Title

Name

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**Introduction**

This assignment is concerned with the identification, description, elaboration and documentation of irrefutably significant ways of housekeeping for minimizing water, food and harborage, as well as outside vegetation control and drainage for alleviating pest populations. After deliberate painstaking observational activity, it will be identified that what biological threats are being encountered by the area where I reside and how pest population can be controlled using effective interventions.

**Main body**

After closely observing household and inside atmosphere, it was found that following animals and insects act as pests, not only affecting personal health but also agriculture—acting as adverse economic threat. Hence, they require us to develop and implement timely preventive and management strategies. Following pests were found highly deteriorating:

1. **Rodents**

Rodents (rats, mice) act as serious threat to agriculture industry. Estimation suggests that rodents spoilt 90 percent of the rice crops in North America in 2003 (Nils, et. al., 2003). Mice—belonging to Apodemus—cause damage to orchards, cereals, pastures and vegetables upon their occasional outbursts (Nils, et. al., 2003). They also act as significant vectors of various life threatening diseases if render successful in penetrating homes. The black rats act as vectors for *Yersinia pestis* bacterium causing bubonic plague. They also cause Weil’s disease, trichinosis, toxoplasmosis, polio and typhus (Singleton et. al., 2009; Vincent, 2016). Hence, they act as serious economic and personal threat in the area where I live.

1. **Mosquitoes**

Mosquitoes act as the most significant insect vectors that put adverse impact on the wellbeing and health of affected individuals throughout the world. Female mosquitoes require blood for their ovulation, in turn transfer microorganisms within the blood stream of individuals including viruses, bacteria and protozoa which cause following diseases; Encephalitis (the brain inflammation, heartworm in dogs, yellow fever, chikungunya, Lymphatic filariasis, West Nile virus, Tularemia, Zika, and dengue (Kurt et. al., 2011; Benjamin et. al., 2016; WHO, 2018). Hence, they act as serious healthcare threat in the area where I live.

1. **House fly—filth fly**

For thousands of years, flies have always been a nuisance insect. They put adverse impacts on human health because of their excellent transmission potential. They are said to be filth flies because rotten food, decaying matter, garbage and manure are their favorite mating sites (Owens et. al., 2004). From their breeding places, flies move several miles away sticking wide range of pathogenic organisms on their mouth, wings, hairs, mucus and feces. Common microorganisms encapsulate protozoan cysts e.g., *Giardia lamblia,* and *Entamoeba histolytica.* They serve as carriers of over one hundred pathogens causing cholera, typhoid, salmonella, ophthalmia, anthrax, tuberculosis and dysentery (Owens et. al., 2004).

**Interventions**

Corresponding mitigation strategies for the identified areas of concern are as follows:

1. Mosquito can be controlled through pesticides, repellents, window screens, nets, copepods, dragon flies, nematodes, fishes and fungi.
2. Avoiding littering near house and keeping food covered, using fly light traps, insecticides, bio sanitizers and fly baits can assure fly control
3. Blocking entrance passages, removing inside attractors, using electronic traps, and pesticides are some effective strategies to get rid rodents

**Conclusion—student responses**

In a nutshell, three inferences can be deduced from the above presented activity.

1. The first, in case of pests, prevention is undoubtedly better than cure because failing in prevention measures initiates an endless thread of illnesses which affects quality of life adversely. The above presented pests act as vectors, carrying many microscopic pathogens onto their body and blood, spreading life-threatening illnesses particularly in immune-compromised individuals.
2. Secondly, the close observation on the inside and outside environment, consultation of preexisting literature and having up-to-date knowledge about pests and their potential pathogenic ramifications is essential for each family member because it will provide a better insight about effective preventive and managerial activities.
3. Thirdly, pests have become more immune and resistant hence we require better and comparatively advanced tools for their prevention. Government and concerned authorities should make active attempts for public awareness about the significance of advanced tools along with their facilitated provision.

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