6th International Conference of Rodent Biology and Management & 16th Rodens et Spatium, 2018, Potsdam

### **Rodent Management – Session 1**

### Reducing rodent damage to rice in Cambodia through ecologically-based rodent management approaches tailored to local conditions

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Throughout Cambodia, rodents are an important pre-harvest pest of rice. The degree of rodent damage varies depending on the season and location, but in Takeo province, average rodent damage estimates of 16-22% per season were recently recorded across several villages. In such areas, rice farmers indiscriminately apply acute rodenticides and electric fencing despite their awareness of the hazardous risks to people and other animals. To help smallholder farmers minimize yield losses from rodent pests, adaptive research experiments were established in two villages in Takeo province. In each village, three replicate 5-hectare sites were selected for treatment and three for control. In each treatment site, groups of farmers implemented ecologically-based rodent management (EBRM) methods over two rice cropping seasons. The management methods were adapted based on the local conditions and preferred practices of farmers. These included maintaining weed-free field margins, synchronous planting, community rat hunts, no electric fencing and either a Linear Trap Barrier System (LTBS) with limited and targeted bromadiolone application (Kandaul village) or a Community Trap Barrier System (CTBS) with no rodenticides along with a LTBS near refuge habitats (Ro Vieng village). Over 100 rats were trapped at each treatment site per season and rodent damage levels were reduced from 20-35% on average per site and season in the non-treatment sites to less than 6% in the treatment sites. Rice yields were 20-32% higher in the treatment sites than in the non-treatment sites, giving at least a 50% increase in farmers' net income. These findings provide strong evidence of the benefits of EBRM for rice farmers in areas where rodent damage is high. These results are now being disseminated to farmers across Cambodia through a cross-learning platform and an integrated package of recommendations that can be specifically tailored to particular conditions is currently being developed.

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