

Biaya dan manfaat pengelolaan hama di gudang beras: kajian pengelolaan hama di gudang perum bulog divre DKI Jakarta Sunter

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Abstrak

Kebutuhan beras di Indonesia, meningkat setiap tahunnya seiring bertambahnya jumlah penduduk. Fluktuasi musim menyebabkan terjadinya fluktuasi produksi beras. Fluktuasi tersebut menyebabkan pentingnya cadangan stok yang dikelola pemerintah. Perum Bulog sebagai lumbung pangan nasional mempunyai gudang yang tersebar di seluruh Indonesia, salah satunya di Perum Bulog Divre Jaya Sunter. Penyimpanan beras Perum Bulog dilakukan dalam gudang dengan bentuk tumpukan. Penyimpanan rentan serangan hama, sehingga perlu dilakukan kegiatan pencegahan serta penanggulangan hama. Kegiatan pengelolaan perawatan beras di Perum Bulog masih bergantung kepada penggunaan pestisida dan fumigan secara periodik. Penggunaan pestisida digunakan untuk kegiatan penyemprotan setiap bulan dan penggunaan fumigan setiap tiga bulan. Kajian dilakukan untuk mengkaji dan menganalisis biaya manfaat serta masalah pengelolaan hama.

Analisis dilakukan dengan metode valuasi ekonomi, komparasi dan survei. Residu yang dihasilkan lebih rendah dari Batas Minimum Residu (BMR). Penggunaan pestisida adalah dari golongan organofosfat dan pyretroid yang berasal dari bahan aktif tertentu dan emakainya diawasi. Pestisida tersebut sudah terdaftar di Departemen pertanian. Manfaat yang didapat pengelola lebih besar daripada biaya pengelolaan, termasuk setelah dimasukkannya biaya eksternalitas lingkungan. Nilai NPV dan B/C pengelolaan tanpa memasukkan biaya lingkungan adalah Rp 6.389.050.848 dan 3,335. Nilai NPV dan B/C dengan memasukkan nilai lingkungan adalah Rp 6.149.749.876 dan 3,118.

Maka dapat disimpulkan bahwa biaya lingkungan dapat mengurangi nilai NPV dan B/C tetapi kegiatan pengelolaan hama di Perum Bulog tetap layak dilaksanakan. Pengelolaan hama di Perum Bulog masih konvensional, belum memanfaatkan mekanisme kompensatif ekologi di gudang secara optimal. Pengendalian masih bergantung kepada penggunaan pestisida, monitor kondisi kualitas sebelum dan waktu penyimpanan, aerasi serta kebersihan gudang. Pengelolaan hama tanpa atau minim penggunaan pestisida dapat dilakukan untuk menghilangkan atau mengurangi nilai eksternalitas lingkungan. Hal tersebut masih perlu dikaji lebih lanjut karena akan menyebabkan perubahan berbagai aspek yang sudah lama diterapkan di Perum Bulog.

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Demand for rice, the staple food of most Indonesians, is increasing year by year. In line with the growth of the population since in many parts of Indonesia production of rice. Paddy fluctuates heavily and consequently the price of rice, due to the dependence on the availability of irrigation water caused by climate cycle. Bulog, the institution established to buffer rice supply fluctuation, operates rice storage houses. Storage for several months exposes rice in storage to risk of damage by pest attract. Particularly insect storage pest research/study in Indonesia is still limited, especially those on insect pests. One storage facility of Bulog located in Sunter, North Jakarta. Occupying 300 hectares of area, consist of 60 units of

storehouses, each having a capacity to accommodate 3.500 tones of rice.

The objective of this study are: 1. to identify and analyze the economic cost and benefit of pest management 2. to compare economic cost and benefit of pest management with and without environmental cost 3. to review and analyze current management using pesticide without including environmental in cost calculation. Data collected consist of quality maintenance and analyzes were performed on cost and benefit of activity. Cost activity includes cost of activity investment, cost of maintenance and environmental cost. Environmental costs are those of health care of workers exposed to pesticides, workers protection, and health care of consumers of exposed rice. Studies were conducted for 3 months using methods of surveys using questionnaire, observation, interviews and literature study. Questionnaire is limited to workers directly in contact with pesticides. Analysis of data were performed by using descriptive analyses using analyses of economic valuation and comparison.

The result of this research as follows: Management of storage pests in rice warehouse of rice warehouse of Divre Jaya Sunter was conducted since the Perum Bulog Jaya was establish in 1978 and has been developing with the increasing needs. Management of pest continue up to now using periodical pesticide application. Conducted management indeed reduced the attact of pests that caused the degradation of rice quality resulting in the decrease of rice price. Improvement of rice quality will need extra cost. Residue of pesticides allowed is mentioned in the government regulation. Pesticides used are those with certain commercial name containing active material not endangering human health, i.e. organophosphates and parathyroid applied alternately to prevent pest resistance. The management of pest by eliminating of reduce pesticide use can be conducted to prevent of reduce externality environmental cost. This has been done by parboiling rice or integrated storage pest management, although this still need further study since it affects to many aspect implemented for a long time in pests management.

The conclusion of the study are as follows:

1. The benefit of pest management is prevention of damage of stored rice. It proved that management gives economic benefit. Benefit can be seen from values NPV and B/C in the of Rp 6.149.749.876 and B/C 3,118 respectively. This values already included environmental cost.
2. Environmental cost influence NPV and B/C value. The value are NPV Rp 6.389.050.848 and B/C 3,335 without include enviromental cost. So enviromental cost can decrease NPV and B/C value.
3. Pesticides still in use for pest management because they are cheap and effective. Although environmental cost is included in operation cost, the current management practices are considered feasible. Consequently Perum Bulog does not necessarily need change the current management practices.

Suggestion:

1. Pest management without pesticide or reduction of it can be applied by Perum Bulog. Further study and research are needed to determine the best and efficient management.
2. Storage of unhulled rice is a better practice to avoid damage. Technology is needed to appropriate the factual condition.
3. Diversity of food in Indonesia involving agriculture technology should be promoted to push the invention of rice substitute.

The solution will avoid the opening of new areas of paddy cultivation, excessive pesticide and fertilizer application that could end up in the degradation of the environmental quality