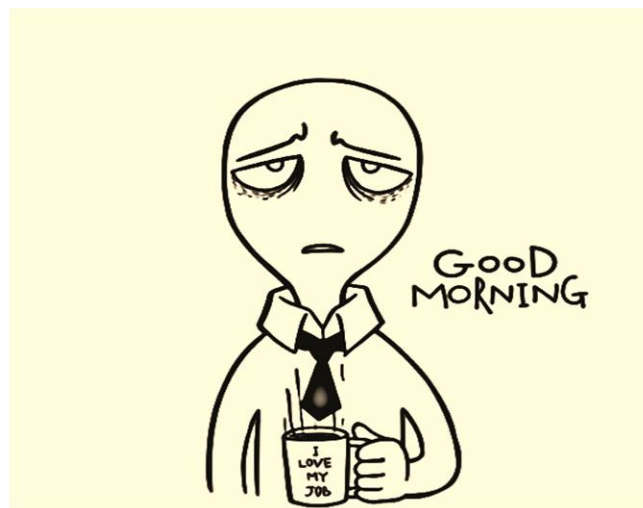


Master in Business Administration

Postgraduate Dissertation

**Stress management of municipal human resources
of stray pet services (mainly dogs), in Greece
Challenges & recommendations for improvements.**



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Abstract

Homeless companion animals (dogs/cats) are either called stray or semi-owned animals (partly close to humans but mainly roaming in order to find food, with no actual owner). Stray animals are estimated to reach more than 600.000.000 ones in the world and constitute a serious issue to over than 150 countries. The importance of an acceptable solution is being reminded world widely on April 4th, every year.

In Greece, stray pets' management used to belong to the state forestry service, by their gun-killing. After the enactment of Law 3170 (2003) and its replacement (L.4039/2012), stray pets' management belongs to the Greek municipalities. They are only allowed to prevent births by strays' surgical neutralization/sterilization and are eventually obliged to return the animals back to the field, taking any responsibility for anything the animals cause. Only a few Greek municipalities, since 2012, have hired vets, built shelters or created properly equipped stray-pets' capturing crews. The majority of them prefer to co-operate with the private sector through annual contracts or with animal welfare associations, both of them actually opposing to the municipality's priorities, putting extra pressure on them (both politicians and employees).

In contrast, the stray dogs' population is increasing because it was never forbidden to the owned pets to give births while their offspring's illegal freeing of is not easily detectable. Any fines to be certified to illegal pet owners presuppose other citizens' written complaint to the police.

No other Greek or international survey about the level of stress, a municipal officer related to stray-pets' management services experiences, was found. This is what the present dissertation is about to detect.

Key words:

Municipal officials, strays, working stress, stressors, burn-out syndrome, Job Satisfaction, statistical analysis.

**Διαχείριση εργασιακού άγχους ανθρώπινου δυναμικού
υπηρεσιών αδέσποτων ζώων συντροφιάς (κυρίως σκυλιών),
στην Ελλάδα**

Προκλήσεις & προτάσεις προς βελτιώσεις.

“Βικτωρία Γούναρη”

Περίληψη

Τα άστεγα ζώα συντροφιάς (σκύλοι/γάτες), ονομάζονται αδέσποτα ή ημι-δεσποζόμενα (εν μέρει κοντά στον άνθρωπο αλλά κυρίως περιφερόμενα προς αναζήτηση τροφής) χωρίς να έχουν πραγματικό ιδιοκτήτη. Τα αδέσποτα ζώα εκτιμάται ότι είναι άνω των 600.000.000 σε όλο τον κόσμο και αποτελούν ένα σοβαρό ζήτημα για περισσότερες από 150 χώρες, που η 4 Απριλίου είναι αφιερωμένη σε αυτά.

Στην Ελλάδα η διαχείριση των αδέσποτων κατοικίδιων γινόταν από τα Δασαρχεία μέσω του πυροβολισμού τους. Μετά τη θέσπιση του νόμου 3170 (2003) και την αντικατάσταση αυτού (Ν. 4039/2012), η διαχείριση των αδέσποτων ζώων συντροφιάς ανήκει στους δήμους, στους οποίους επιβάλλεται να αποτρέπουν τις γεννήσεις, μέσω της στείρωσης των αδέσποτων, τα οποία οφείλουν να επιστρέψουν στο πεδίο, αναλαμβάνοντας κάθε ζημία που αυτά προκαλούν. Λίγοι ελληνικοί δήμοι προσέλαβαν κτηνιάτρους, έχτισαν καταφύγια ή δημιούργησαν κατάλληλα εξοπλισμένα συνεργεία περισυλλογής, από το 2012. Η πλειοψηφία τους προτιμά να συνεργάζεται με τον ιδιωτικό τομέα, μέσω ετήσιων συμβάσεων, ή με Φιλοζωικά Σωματεία, και οι δύο με αντίθετες προτεραιότητες από αυτές των Δήμων, τις περισσότερες φορές ασκώντας πίεση σε αυτούς (πολιτικούς και υπαλλήλους).

Αντιθέτως, μερικοί από τους βασικούς λόγους αύξησης του πληθυσμού των αδέσποτων σκύλων είναι ότι για τα δεσποζόμενα ζώα, δεν ήταν ποτέ υποχρεωτική η στείρωσή τους

ενώ η απελευθέρωση των απογόνων τους είναι δύσκολα ανιχνεύσιμη. Επίσης, τα οποιαδήποτε πρόστιμα που βεβαιώνονται στους παράνομους ιδιοκτήτες σκύλων/γατών δεν αποδίδονται από αυτεπάγγελτους ελέγχους των αρμοδίων υπηρεσιών αλλά απαιτούν γραπτή καταγγελία άλλων πολιτών.

Δεν βρέθηκε ελληνική ή διεθνής έρευνα σχετικά με τη συναισθηματική ή/και την εργασιακή κατάσταση των δημοτικών υπαλλήλων που εργάζονται στις υπηρεσίες διαχείρισης των αδέσποτων ζώων, ώστε να αναλύσουν εάν και πόσο αγχωτική είναι αυτή η δουλειά, κάτι για το οποίο γίνεται προσπάθεια μέσω της παρούσης εργασίας.

Λέξεις κλειδιά

Δημοτικοί υπάλληλοι, αδέσποτα, εργασιακό άγχος, στρες, σύνδρομο εξάντλησης, ικανοποίηση από την εργασία, στατιστική ανάλυση.

