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RAPID IMPACT ASSESSMENT MATRIX AND SUSTAINABILITY ASSESSMENT FOR UNMITIGATED WASTE DISPOSAL OPTIONS IN TOURISTIC VILLAGES IN SEMI-ARID REGIONS

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Abstract

Environmental impact assessment (EIA) for waste disposal options to examine their impacts is of great importance. Rapid impact assessment matrix (RIAM) was used in this research to evaluate impacts of the four different MSW disposal scenarios in Abyaneh village which is one of the oldest villages in Iran, attracting numerous domestic and international tourists year-round. These scenarios, respectively, were open dumping (S1), sanitary landfilling (S2), composting, followed by sanitary landfilling of the residual wastes (S3) and recycling of inorganic wastes, composting of organic wastes, followed by sanitary landfilling of the residual wastes (S4). The existing MSW practice in Abyaneh (S1) was estimated to cause maximum negative effects on physical/chemical (PC), biological/ecological (BE), sociological/cultural (SC) and economical/operational (EO) components of the environment. Positive and negative values for scenarios 2-4, respectively, are (-475/+20), (-640/+129) and (-251/+41). Thus, according to the results, open dumping replacement priorities are, S4, S2 and S3 scenarios, respectively. Evaluating the potential sustainability of different project scenarios showed that scenario 4 and scenario 1, with the S-value equal to -0.552 and -0.786, respectively, had the most and least sustainability.

Key words: RIAM, sustainability, touristic village, waste disposal

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