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The objective of this study is to compare the present value (PV) of net return from 3 alternative land uses, namely, Permanent Agricultural, Agroforestry, and Forest Plantation. The comparison of both private and social return (which has been done by accumulating the PV of off-site impact in term of total net return from dam and the PV of net income of the private agricultural together). Benefit-Cost Analysis (BCA) which in corporates the impact on the environment has been adopted. The outcome would pinpoint which approach is the most efficient in maximizing the social net return.

The study has been seperated into 2 case. In the first case, the patterns that generate the highest net income from each type of land use are selected to be representatives. The results show that the highest net present value (NPV) of return to society come from an agroforestry system, with peanut and eucalyptus, growing peanut in permanent agricultural, and eucalyptus plantation (all in 2x8 m.), respectively. In the second case average net income from each type of land use are used for the calculation. The results show that permanent agricultural systems yield the highest NPV of return to society (followed by agroforestry and forest plantation respectively).

In conclusion both agroforestry in the first case and permanent agricultural in the second case are the system that can generate high PV of net return in private agricultural. In the low slope area of this study, it showed a low degree of soil erosion occured. Therefore, the PV of the off-site impact is insignificantly different. Conclusively, when combining the result of the effect to private agricultural and the off-site impact, agroforestry in the first case and permanent agricultural in the second case are the most efficient system in maximize the net return to social.

However, the off-site impact in this study has been considered only the effect of soil erosion, not other effect (such as biodiversity etc.) Consequently, in other areas where is high sloped and can generate PV of the off-site impact differently and obviously, the result of the study in second case might be different. In other words, conservative agricultural can possibly be the system that can generate the net return to social most.

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