Table_of_Contents

Acknowledgements.....	2
Abstract	3
Περίληψη.....	4
Table_of_Contents	6
List_of_Figures.....	9
List_of_Tables	10
List_of_Bar_Charts.....	11
List_of_Abbreviations_and_Acronyms	12
Introduction.....	13
Chapter-1_Situation_about_Stray_Animals	18
1.1. Definitions	18
1.2. Animals’_rights_and_welfare,_world_wide.....	19
1.3. Stray_animals_in_Europe_and_Worldwide	21
1.3.1. Strays_in_developing_areas_(neighborhoods_or_even_countries)	22
1.3.2. Strays_in_developed_areas_(neighborhoods_or_even_countries).....	23
1.3.3. Stray_animals_in_Europe.....	24
1.3.4. Sweden_and_Denmark:_countries_of_no-stray-dogs/a-few-cats	24
1.4. Stray_animals_in_Greece	27
1.4.1. Animals’_rights_and_welfare_in_Greece.....	27
1.4.2. “Catch-neuter-return”/stray_dogs’_birth_control_program_in_Greece..	27
1.4.3. Feeding_of_stray_dogs_in_Greece	28
Chapter-2_Stray_Animals-Conflicts	28
2.1. Definitions	28
2.2. Dangers_because_of_the_free-roaming_companion_animals.....	29
2.2.1. Zoonoses	29
2.2.2. Other_zoonotic_diseases	38
2.2.3. Most_common_diseases_of_strays’_being_contagious_to_domestic_pets	40
2.2.4. Dangers_and_annoyance_from_free_roaming_animals.....	42
2.3. Health_and_Safety_risks_from_stray_animals_in_Greece.....	44
2.3.1. Rabies_in_Greece.....	44
2.3.2. Parasites_of_stray_companion_animals_in_Greece	46
2.3.3. Leishmaniasis_in_Greece.....	48

2.4. Adoption_routes_of_stray_dogs_and_cats_in_Greece	50
2.4.1. Adoption_routes_of_stray_dogs_and_cats_in_Greece.....	50
2.4.2. Adoption_of_strays_from_Greece_to_EU_countries.....	52
2.4.3. Strays' Adoption_from_Greece_to_USA_2nd_usual_destination.....	52
Chapter_3_Stress/Stressors	54
3.1. Definitions	54
3.2. Working_Stress_and_Stressors' Categories–Consequences.....	55
3.2.1. Stressors' Categories	55
3.2.2. Stressors' Consequences_to_the_individual	57
3.2.3. Stressors' Consequences_to_the_organization	60
3.3. Work_Overload, Mobbing_and_Burnout_Syndrome	61
3.3.1. Work_Overload.....	61
3.3.2. Mobbing.....	61
3.3.3. Turnover_and_Burnout_Syndromes	62
Chapter_4_Stress_management, Wellbeing, Job_Satisfaction	65
4.1. Definitions	65
4.2. Stress_Reduction_(Individual_and_Organizational)	65
4.2.1. Individual's Stress_Management_Approaches	66
4.2.2. Organization's Stress_Management_Approaches	66
4.3. Workers' Health_and_Wellbeing_Four_Models	67
4.4. Job_Satisfaction	69
Chapter-5_Public_Sector	71
5.1. Definitions	72
5.2. Stressful_factors_for_municipal_officials	73
Critical_Analysis_of_Literature_Review	75
Dissertation's Findings_and_Hypotheses	76
Implications_in_Literature	76
Implications_in_Practice	77
Method.....	79
Theory_about_statistical_analysis_of_qualitative_variables	80
The_present_survey's_statistical_analysis_of_qualitative_variables	81
Results	83
A/B_Data_About_Employees_(Initial_and_Analyzed)	83
C/D_Initial_Data_(Linkert_Scale)	90

C/D_Data_Preparation_of_Stress_Variable	94
C/D_Data_Analysis_Stress_Variable's_affection_on_Employees	95
Comparison_of_Stress_Variable's_Affection_on_Employees	99
Inferential_Statistics-Hypothesis_Test	99
E_Data_Presentation_(Employees'_Suggestions_for_Improvements	100
E_Data_Interpetation_(Employees'_Suggestions_for_Improvements	101
E1-E17_Multi-Choice_non-compulsory_Questions_about_suggestions	101
E18_Open_non-compulsory_Question_for_further_relevant_information	108
Discussion	108
Conclusions	112
References	116
Greek_References	116
International References	117
Web-Pages	134
Appendix_1:Questionnaire_for_target_group	138
Appendix_2:_Initial_outcoming_data	146

List_of_Figures

FIGURE_1:PHOTOS_OF_ABANDONED_PUPPIES	19
FIGURE_2:PHOTOS_OF_DOGS’ OFFSPRING_BORN_OUTDOORS_(POOR_DEVELOPING_COUNTRIES).....	23
FIGURE_3:A_DOG_WITH_RABIES.....	31
FIGURE_4:BARTONELLA_SPP_EUROPEAN_SPREAD_IN_DOGS.....	33
FIGURE_5:BARTONELLA_SPP_EUROPEAN_SPREAD_IN_CATS	33
FIGURE_6:CYCLE_OF_TOXOPLASMA_GONDII.....	36
FIGURE_7:WORLDWIDE_ENDEMICITY_OF_LEISMANIASIS,_2019.....	37
FIGURE_8:PHOTOS_OF_CAT_WITH_FUNGUS_INFECTION_(SPOROTRICHOSIS).....	40
FIGURE_9:THE_FOUR_CORONAVIRUS_SUB-SPECIES’-GROUP_TARGETS_OF_ANIMALS	42
FIGURE_10:PHOTOS_OF_STRAY DOGS’_STREET-ACCIDENTS	42
FIGURE_11:PHOTOS_OF_STRAY DOGS_MESSING_UP_GARBAGE.....	43
FIGURE_12:PHOTOS_OF_STRAY DOGS’ HERDS_IN_ROMANIA_AND_IN_GREECE_(KILKIS)	43
FIGURE_13:PETA_OFFERS_SERVICES_TO_ANIMALS_AS_LOCALLY_AS_POSSIBLE.....	44
FIGURE_14:PER_OS_VACCINES_AGAINST_RABIES_OF_WILD_LIFE	45
FIGURE_15:_COMMUNICATION_ROUTES_OF_A_DOG_BITE_INCIDENT	46
FIGURE_16:SPATIAL_PRESENTATION_OF_SAND_FLIES_IN_GREECE_(DISTRIBUTE_LEISMANIA_SPP.)..	48
FIGURE_17:PHLEBOTOMUS_SIMILIS_MOSQUITO_DISTRIBUTION_(EU_LEISMANIA_TROPICA_TRANSFER)	49
FIGURE_18:SPATIAL_PRESENTATION_OF_HUMAN_LEISMANIASIS_IN_GREECE.....	49
FIGURE_19:BEING_SILENT_AS_A_REACTION_TO_WORKING_STRESSORS	59
FIGURE_20:PAIRS_OF_FEELINGS_RELATED_TO_WELLBEING.....	68
FIGURE_21:STEADINESS_(CE)/DECREASE_(AD)_OF_WORK’S_WELLBEING_BY_THE_VITAMIN_MODEL	69
FIGURE_22:STRATEGIC_TRIANGLE_FACTORS_IN_PUBLIC_SERVICES.....	71
FIGURE_23:DIAGRAM_OF_PUBLIC_SECTOR_ORGANIZATIONS.....	72
FIGURE_24:_WORK_STRESS’_AND_STRESSORS’_SCIENTIFIC_STUDIES_STUDIES_(FROM_GENERAL_TO_SPECIFIED;_FRO M_ANY_EMPLOYEE_TO_CIVIL_SERVANTS,_MUNICIPAL_OFFICIALS_AND_TO_STRAY_SERVICES’_WORK_FORCE) ..	78
FIGURE_25:A5:_RESPONDERS_BY_SEX_(BLUE:_MEN,_GREEN:_WOMEN).....	83
FIGURE_26:BAR_CHARTS_OF_ALL_C_VALUES_(1-10)_(FROM_LEFT_TO_RIGHT.....	92
FIGURE_27:BAR_CHARTS_OF_ALL_D_VALUES_(1-13)_(FROM_LEFT_TO_RIGHT).....	93
FIGURE_28:HUMAN,_NON-HUMAN_AND_ANIMAL_WELFARE_ARE_STRONGLY_CONNECTED	112
FIGURE_29:102_RESPONSES_BEFORE_EXCLUDING_THE_FAKE_AND_THE_DUPLICATED_ONES	146
FIGURE_30_A1:MUNICIPALITIES_OF_THE_EMPLOYEES’_ANSWERING_BEFORE_EXCLUDING_THE_FAKE_ONE.....	147

