a scientist resident in Canada.

Prof. Dharmawardana suggested that the microbial fertilizer technology is still in a testing stage and a more cautious approach is need to ensure a safe and inexpensive product which also increased harvests. He wanted independent testing by scientists who have no conflict of interest and are not part of the business of selling this questionable product. In fact, even in 2021 the NSF journal has a paper giving details of on-going tests of this product owned and patented by a private company.

The upshot of this discussion is that those who vigorously pushed this product accidentally let the cat out of the bag and published enough material to establish without doubt that the microbial fertilizer projects, BFF project etc., are not just a scam that is about to be unleashed, but that it has been going on for at least a decade, duping farmers from as far back as 2010.

Dr. Ananda Kulasooriya, allegedly one of the stakeholders of this commercial venture has written a long harangue attacking expatriate scientists like Prof. Dharmawardana, who have attempted to take a critical look at these commercial projects going on behind the curtain Sri Lanka. Dr. Dharmawardana gave a gentlemanly response to Dr. Kulasooriya, because I suspect that somethese older scientists know each other socially and do not want to **call a spade a spade**.

The problem is simple. People like Kulasooriya do not want their activities probed by independent scientists, as their bogus products will get exposed. But EVEN without the intervention of others, Dr. Kulasooriya himself, and others around him have inadvertently spilled the beans!

Dr. Kulasooriya claims that microbial-innoculant products have been sold to farmers via the company Plenty Foods PCL since 2010. And yet, as Dr. Dharmawardana had pointed out, even in 2012 and 2017 Dr. Kulasooriya in his scientific writings was saying that the project was "encouraging" enough to do more experiments, and hence surely not a product for the market.

But they WERE marketing it in 2010. Currently there is a company named Lanka Bio Fertilizer (Pvt) Ltd that sells the product. So, Kulasooriya says one thing in his scientific papers, and has a very different sales pitch when promoting the product which has only been "tested" by people with a stake in it.

I am aware of remarks by senior scientist who say that field tests were carried out at the Maha Illuppallama Agriculture research (MIAR) station and that **the results failed to show any fertilizer effect from the bio-film bio fertilizer** promoted by Kulasooriya et al. There is said to be an entry regarding these trials in the MIAR Director's Annual Report, 2015.

Proper field trials of a product are needed before the product is foisted on the eco-system by marketing it or distributing to farmers. That is, one must run parallel plots where one plot uses the conventional chemical-fertilizer protocol, while the other uniquely uses the microbially enhance fertilizer to enable a determination of harvests as well as costs and environmental impact. Such tests should NOT be done by the company that holds a patent for the bio-fertilizer, or by farmers engaged by them. If government or university scientists run the tests, clear Memoranda of agreement (MOU) for transferring a percentage of Royalty rights should exist, or payments must be made.

Also, as emphasized by Prof. Dharmawardana, it is indeed essential to check that the

harvested crops do not have enhanced arsenic, lead, cadmium and such heavy metals because one knows that enhanced microbial action in soils leads an enhanced release of these heavy metals bound in the soil. The (false) accusation against mineral fertilizers was that they increase the heavy-metal concentrations in the soil.

Instead, Dr. Kulasooriya admits that farmers themselves carried out the trials! So, is the IFS going to award at least an M. Sc for each farmer after having conducted complex experimental involving not only the monitoring of chemical parameters of soils, N, P, K kinetics, but also microbial parameters during several growth cycles, harvests etc? Are we to soon have 4000 agricultural M.Sc holders thanks to this effort of the IFS and the Lanka Bio film (Pvt)? Is this a joke worthy of the now-defunct SEMA project of the Yahapalanaya government now foisted on Sri Lankans?

Are the farmers the victims of a group of scientists who are deluded into believing in their product and do not have enough critical capacity to be self-critical? So, little by little, even without knowing it, they end up becoming a mafia defending it and selling it?

What is likely is that the farmers were TOLD that this new and effective fertilizer has been developed by IFS scientists, and so they should buy for their farms instead of imported chemical fertilizers that are “toxic”. The reputation of the NISF has being sold for the benefit of Lanka Bio Fertilizer Ltd. Farmers were told to use their fertilizer subsidy and buy BFF from the commercial ventures set up by the NIFS scientists? Fear-mongering by Dr. Anuruddha Padeniya and Venerable Ratana who stated that imported chemical fertilizers are nothing but poisons should have helped in the sales pitch.

