



MASTER THESIS PROJECT

Herritar-zientzialarien datuen baliozkotzea eta partaideen iritziaren azterketa, hondartzetako dibertsitate mikroskopikoa ezagutzea xede duen proiektuan

“Validation of citizen scientists' data and analysis of
participants' opinions in a project aimed at understanding about
microscopic diversity on beaches”

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ABSTRACT

Coastal ecosystems are rapidly degrading by human action. In order to reduce environmental degradation, it is becoming increasingly evident that science, society, industry, justice and politicians must cooperate, and the research activities that integrate all these actors are of a civic nature. Over the past year, a **collaborative citizen science project** has been developed to raise awareness of the need to protect sandbanks, promoted by a team of researchers from the PiE-UPV/EHU under the title "Attention! - Don't step on me!". In this context, the **hypotheses** of the present master's thesis are two (i) the abovementioned project serves to increase diverse society's knowledge of sandbanks' microscopic diversity as well as to raise awareness of the need to preserve the environment, and (ii) the data collected by citizen scientist are useful for environmental sciences. To this end, citizen scientists have taken 227 **sand samples** to study microalgae, meiofauna, microplastics and 27 **water samples** to study plankton. After participating in the project, citizen scientists have recognized that the level of knowledge on the topics discussed is significantly higher. However, additional studies will be needed to determine whether environmental awareness has increased. In order to ensure the quality of the data, measures have been taken to ensure that the design of the materials containing the instructions is as appropriate as possible, to train the team coordinators who have guided the population scientists through training sessions, to validate the identified taxons by means of photographs, and to compare the results obtained with the data obtained by the experts. A total of 49.46 % of the data collected have been verified, of which 87.59 % have been approved. Moreover, it has been observed that the data of the citizen scientists are very close to those obtained by

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the experts. a pluralistic society was considered inside the project since, in addition to the participation of people from various typologies of groups, the degree of involvement of all of them was high. It has also been stated by the group coordinators that inclusion is one of other strengths of the project together with motivational potential of the initiative and help provided from professional scientists to citizen scientist. The significant involvement and empowerment of socially excluded groups is noteworthy. The implications, the need for empowerment, and the scarcity of such projects in society, have highlighted the need for citizen science research projects that drive everyone's ability.

Keywords: Citizen science, sandbanks, data quality, social diversity, environmental knowledge, environmental awareness.

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LABURPENA

Kostaldeko ekosistemak azkar degradatzen ari dira gizakiaren ekintzen ondorioz. Ingurumenaren degradazioa murrizteko, zientzia, gizartea, industria, justizia eta politikariak elkarlanean aritu behar direla gero eta argiago dago, eta aktore horiek guztiak integratzen dituen ikerketa-jarduerek herritar-zientzia izaera dute. Hareatzak babestu beharri buruzko sentsibilizazioa emendatzea xede duen **herritar-zientzia motako proiektu kolaboratiboa** garatu da azken urtean PiE-UPV/EHU-ko ikertzaile-talde batek bultzatuta, “¡Atención! ¡No me aplastes!-Kontuz! Ez nazazu zapaldu!” izenekoa. Testuinguru horretan, master amaierako lan honen **hipotesiak** bi dira (i) aipatutako proiektuak anitza den gizarteak hareatzako dibertsitate mikroskopioaren inguruan duen ezagutza emendatzeko balio du eta baita ingurumena zaintzeko beharraz sentsibilizatzeko ere, eta (ii) herritar-zientzialariek bildutako datuak ingurumen-zientzietarako baliagarriak dira. Horretarako, herritar-zientzialariek 227 **hare-lagin** hartu dituzte mikroalga, meiofauna, eta mikroplastikoak aztertzeko eta 27 **ur-lagin** planktona aztertzeko. Proiektuan parte hartu ondoren, herritar-zientzialariek aitortu dute jorrotutako gaiari buruzko **ezagutza-maila** nabarmen handiagoa dela. **Ingurumen-sentsibilizazioa** emendatu ote den jakiteko, ordea, ikerketa gehigarriak beharko dira. Bestalde, **datuen kalitatea ziurtatzeko**, hurrengo neurriak hartu dira, besteak beste: jarraibideak jasotzen dituzten materialen diseinua ahalik eta egokiena izatea, herritar-zientzialariak gidatu dituzten talde-koordinatzaileak prestatzea formazio-saioen bidez, identifikatutako taxoiak argazki bidez baliozkotzea, eta lortutako emaitzak lagin beretik adituek lortu dituzten datuekin alderatzea. Jasotako datuen % 49.46 **egiaztatu** ahal izan da eta horietatik % 87.59 **onartu** da. Gainera, herritar-zientzialarien datuak adituek lortu dituztenei asko hurbiltzen zaizkiela ikusi da. Ekintza gehigarriak egin dira eta gizartea ordezkatzan duten

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ezaugarri desberdinetako pertsona mota askoren inplikazio handia lortu da. Gizartearen beharrianak kontuan hartuta horrelako proiektuen beharra agerikoa da.

Hitz-gakoak: Herritar-zientzia, hareatzak, datu-kalitatea, gizarte-anitza, ingurumen-ezagutza, ingurumen-sentsibiltatea.

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