List_of_Tables

TABLE_1_REPRESENTATIVE_EU_LEGISLATION_ABOUT_ANIMAL_WELFARE_EXCLUDING_STRAY_ANIMAL_MANAGERIAL_ST RATEGY	24
TABLE_2_LEGISLATION_ABOUT_STRAY_ANIMALS_IN_SOME_DEVELOPED_COUNTRIES	26
TABLE_3_VENDORS_AND_HOSTS_OF_BARTONELLA_SPP.	34
TABLE_4_LIST_OF_TREATMENT_PROTOCOLS_FOR_CUTANEOUS_LEISHMANIASIS.....	37
TABLE_5_MOBBING'S_COSTS_TO_INDIVIDUALS,_FAMILIES,_ORGANIZATIONS_AND_SOCIETY.....	60
TABLE_6_INTERNAL_AND_EXTERNAL_FACTORS_CAUSING_WORK_BURNOUT.....	64
TABLE_7_MOST_COMMON_SURVEY_TOPICS_PREDICTING_JOB_PERFORMANCE_IMPROVEMENT	67
TABLE_8_TERMINOLOGY_OF_WARR'S_MOST_IMPORTANT_JOB_CHARACTERISTICS	68
TABLE_9_NUMBER_OF_STRAYS'SERVICE_EMPLOYEES_(VALID_%_AND_CUMULATIVE_%)	84
TABLE_10:MEAN_MEDIAN_RANGE_OF_NUMBER_OF_EMPLOYEES_IN_STRAYS'SERVICES	84
TABLE_11_SPECIALIZATIONS_OF_ALL_THE_MUNICIPALITY'S_STRAYS'SERVICES_EMPLOYEES.....	85
TABLE_12_A6:THE_%_OF_THE_HIGHEST_LEVEL_OF_RESPONDERS' EDUCATION.....	85
TABLE_13_A7:CURRENT_RESPONDER'S_POSITION.....	86
TABLE_14:MEDIAN_OF_GENERALLY_EXPERIENCED_ONES	87
TABLE_15:MEDIAN_OF_STRAYS'SERVICES_EXPERIENCED_ONES.....	87
TABLE_16_A8_GENERAL_WORK_EXPERIENCE	87
TABLE_17:A9_STARYS'SERVICES' EXPERIENCE	87
TABLE_18:ANALYTICAL_MEAN_REPORT_FOR_EACH_C_AND_D_VARIABLES(INDICATING_WHICH_TO_BE_EXCLUDED)	94
TABLE_19:MEAN_REPORT_OF_THE_VARIABLES_TO_BE_USED_FOR_THE_STATISTICAL_ANALYSIS_OF_C_AND_D	94
TABLE_20:MEDIAN_AND_MODE_OF_EACH_VARIABLE.....	95
TABLE_21:COMPARISON_OF_STANDARD_DEVIATION_OF_A3,_A8,_A9_(PLUS_THE_INEXPERIENCED/HIGHLY_EXPERIEN CED).....	99
TABLE_22:HYPOTHESIS_TEST_SUMMARY_(MANN_WHITNEY_U_TEST_FOR_NONPARAMETRIC_DATA).....	100