Ever since 2015 we find abstracts appearing with names of authors like Thilini Perera, Dr. Tirimanna, Gamini Seneviratne and Kulasooriya claiming again and again that their microbial bio-fertilizer can replace 50% urea usage in rice. The same claim appears again in September 2021. Many of them are scientists whose salaries are paid by the Universities or by the NIFS, i.e., public money. Their research grants come from the National Science Foundation. **And yet, we find that they are conducting field trials for a private commercial company with a patented product!**

If a university scientist X had even exchanged an email with Monsanto, the likes of Chris Dharmakirthi or Asoka Abeygunawardena would be the first to cry foul and say that the X is in the pockets of Monsanto. But here we have dozens of examples of Sri Lankan scientists blatantly violating the basic rules of conflict of interest. Also, they are using public funds for the purposes of a private company. They should all be asked to refund the public money they have used in giving their professional time, and the grant money used up, to advance the cause of a private company.

This sort of thing seems to be informally justified by claiming that they are “helping” the nation. In that case, there should be clear MOU (memoranda of agreement), and royalties from the patent should accrue to the NIFS, the relevant universities, as well as the National Science Foundation for the time and money spend to support these

projects.

Let us go back to an article dated 20th February 2017 in the Island, with the title "Lankan Scientist comes up with microbial fertilizer", written by Saman Indrajith which gives the false impression that NIFS scientists have come up with an alternative that will save millions of dollars. The article claims that NIFS has done ten years of research jointly with TRI, RRI, SRI, RRD, etc. But it turns out to be untrue. The Indrajith newspaper article also claims that over 10,000 acres of vegetable and tea were grown with BFF, and that 7500 acres of rice had been cultivated in 2017.

Fortunately, we have an article by Dr. Parakrama Waidyanatha published in the Island in March 2017 commenting on the Indrajith news. Dr. Waidyanatha's article gives figures and numbers showing that this "bio-fertilizer" is a BIG FARCE Fertilizer (BFF), and gives the low-down on the so-called collaboration with the research institutes. Only two research Institutes had been involved, and those results showed that the BFF doesn't work. But the BFF marketers tell a different, fictional, tale.

There is also a hilarious article published in a journal named "Commonwealth Agricultural Bureau Journal", with some 16 authors, making claims which appear patently false to anyone with an iota of knowledge. The CABJ article does not report the crop season, temperatures or the moisture/rainfall data etc., or even the site pertaining to a datum. The yields for cabbage (980 kg/ha), capsicum (152 kg/ha) and tomato (397 kg/ha) are absolutely unreal, missing a significant figure? Did none of the 16 authors note these, and other blunders? The yield figures have been cooked up?

Dr. Kulasooriya et al DID associate himself with the "toxin-free" aka "vasa-viisa-nethi" group of the presidential secretariat and its SEMA run by Asoka Abeygunawardena, Champika Ranawaka, and Ven. Ratana. The latter certainly accepts the Natha deviyo Arsenic and glyphosate story about CKDu perpetrated by Channa Jayasumana, Sanath Gunatillake and Ms. Senanayake of "hela Suvaya".

In Sri Lanka, the organic agriculture lobby has become fellow travellers of the "Natha Deviyo kalliya". They have issued pamphlets about how good the BFF is for each crop, and claim (falsely) that what they say has been checked by the agriculture research institutes. These documents say (even in 2016) that "The insoluble phosphates in the soil are made soluble". So, this remarkable BFF can provide the needed phosphates to the plants, and also release the cadmium in the soil!

So, if the phosphates are-solubilized, any cadmium and lead held in the solid phosphate matrix will also be released. This is the question of safety that Prof. Dharmawardena has also raised. Dr. Kulasooriya and Dr. Gamini Seneviratne are as silent as a black hole in regard to this crucial question. Dr. Gamini Seneviratne cannot ignore the problem as he talks about such effects elsewhere: Australian Journal of Botany 63(4) 261-268.

As for the TRI trials using BFF, published in the tea journal in 2014, Dr. Wiadyanatha has discussed them even in his 2017 newspaper article. They are a sham. We now have an abstract of a research done in 2020, but only an abstract.

The IFS must conduct an internal investigation and find out how the reputation of the NIFS has been exploited to dupe farmers and also young researchers with very little critical capacity. The potential of BFF must be re-tested by independent scientists who have NO BUSINESS INTEREST or links with the current bio-fertilizer mafia. Until then, the license to sell it should be put on hold.

Furthermore, Mr. Chris Dharmakeethi, after having blown the big horn of the microbial fertilizers that are supposed to replace 50% of the urea needs of crops, suddenly tells us that Prof. Mawjood has shown that you can get up to 2 metric tonnes per hectare WITHOUT ANY fertilizer whatever, or microbial enhancement! That is, just grow it without anything! So is he now saying that you don't even need the pre-rice planting of Mung bean or BFF or anything else that Dharmakeerthi and Kulasooriya advocated? Do you believe them? So then why bother about bio-film fertilizer, Nano-urea, rock phosphate, composte etc.?

Bodhi Dhanapala, Quebec.

[A retired Director of: Science Dept., Ecole Polytechnique, Quebec.]