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Spatial Distribution of Ornamental Fish Farming and Off-Farm Employment in Perak Using Geographic Information System (GIS)

Ornamental fish is the export-oriented sub-sector relishes as one of the fastest-growing in Malaysia's agriculture sector and the possibility for further expansion of the industry is broad. However, importing activities are banned due to export restrictions by the European Union (EU), through DG SANTE audit, on farm management of aquatic animal health. Fisheries Bio-security Division (FBD) has developed a system containing spatial database of the compartmentalized farm, namely BioDOF-Map (Fisheries Biosecurity Control Management System). The objective of this study is to map on farm and off-farm employment carried out by farmers affected by the factors of the farms location, houses and nearby towns in Perak and Johor.

A total sample population consist of 75 ornamental fish farmers were involved. The study engaged non-spatial and spatial data to capture farm location effect on the farm operational activities especially in fisheries bio-security terms. Descriptive analysis used to describe respondents' socio-economic profiles. The relationship between fish farming and independent variables were cross-tabulated and chi-square was used to test the null hypothesis. Majority of the respondents were male and married, aged 41-50 years old (42.8%), 60.8% had SPM and 41.5% had farm scale of 10ha. Average total production is 2 million a year with (39%) breed goldfish and Koi (30%). There are significant relationship between farming activity and age, education level, total of production and income. Spatial analysis shows majority live less than 15 kilometres from town to house and farm. BioDOF-Map has facilitated DOF in farm monitoring and policy should be formulated to increase job availability in the vicinity of farmer's community.

Keywords: GIS, Fisheries Bio-security, Ornamental Fish, BioDOF-Map system, off Farm employment.

Biography:

Eleanor Daniella was born on 22nd of January 1983 in Muar, Johor. She attended Primary and Seconary School in Kuala Lumpur and Selangor. She enrolled into University Putra Malaysia, Malaysia where she obtained a Diploma in Agriculture and graduated in 2003. Later graduated her Bachelor Degree in Agricultural Science in 2008 and Master Science in Rural Advancement. She is currently pursuing her Ph.D in Agricultural Extension in University Putra Malaysia. She served as a Research Officer at Malaysian Remote Sensing Agency, Ministry of Science, Technology and Innovation (MOSTI) from 2008 until March 2015. Currently, she is working as Senior Research Officer at the Department of Fisheries Malaysia, Ministry of Agriculture and Food Industry Malaysia, Putrajaya from March 2015 until present.