List_of_Bar_Charts

BAR_CHART_1: _A2:DEPARTMENT WHERE THE STRAYS' SERVICE BELONGS TO	83
BAR_CHART_2_A3:NUMBER OF RELEVANT PERSONNEL IN STRAYS' SERVICE OF RESPONDERS' MUNICIPALITY.	84
BAR_CHART_3_A4:KIND OF EDUCATION(SPECIALIZATION) OF THE RESPONDER.....	85
BAR_CHART_4_A6:THE HIGHEST LEVEL OF THE RESPONDERS' EDUCATION	86
BAR_CHART_5_A7:CURRENT RESPONDER'S POSITION.....	86
BAR_CHART_6_A8:GENERAL WORK EXPERIENCE	87
BAR_CHART_7_A9:GENERAL WORK EXPERIENCE	87
BAR_CHART_8_B1:MUNICIPAL MATERIAL AND TECHNICAL FACILITIES OFFERED TO STRAYS' SERVICE	88
BAR_CHART_9_B2:MUNICIPAL PERSONNEL RELEVANT TO THE DEMANDS OF STRAYS' SERVICE	88
BAR_CHART_10_B3:ABOUT THE RESPONDER'S MUNICIPALITY STRAYS' PROGRAM.....	88
BAR_CHART_11_B4: KINDS OF PRIVATE SECTOR CO-OPERATING WITH MUNICIPALITIES.....	89
BAR_CHART_12_B5:USUAL ANNUAL EXPENSES ON STRAYS' PROGRAM OF 84 OUT OF 100 OF RESPONDERS' MUNICIPALITIES (X1000 EUROS)	89
BAR_CHART_13_B6: % OF ANSWERS ABOUT STRAYS' INCREASE OF ATTACKS DURING EMPLOYEES' OCCUPATION IN THE RELEVANT SERVICE	89
BAR_CHART_14_B7: % OF RESPONDERS' ANSWERS ABOUT WHETHER SPECIALIZED EMPLOYEES ARE BETTER....	90
BAR_CHART_15_B8: % OF MUNICIPALITIES EVER CO-OPERATED WITH VET VOLUNTEERS	90
BAR_CHART_16:MEANS MEDIAN AND MODES OF QUESTIONS OF ANALYSIS.....	96
BAR_CHART_17:MEDIANS ACCORDING TO STRAYS' SERVICE' NUMBER OF STAFF (LINKERT SCALE)	96
BAR_CHART_18: MEDIANS' COMPARISON BY SEX (LINKERT SCALE).....	97
BAR_CHART_19:MEDIANS' COMPARISON OF ONLY GENERALLY INEXPERIENCED/HIGHLY EXPERIENCED EMPLOYEES (LINKERT SCALE).....	97
BAR_CHART_20:MEDIANS' COMPARISON OF THE GENERALLY EXPERIENCED CATEGORIES OF EMPLOYEES (LINKERT SCALE)	98
BAR_CHART_21:MEDIANS' COMPARISON OF ONLY THE ESPECIALLY INEXPERIENCED/HIGHLY EXPERIENCED EMPLOYEES (LINKERT SCALE)	98
BAR_CHART_22:MEDIANS' PRESENTATION COMPARING THE SPECIALLY EXPERIENCED EMPLOYEES	99
BAR_CHART_23_E1:SUGGESTIONS FOR COMPLAINTS ABOUT STRAYS.....	101
BAR_CHART_24_E2:SUGGESTIONS ABOUT THE 3 MEMBER AND 5 MEMBER COMMITTEES	101
BAR_CHART_25_E3:SUGGESTIONS FOR OWNED ANIMALS' MANAGEMENT	102
BAR_CHART_26_E4:SUGGESTIONS ABOUT STRAY DOGS AFTER BEING INCLUDED TO THE MUNICIPAL MANAGERIAL PROGRAM	102
BAR_CHART_27_E5:SUGGESTIONS FOR PROPER HANDLING OF ANIMALS WITH ZOONOSSES	103
BAR_CHART_28_E6:SUGGESTIONS FOR HANDLING OF ATTACKING DOGS	103
BAR_CHART_29_E7:SUGGESTIONS ABOUT CATS' MANAGEMENT	104
BAR_CHART_30_E8:SUGGESTION ABOUT THE LEAST NECESSARY SPECIALIZATIONS OF EMPLOYEES INVOLVED....	104
BAR_CHART_31_E9:SUGGESTIONS ABOUT THE NECESSARY MEANS OF STRAYS' TASK	105
BAR_CHART_32_E10:SUGGESTIONS FOR MINAGRIC'S ELECTRONIC DATA BASE IMPROVEMENTS.....	105
BAR_CHART_33_E11:SUGGESTIONS FOR THE ROLE OF PRIVATE VETS.....	106
BAR_CHART_34_E12:SUGGESTIONS FOR THE ROLE OF AWAS.....	106
BAR_CHART_35_E13:SUGGESTIONS FOR NON-ACCESS OF OWNED COMPANION ANIMALS TO PUBLIC PLACES.	106
BAR_CHART_36_E14:SUGGESTIONS FOR ACCESS OF OWNED COMPANION ANIMALS TO PUBLIC PLACES.....	107
BAR_CHART_37_E15:SUGGESTIONS ABOUT OWNED ANIMALS' BREEDING MANAGEMENT.....	107
BAR_CHART_38_E16:SUGGESTIONS ABOUT THE APPROPRIATE BODY TO UNDERTAKE STRAYS' TASK.....	107
BAR_CHART_39_E17:SUGGESTIONS FOR THE DIRECTORY TO UNDERTAKE STRAYS TASK IF REMAINING IN MUNICIPALITIES	108

List_of_Abbreviations_and_Acronyms

AWA: _Animal_Welfare_Association

COVID-19: _COrona,_Virus,_Disease_of_2019

CPV-2: _Canine_parvo-virus_type-2

CSD: _Cat-Scratch-Disease

D.: _Document

EU: _European_Union

FAO: _Food_and_Agriculture_Organization

FIV: _Feline_Immunodeficiency_Virus

FPV: _Feline_panleukopenia_virus

HBV: _Hepatitis_B_virus

HELSTAT: _Hellenic_Statistical_Authorities

HIV: _human_immunodeficiency_viruses

JMD: _Joint_Ministerial_Decree

KEDE: _Central_Union_of_Municipalities_of_Greece

L.: _Law

MINAGRIC: _ (Greek)_Ministry_of_Agriculture_and_Food

NASPHV: _National_Association_of_State_Public_Health_Veterinarians

NBSA: _National_Base_of_Stray_Animals_of_MINAGRIC

OECD: _Organization_for_Economic_Co-operation_and_Development

OIE: _World_Organization_for_Animal_Health

PETA: _People_for_Ethical_treatment_of_Animals

SARS-CoV-2: _Severe_Acute_Respiratory_Syndrome–Coronavirus-2

SPSS: Superior Performance Software System

TBEV: _tick-borne_encephalitis_virus

TRACES-code: _Trade_Control_and_Expert_System_of_European_Union

VBZD: _vector-borne_zoonotic_disease

Vet: _veterinary

WAP: _World_animal_protection

WHO: _World_Health_Organization

WW II: _World_War

Introduction

In Greece, since 2003, the population management of stray pets belongs to the municipalities' responsibilities (laws_3170/2003_and_4039/12).

From the beginning, it seemed difficult for the Municipalities to face their new obligation about stray pets' populations' management because they had no properly educated or/and trained staff (stray-animals' service, veterinarians, capturing crews, shelter guards, etc.) or the proper means (shelter, municipal veterinary hospital, car for animal transferring, etc.). From the beginning, most of Greek municipalities chose to co-operate with specialists of the private sector (vet and/or owner of a shelter including a capturing team), via annual contracts (<https://www.makthes.gr/ampelokipoi-menemeni-se-idioti-ktiniatro-i-perithalpsi-ton-arroston-adespoton-zoon-275761>; <https://www.pressing.gr/menu/ellada/synergasia-me-idioti-tou-dimou-elassonas-gia-ti-diaxeirisi-ton-adespoton-zoon>; <https://www.ert.gr/perifereiakoi-stathmoi/chania/chania-programma-stiroseon-adespoton-apo-idiotas-ktiniatrous-se-synergasia-dimo-audio/>). The co-operators' main obligations are to capture stray animals, make a quick health check-up, heal any injuries and offer any needed treatment (for parasites or other diseases or injuries), inject them properly and finally neutralize the male ones and stay the female ones, before returning the animals back to where the latter were found (L.4039/12). When stray, usually, dogs attack other animals' or humans, they are kept in a shelter (municipal or private) for at least 15 days, in order to be watched for rabies, a zoonosis (animal-to-human transferring virus); rabies is being transmitted generally to warm – blooded creatures through the saliva of an infected animal's bite and it affects their central nervous system (encephalitis), finally leading the bitten ones to death (JMD_331/10301/25.01.2013; Rabies' _Handbook,_2013).

