

## Duck-Rice-Fish Case Study Handout

### Ducking the Use of Pesticides, Fertilizers in Rice Paddies

Takao Furuno, a Japanese farmer, developed a system for growing rice that mimics natural systems. He puts ducks in his paddies (flooded parcels of land used to grow rice) to eat weeds and insects. The ducks' waste puts nutrients into the water that the crops can use. This means the farmers who have mimicked Furuno's system can save money because they do not need the pesticides or fertilizers typically used to grow rice. They also earn extra money by selling duck meat and duck eggs. Furuno's system also uses fish in the paddies, which become another source of income. Industrial rice farmers had discontinued this practice because the insecticides they used in their growing system would kill their fish. The Furuno system yields 20 percent more rice than conventional systems, which grow rice exclusively.<sup>1</sup>

**Efficiency:** .....

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**Self-sufficiency:**.....

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**Diversity:** .....

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**Resilience:** .....

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