



Climate smart agriculture in the soil treatment sector

September 2022



Tarkumpul is a seasoned farmer with decades of experience. As the leader of the farmers' association in Tombo village, in Central Java, he is keen to share any innovation with his farmer groups that will improve their crop yields.

The price of fertiliser has been steadily increasing and at the end of last year Tarkumpul and other farmers were having difficulties accessing subsidised fertiliser. So, in a leap towards innovation born out of necessity, Tarkumpul turned to organic fertiliser after going to a product information day hosted by BAI on its product Bio Konversi.

Bio Konversi produces liquid organic fertiliser from processed organic waste from the Bantargebang integrated landfill in Bekasi. With support from PRISMA, Bio Konversi now includes a B2C component, so it now serves smallholder farmers with organic fertiliser and information on fertiliser management practices.

After 30 years of using only chemical fertiliser, Tarkumpul now also uses organic fertiliser and experienced improved maize productivity. He has reduced using chemical fertiliser which helped him in cost saving. "The other farmers and I have cut our costs almost by half", says Tarkumpul. "Compared with chemical fertilisers,

organic is cheaper. The maize yields are also good. The plan is that I will continue to use this fertiliser for my rice as well," adds Tarkumpul.



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Ifa, vegetable, maize and rice farmer

Another farmer in the same district, Ifa, is also singing the praises of organic fertiliser. Ifa grows chillies, mustard greens, maize and rice. She says that she received information from a woman sales agent from BAI that using liquid organic fertiliser could strengthen her plant's immune and root system, which helps to minimise attacks from pests", says Ifa. "I tried it and it worked and gave me much better yields. Before I used Bio Konversi I got half a quintal (50 kilograms) of vegetables. After using the organic fertiliser, I produced one quintal", she says.

The other advantage of using organic fertiliser for both farmers has been the shorter planting time. Maize usually takes 110-120 days to harvest, but with Bio Konversi, the farmers were able to harvest their maize on the 100th day. While the shortened crop cycle does depend on other factors, such as seed variety and water application, Tarkumpul was able to reduce the number of day workers he hired this harvest season.

Both farmers are firm converts and they plan to continue supplementing their chemical fertilisers with organic fertiliser.

PRISMA partners with commercial fertiliser companies to promote quality fertiliser and good fertilising practice to smallholder farmers.

With proper and balanced application, fertiliser has a direct contribution to climate smart agriculture's goals of increasing agricultural productivity and adapting and mitigating agricultural impacts from climate change realities.

In Indonesia, farmers mostly overuse chemical fertiliser such as urea and NPK. Balanced application of fertiliser leads to lesser use of chemical fertiliser, which helps reduce greenhouse gas emission to the environment.

Mixing chemical fertilisers with organic fertiliser helps increase organic matter in the soil, improves soil health and quality and results in more CO₂ capture from the environment.

Organic fertiliser helps crops to gain a stronger root system and improved resistance/immunity against disease and pest attack, which can also contribute to reducing crop protection products.

About PRISMA

The Australia-Indonesia Partnership for Promoting Rural Incomes through Support for Markets in Agriculture (PRISMA) is a development partnership between the Government of Australia (Department of Foreign Affairs and Trade, DFAT) and the Government of Indonesia (Bappenas). Our strategic aim is to address food security and poverty by making rural markets more inclusive. We do this by taking a *market systems development* approach, partnering with businesses and government to remove market barriers and introduce product and production innovations.

PRISMA is supported by the Governments of Australia and Indonesia and implemented by Palladium, with Technical Assistance from Swisscontact, Zurich.

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