For the attacking animal's management, municipalities are obliged, by law, to compose and support 2 special committees; a 5member and a 3member one. The attacking stray dog's isolation period can be lengthened, after taking in account its general behavior and attitude, by the decision of the 5member municipal committee; this committee has to be composed by two members of a local Animal_Welfare_Association (AWA), one municipal representative, a volunteer private vet and a dog-trainer (L.4039/12). If the dog's health is good enough to continue being free, according to the municipality's co-

operator vet's written opinion, the dog is usually returned back to the field at the end of the period in question, most likely to a different area. This may lead to risking any future attack to anyone/anything, for which the municipality should take the responsibility again. Then, the same procedure, described above, has to be followed until a stricter decision will be taken by either the same committee or by the 3member special one; the latter, has to be composed by 3 vets [one state servant working at the local regional unity and two private ones, at least one being of the local AWA's choice (L.4039/12)]. Secretarial support to both of the two committees has to be provided by one of the stray-pet services' municipal officials (written complaints, denunciations from the attacked citizens, police documents asking for the attacking dog's capture and its legal handling, etc.). The for_mentioned documents are, most of the times, missing valuable information, useful for the officials to indicate the dog's identification and eventually the capturing crew's work, causing delays to handle the proper dog.

The sterilization of dogs and cats is compulsory only to the stray animals; their return back to where they were found and the illegal puppy-freeing of owned animals, contribute to the increase of stray pets' population. Strays, and any diseases they carry, may relate them to everyone, of any age or class, directly or indirectly, usually the unpleasant way. Thus, the risk for a high proportion of citizens, to the least being annoyed by stray animals, becomes higher every day. Any incident outside may occupy civil servants, in the form of paper work other than what they have to do in order to support the sterilization program and strays' adoption which should be their main and only (already demanding) work with important results on strays' population elimination.

Another serious issue, that municipal officials are occasionally called to cope with, is what follows the police certification of fines to illegal, usually, dog owners; they consist important funding of the strays' neutering program for the Municipality. The citizen, the fine refers to, has the right to submit an objection, which, according to L.4039/12 law, should be based on real facts, under proof, for the objection to be accepted (e.g. the animal is not of his/her property, the police made a mistake on any of the statements etc.). The next step is the issuance of a special decision by the competent Director of the Municipality. Each step separately, can take long, and usually includes the citizen's

complaining. In combination to the politicians' attitude to treat citizens as their personal customers, can cause frustration to stray-pets' municipal officials.

Furthermore, due to animal welfare associations' activity, which play a key role in strays' care, because of the Municipalities' lack of adequate staff, their presence in stray animals' management becomes more dynamic, through time, at such levels that they came to conflict with the Municipalities; this also recommends of another stress-factor to municipal officials who eventually play a mediator/arbitrator role among politicians' decisions, animal welfare associations' willing, citizens' wishes and/or rights and even the animals' lives themselves. When typical procedures take long, some angry citizens come to the point of using poison against the stray pets and it is common to end even owned animals' lives.

Thus, multi-opinion and poly-activity, both lead to a not clear tactic for an effective stray population management, and eventually do not help neither the animal welfare association members nor the municipal politicians and employees, or even the animals, too.

To summarize, the problematic legal frame, the absence of interest or economical means of the municipalities to hire specially educated and skilled people or to create the relevant municipal stray-pets'-taking-care constructions (shelters, vet-hospitals etc.) in combination to the strong activity of the animal welfare organizations, plus the citizens' expectations to be treated as politicians' personal customers, all together act to the detriment of the strays themselves and the related employees. In addition, stray-dogs' population increasing, multiplies their attacks to other animals and human beings, which constitute some of the complexed problems that the municipal officials have to face every day. These facts, together with the usual involvement of justice service to such incidents, with no end or beginning, exposes officials to a tensed environment, very often, which in combination to any other stressors in the employees' personal lives, can trigger the status of their anxiety, bad mood or even health problems.

Municipalities are called to recognize the stress in the workplace, generally, but pay extra attention to the stray-pet services, as what they cope with refers to everyone. Beginning from the states' responsibility, the situation needs to be altered and develop special policies to eliminate, treat and even prevent stress factors from people working

in such departments since strays' population elimination is one of the front-line issues municipalities are called to face. On the other hand, employees should be alert, calm, focused and organized well enough to face anything involved in such positions, working as a team.

After a research in scientific papers no survey for the relevant services' staffs' working stressors was found in Greece nor anywhere in the world.

My occasional talks and meetings with colleagues of such positions (since I work at such position for the last 20 years in the Municipality of Kilkis) sharing the same feelings, plus the fact that only one employee remained in the relative Ministry Department (Ministry_of_Agricultural_Development_and_Food_-_MINAGRIC), constitutes of strong indicators that the management of stray companion animals' issue has to be revised beginning from the Ministry's organization and the law frame. To take such serious decisions, the law creator has to take in account the fact that most of stray dogs are big-sized shepherd or hunting ones in contrast to animal breeders' needs to reserve large numbers of big-sized shepherd-dogs economically and Greece's constitution of rural areas which is offered for hunting habit.

Generally, in a number of countries of the European Union (EU), stress affects more than 30% of employees of any kind of position they work in, and are affected by the person's gender or education level and/or his/her social class. Anxiety, involved in work, is-related to illness, responsible for loosing over 50% of working days because of bad health condition (Desprésaux,*et al.*,_2017).

In Greece, the mutual percentages reaches more than 15% of employees, no matter their age, gender or the job they have (<https://www.tovima.gr/2017/05/19/finance/i-krisi-ayksanei-to-ergasiako-stres-stin-ellada/>).

The working place, consists of an environment in which employees spend a, worth to improve, part of their life, where work and psychological stresses might be developed as two serious consequences of the modern professional life-style. Nowadays, working hours and the situation at work place receive much of attention on behalf of employees at such level that for some people it can become even more important than their personal life (Koinis_and_Saridi,_2014).

