

Implementasi Ipteks dalam Sirkular Ekonomi: Integrasi Pertanian dan Peternakan untuk Ketahanan Pangan dan Kesejahteraan Petani Kecil

(Implementation of Science and Technology in Circular Economy: Integration of Agriculture and Livestock for Food Security and Welfare of Small Farmers)

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ABSTRAK

Desa Purwasari, Kabupaten Bogor, memiliki potensi pertanian dan peternakan yang belum teroptimalkan. Untuk meningkatkan kesejahteraan masyarakat, dilakukan kegiatan pelatihan dan pendampingan kepada Kelompok Tani Sari Mukti dan Kelompok Ternak Pobia. Tujuan utama kegiatan ini adalah meningkatkan kesejahteraan petani kecil melalui integrasi pertanian dan peternakan. Kegiatan tersebut mencakup pelatihan Standar Operasional Prosedur (SOP) Good Agricultural Practices (GAP) pertanian ubi jalar, business matching dan contract farming, pembuatan silase dan sosialisasi SOP Good Farming Practices (GFP) peternakan domba, serta penguatan kelembagaan kelompok tani. Hasilnya menunjukkan peningkatan pengetahuan dan keterampilan petani dan peternak, pembentukan sirkular ekonomi, dan peningkatan akses pasar produk pertanian dan peternakan. Peningkatan pengetahuan petani sebesar 7,3% pada penerapan Good Agriculture practices (GAP) Ubi Jalar dan 18,7% untuk Pengetahuan Penguatan Kelembagaan Kelompok Tani. Implementasi ipteks dalam sirkular ekonomi melalui integrasi pertanian dan peternakan efektif meningkatkan kesejahteraan petani kecil dan ketahanan pangan di Desa Purwasari. Hasil panen ubi dipasarkan melalui skema contract farming antara Direktorat Pengembangan Masyarakat Agromaritim IPB dan kelompok tani Ubi Jalar. Telah terjadi peningkatan yang signifikan untuk hasil panen dengan selisih sebesar 1,5 ton untuk luasan 1000 m² Harga produk ubi yang dihasilkan juga mengalami peningkatan yang sebelumnya pada harga 2500/kg menjadi 3000/kg. Skema contract farming memberikan kepastian kepada petani untuk jaminan pasar / pembeli sehingga dapat mengurangi risiko berusaha. Kegiatan ini juga mendukung pencapaian Tujuan Pembangunan Berkelanjutan (SDGs) nomor 1, 2, 8, 12, dan 17. Dengan demikian, kegiatan ini dapat menjadi model pengembangan masyarakat pedesaan yang berkelanjutan dan berbasis ipteks.

Kata kunci: Implementasi Ipteks, Sirkular Ekonomi, Integrasi Pertanian dan Peternakan

ABSTRACT

Purwasari Village located in Bogor Regency, exhibits significant agricultural and livestock potential that remains underutilized. To enhance community welfare, a series of training and support initiatives have been implemented for the Sari Mukti Farmers Group and the Pobia Livestock Group. The primary aim of these initiatives is to improve the livelihoods of smallholder farmers through the integration of agricultural and livestock practices. The program encompasses several key components, including training on Standard Operating Procedures (SOP) for Good Agricultural Practices (GAP) specifically related to sweet potato cultivation, business matching, contract farming, silage production, and the dissemination of SOPs for Good Farming Practices (GFP) in sheep farming. Additionally, efforts have been made to strengthen the institutional capacity of the farmers' groups involved. Preliminary results indicate a notable enhancement in the knowledge and skills of both farmers and livestock keepers, the establishment of a circular economy, and improved market access for agricultural and livestock products. Quantitatively, there was a 7.3% increase in farmers' knowledge regarding the application of Good Agricultural Practices (GAP) for sweet potatoes, alongside an 18.7% increase in knowledge pertaining to the institutional strengthening of farmers' groups. The integration of science and technology within the framework of a circular economy has proven effective in enhancing the welfare of smallholder farmers and bolstering food security in Purwasari Village. Sweet potato harvests are marketed through a contract farming arrangement between the Directorate of Agromaritime Community Development at IPB and the sweet potato farmers' group. This collaboration has resulted in a significant increase in harvest yields, with an observed difference of 1.5 tons for an area of 1,000 m². Furthermore, the market price of the produced sweet potatoes has risen from IDR 2,500

per kilogram to IDR 3,000 per kilogram. The contract farming model provides farmers with market assurances, thereby mitigating business risks associated with agricultural production. This initiative also aligns with the objectives of several Sustainable Development Goals (SDGs), specifically numbers 1, 2, 8, 12, and 17. Consequently, this program serves as a viable model for sustainable rural community development grounded in scientific and technological principles.

key words: circular economy, implementation of science and technology and the integration of agriculture and livestock