Psychological tension consists of a response to a person's internal and external stimulation, because it is classified to the individual's predispositions to react to stress (Koinis_and_Saridi,_2014; Antoniou,_2006). Generally referring, stress caused by the working environment conditions and tasks, in combination to more stressors occurring in the employees' lives, both contribute to their triggering of anxiety and even burnout.

Considering the long list of serious issues and even conflicts that the municipal officials of stray-animals' management services undergo, the possibility that these people experience much of stress, is high enough to worth running a scientific survey for it.

At the beginning of the present work, a literature review on the stray animals' situation in the world and what this involves on the field (stray herds, attacks to people and other animals, diseases, human lives' threatening, but also roaming animals' frustration, illnesses and poor nutrition, etc.) was developed. The scope for mentioning a detailed reference of stray animals' health issues and the difficulties their health care includes, was to express the work load, that all these include, affecting the related municipal Greek employees' duties.

Secondly, a literature review on stress at work is made, analyzing the stressors' categories and consequences that generally employees are subjected to face.

The third article constitutes the final review about ways to manage stress at the working place, and reach the professional wellbeing in order to receive high job satisfaction in a trustworthy working environment.

The practical part of the survey depended on the results of a personally created questionnaire of 5 groups of questions referring to relevant Greek civil servants and targeting to find if these people receive stress related to the nature of the work they cope with and how much control of their work-load they feel they have.

The dissertation's questionnaire was sent to all 332 Greek municipalities (KLEISTHENIS_I_Program) using three ways, initially by sending a message at the mayors' email, then a second one through uploading the questionnaire to a special form to every single municipality via dhmoi.gr webpage and finally to every possible employee looking like being related to the stray animal services after a thorough search to each municipality's webpage. **100 responses** were eventually collected coming from **85 Greek municipalities**.

Chapter-1_Situation_about_Stray_Animals

The high numbers of stray dogs and cats constitute of a serious worry for both the AWAs and the public sector's good health and safety (<https://dharamsalaanimalrescue.org/stray-animals-the-why-and-the-how/>).

1.1. Definitions

Companion_Animals

The ones, that usually, make company to humans in order to be protected and fed by them, because they lack the ability to find their own food by themselves (Davey, _Zhao_and_Khor, _2020; Drisoll_and_McDonald, _2010; Ferreira, _2011). Companion animals familiarize any place they are being treated well (Guilloux, _et_al., _2018; Martinez, _et_al., _2018; Dias, _et_al., _2013).

Stray_animals

Homeless, not clearly belonging to any owner or even supervised by anybody, domestic companion street free-roaming dogs and cats (Council_of_Europe, _1987).

Street_animals

The roaming dogs and cats that might have an owner (i.e. with no official proof or recognition of the ownership), being close to some people that they feel familiar with but receive no proper care (vaccination, feeding, etc.); these animals remain unsupervised, do not process any specific territorial specification and thus, occasionally change neighborhood in order to find food for their survival (Davey, _Zhao_and_Khor, _2020; WAP: _World_animal_protection, _2021; <https://www.worldanimalprotection.org.uk/lifes-better-with-dogs#slice-2>). These animals, with doubtful ownership, are also considered to be stray ones.

Sterilization_of_animals

It refers to cutting off the testicles from the male animals (neutering or castration) and the ovaries from the female ones (staying) (Singh_and_Nath, _2019; <https://dharamsalaanimalrescue.org/projects/abcar-project/>;

<https://dharamsalaanimalrescue.org/dog-population-management-plan-in-dharamsala/>).

Pet_ownership_obligations

What a pet owner should do about his/her animal under law and regulations' recognition, efficient feeding, regular vaccination, permanent electronic marking, veterinary treatment, registration fees, etc. (Council_of_Europe,_1987; Mille_and_Diesen,_2009; Swedish_Law_1150,_2007; <https://www.global-regulation.com/translation/sweden/2988448/law-%25282007%253a1150%2529-on-the-supervision-of-dogs-and-cats.html>).

1.2. Animals'_rights_and_welfare,_world_wide

Homeless companion animals' populations result from non-owned offspring born either by a stray dog or cat or are abandoned by ex-owners for various reasons (the animal's behavior, the tutor's unawareness of offering proper care to their pet, allergies, any change in the keeper's lifestyle, etc.) (Figure_1) (Scarlett,_et_al.,_1999; <https://www.thefreelibrary.com/Companion+Animals+in+Society/2008/January/1-p56073>; Notaro,_2004).



Figure_1:Photos_of_Abandoned_puppies

(<http://www.esdaw-eu.eu/the-stray-dogs-in-europe.html>)

There are times, especially in developing countries, that dogs and cats are semi-owned, thus, only receive food and a place to sleep outside the house, with no any other form of care (i.e. sterilization, vaccination etc.), either because of cultural or religious believes or because of the owners' shortage of income (Toukhsati,_et_al.,_2012). On the other hand, there are the semi-stray ones; both constitute companion animals that if

anyone else tries to manipulate them (chase them, feed them differently, make a complain to authorities, etc.), the “keepers” react against, despite the dog’s fear because of its free-roaming or even its attacking behavior in order to protect the familiar place’s corner (<https://www.downtoearth.org.in/blog/wildlife-and-biodiversity/killing-with-compassion-why-feeding-dogs-in-public-places-must-stop--72092>; <https://www.downtoearth.org.in/news/governance/a-matter-of-debate-should-stray-dogs-be-fed-in-public-places--72156>).

For all the above animals referred, it is a matter of their survival, or at lease of living a decent life, unless they receive human support since they face several dangerous factors every day; starvation, poisonous traps diseases, other animals’ attacks or even illegal torture (e.g. being used to cosmetic or medicine labs, entering the meal chain or the shoes’ production, or even worse areas, harsh to mention) (<https://www.peta.org/about-peta/faq/what-should-i-do-if-i-find-feral-or-stray-animals/>).

Animals deserve to be thought as part of nature (<https://animalwelfarehub.com/home>; Baka,_Ntorli,_and_Argyri,_2020). Domestic companion animals are strongly related to people’s lives and their psychology balance (Baka,_Ntorli,_and_Argyri,_2020). It is not stray dogs’ decision to live in the streets, be exposed to bad weather, suffer from traffic accidents, hungry, carry diseases and feel aggressive against the surroundings; they usually do so instinctively to protect what they feel like being their territory (usually where they find or they are provided with food) (Martinez_*et al.*,_2018).

In most developed countries, stray animals are kept in shelters permanently without a significant decrease in their welfare (Beerda,_*et al.*,_1998; Protopopova,_2016).

In poor non-developed or developing countries, where authorities prefer killing stray dogs in order to eliminate their populations, volunteering organizations run special campaigns to disseminate animal-welfare tactics including teaching the people involved to killing to apply lethal injection instead of electrocution (HIS,_2009).

Other animals’ rights (wild animals, domestic housed pets, birds, etc.) and welfare, they become suppressed because of roaming dogs’ and cats’ violent behavior (Hughes_and_Macdonald,_2013; Lepe,_*et al.*,_2017; Broom,_2019; Bajpai_and_Arockianathan,_2020;

<https://www.onegreenplanet.org/animalsandnature/stray-dogs-and-cats-harming->

[wildlife/](#)). Professor Broom (2019) believes that the sterilized homeless animals' return to the environment is not the best solution and he supports they are euthanatized instead, when not being adopted; a lot of other scientists, opposing former believes, support the sterilization-vaccination-return pattern of street dogs despite the reduction of other animals' welfare after taking in account additional financial, ethical, legal, cultural and social factors (Jackman_and_Rowan,_2007).

1.3. Stray_animals_in_Europe_and_Worldwide

Practices for managing stray animals' populations vary worldwide, mainly depending on the country's development, the existing legislation and the available funds offered. Stray dogs are usually kept in shelters until they die from natural causes or are euthanatized due to behavioral or unsolved health issues, while the lucky ones become adopted or even find their owners being ex-owned ones (Lepper,_et_al.,_2002; Høgåsen,_et_al.,_2013; Cannas,_et_al.,_2014; Talamonti,_et_al.,_2018; <https://www.asPCA.org/animal-homelessness/shelter-intake-and-surrender/pet-statistics>). When the strategy "Catch-neuter-return" is applied, each animal occupies shelters for only a few days depending on its necessary recovery; after the necessary period, it is released to the environment (Kartal_and_Rowan,_2018; Høgåsen,_et_al.,_2013; Talamonti,_et_al.,_2018), being psychologically confused again and exposed, if not to new diseases but, to starvation and malnutrition. Sterilization should be applied not only to all stray animals but to owned, too since potential strays-litters result either from owned or stray animals and constitute a frequent phenomenon since male dogs show genetical urge during the year unaffected from the seasonal changes (Ortega-Pacheco,_et_al.,_2006) and stray ones may mate with an owned female, if not being under control. Promotion of stray dogs and cats to adoption, by special campaigns is thought to be the main option of solving the problem, that has to be included in any stray population management chosen pattern (Kartal_and_Rowan,_2018; Høgåsen,_et_al.,_2013; Arabi,_2014; Patronek_and_Bradley,_2016).

In most of the developing countries, stray animals feed themselves from open garbage places (Patil_and_Ansari,_2021; <https://dogwithblog.in/homeless-children-and-stray-dogs-are-best-friends-in-bangladesh/>).

In the majority of developed countries, stray animal proper feeding is mainly occurred in practice by volunteers; it consists of a serious issue nowadays with the pandemic that people stay at home (<https://www.scoopwhoop.com/rules-to-follow-while-feeding-stray-animals/>; <https://www.thedailystar.net/shout/news/the-dos-and-donts-feeding-stray-animals-1908401>; <https://thefullfrontal.my/why-should-we-be-feeding-stray-animals-50Tdac2wG7D8AoORKXyWys>).

1.3.1. Strays_in_developing_areas_(neighborhoods_or_even_countries)

It is observed that street dog populations are high and still increase because of their ex-owners' irresponsibility to their obligations (HIS,_2009; Toukhsati,_et_al.,_2012), high costs' of pet ownership (Figure-2) (HIS,_2009; Toukhsati,_et_al.,_2012), awareness (Tenzin,_et_al.,_2015), stress to cope with general economic crisis, especially at the developing areas (Toukhsati,_et_al.,_2012; Spencer,_et_al.,_2017), sudden increase of human population and thus companion animals' demand, some communities' high tolerance in strays' existence (Gurlal,_2019; Karawital,_et_al.,_2013; Tenzin,_2015) or even indifference in specific cultures or areas, etc.

Besides the animals' positive relation to humans, sanitary and safety risks because of stray animals' existence is a negative issue which ends up in transmitting several zoonosis, mainly from non-veterinary treated stray animals (non-vaccinated, non-anti parasitized etc.) (Tenzin,_et_al.,_2011).

A large number of scientific investigations strongly proves the need of offering medical and general care to stray animals because, after having a weak immune system and are subjected to a variety of pathogens and diseases, the animal becomes easily ill by diseases, possible to be transferred to humans, anyhow (<https://dharamsalaanimalrescue.org/projects/abcar-project/>; <https://dharamsalaanimalrescue.org/dog-population-management-plan-in-dharamsala/>; <https://www.peta.org/about-peta/faq/what-should-i-do-if-i-find-feral-or-stray-animals/>).

One can say that stray animals' populations still increase despite the huge effort to manage them (<https://www.who.int/news-room/fact-sheets/detail/zoonoses>) by the catch-neuter-return programs that civil bodies and animal welfare associations adopt (HIS,_2009; Mannhart,_2007) which include the dogs' capture, their sterilization, vaccination against the most common viruses (including rabies for sure) and finally, their return to where they were found from (Jackman_and_Rowan,_2007; Totton,_et_al.,_2010,_2011) in order to increase their general welfare status (Totton,_et_al.,_2011) since their usual neighboring habits imply their source of feeding and survival (Falconer,_2009).



Figure 2: Photos of dogs' offspring born outdoors (poor developing countries)

(Falconer,_2009; www.esdaw-eu.eu/the-stray-dogs-in-europe.html)

1.3.2. Strays in developed areas (neighborhoods or even countries)

On the contrary, for developed areas (Spencer,_et_al.,_2017), even whole countries (USA, Sweden, the Netherlands, Norway, Switzerland, Finland, etc.) (Mille_and_Diesen,_2009), which are usually wealthy, it is easier to invest state or private monetary amounts plus volunteers' time for creating special bodies (animal rescue police body or Non-Governmental-Organizations, private shelters, adoption networks in association to animal welfare associations and a number of animal psychologist or trainers to offer their best services for stray animals to become a member of a proper home). Those co-operations are more successful on managing low populations of street animals after capturing and keeping the animals in shelters for some period; when stray animals are not adopted by the end of this period or in the case they remain aggressive, they take the decision to euthanatize them (API,_2020; Mille_and_Diesen,_2009; <https://www.quora.com/Why-arent-there-any-stray-animals-in-the-cities-in-Nordic-countries>).

1.3.3. Stray animals in Europe

Europe consists of both developed and developing countries. For the last 40 years, European Union, has established regulations and directives focused to animal welfare mainly about productive and laboratory animals (table_1) (Council_of_Europe,_1987; European_Commission,_2012; European_Parliament,_2017; Simonin_and_Gavinelli,_2019; <https://www.fondation-droit-animal.org/proceedings-aw/the-european-union-legislation-on-animal-welfare/>), and only adopted the initial effort for welfare standards related to dog populations management under the World Organization for Animal Health (OIE) general approach, since 2007 (Voslár_vá_and_Passantino,_2012; Mille_and_Diesen,_2009) (table_1), despite the citizens' requirement for the establishment of a common strategy for stray animal control (2670/RSP,_2012).

Directive 74/577/EEC	Stunning before slaughter	93/119 Regulation 1099/2009	Protection of animals at the time of slaughter or killing
Directive 78/1027/EEC	Veterinary training	Regulation 338/97	Protection of species of wild fauna and flora by regulating trade therein
Directives 79/409/EEC, 97/49/EC and 2009/147	Conservation of wild birds	Directive 98/58/EC	Protection of animals kept for farming purposes
Regulation 3626/82, 92/43 338/97	Wild animals	Directive 99/22/EC	Keeping of wild animals in zoos
Directive 83/129/EEC and Regulation 1007/2009	Trade in seal products	Directive 2007/43/EC	Laying down minimum rules for the welfare of chickens kept for meat production
Directives 86/113/EEC and 88/166/EEC	Laying down minimum standards for the protection of laying hens kept in battery cages	Regulation (EC) 1523/2007	Banning the placing on the market and the import to, or export from, the Community of cat and dog fur, and products containing such fur
Directive 99/74/EC	Laying down minimum standards for the protection of laying hens	318/2007	Ban on import of wild-caught birds to be kept in captivity
Directives 86/609/EEC and 2010/63/EU	Protection of animals used for scientific purposes	Directives 2009/156/EC, Commission Regulation (EC) 504/2008, Commission Implementing Regulation (EU) 2015/262, Commission Decision 2000/68/EC, Commission Regulation (EC) 529/2007, Council Regulation (EC) No 21/2004, Commission Decision 2006/968/EC	Marking and tracing animals such as horses, other equids, cattle, sheep and goats (valuable for animal welfare because it reduces disease and opens up possibilities for checking on animals with other welfare problems)
Directive 76/768/EC and Regulation 1223/2009	Cosmetic products	Regulation (EU) 2016/429	Transmissible animal diseases and amending and repealing certain acts in the area of animal health (Animal Health Law) and other legislation aimed at minimising animal disease and hence improving animal welfare
Directives 88/320/EEC and 99/12/EC	Inspection and verification of good laboratory practice		
Regulations 1906/90, 1907/90, 1538/91 and Directive 1999/74/EC	Marketing standards for eggs		
90/425, 91/496, 91/628, 95/29, Regulation 411/98, 1/2005	Protection of animals during transport		
Regulation (EEC) 3254/91	Prohibiting the use of leghold traps (imports: humane trapping standards)		
Directives 91/629/EEC, 97/2/EC, 2008/119/EC	Laying down minimum standards for the protection of calves		
Directive 91/630/EEC 2001/93/EC and 2001 2008/120/EC	Laying down minimum standards for the protection of pigs		

Table_1 Representative_EU_legislation_about_animal_welfare_excluding_stray_animal_managerial_strategy

(European_Parliament,_2017)

1.3.4. Sweden_and_Denmark:_countries_of_no-stray-dogs/a-few-cats

In developed, and thus wealthy countries, laws and regulations about the legal and ethical obligations of pet ownership are being posed and applied more strictly than in

poor areas (Mille_and_Diesen,_2009; Swedish_Law_1150,_2007; <https://www.global-regulation.com/translation/sweden/2988448/law-%25282007%253a1150%2529-on-the-supervision-of-dogs-and-cats.html>; <https://www.quora.com/Why-are-there-no-less-stray-dogs-on-the-streets-of-developed-countries>).

Sweden

In 1989, Sweden has signed the European Convention for the Protection of Pet Animals, (Mille_and_Diesen,_2009; Council_of_Europe,_1987) now signed by 24 countries (API,_2020).

The management of animals, there, being found on the streets belongs to the supervision of the Lost Property Act (Mille_and_Diesen,_2009) and a variety of Animal Welfare Associations (<https://www.quora.com/Why-arent-there-any-stray-animals-in-the-cities-in-Nordic-countries>).

Despite the high state and welfare associations' effort and people's sensitivity to activate themselves, a large number of non-sterilized cats is being met outdoors in this country (API,_2020; Mille_and_Diesen,_2009) which are allowed to be killed by hunters or people who hold a special police permission (Swedish_Law_1150,_2007; API,_2020) while unwanted dogs, bad tempered or even rabies' suspicious with no real evidence, are being euthanized (table_2) (Council_of_Europe,_1987).

Legislation governing abandoned and feral animals

Country	Grade	Comments
Sweden	★	Found animals fall under lost property legislation.
Finland	★ ★ ★	Authorities have an obligation to take care of these animals for a certain period of time.
Netherlands	★ ★ ★	Authorities have an obligation to take care of these animals for a certain period of time.
Switzerland	★ ★ ★	Authorities have an obligation to take care of these animals for a certain period of time.
Austria	★ ★	Animal shelters are partly financed by the state but the authorities are under no legal obligation to care for animals.
Germany	★ ★	These animals are considered to be lost property. Some animal shelters are run by municipalities.
USA	★ ★	Federal legislation is lacking, but certain states fund animal shelters.
Canada	★ ★	Federal legislation is lacking, but certain states fund animal shelters.

- ★ Non-existing or very weak by international comparison
 ★ ★ Weak by international comparison
 ★ ★ ★ Strong by international comparison
 ★ ★ ★ ★ Animal rights are safeguarded

Table_2_ Legislation_about_stray_animals_in_some_developed_countries

(Mille_and_Diesen,_2009).

Denmark

In Denmark, although it used to have a high number of shelters, to initially provide strays (usually abandoned animals) with the proper care and later promote them to a home or even euthanize 1/3 of them, it has changed nowadays in to a serious decrease of euthanizing rate and even the shutting down of the shelters; the main aim of decreasing stray animal numbers has been their adoption (Sandøe,_et_al.,_2019).

A gradual insist in applying electronic marking of pets, in order to return lost animals to owners (Weiss,_Slater_and_Lord,_2012), plus catch-neuter programs, led to the limitation of shelter numbers (White,_Jefferson_and_L Levy,_2010; Kass,_Johnson_and_Weng,_2013; Sandøe,_et_al.,_2019) and euthanasia, too (Sandøe,_et_al.,_2019).

1.4. Stray_animals_in_Greece

1.4.1. Animals'_rights_and_welfare_in_Greece

Stray animals in Greece, such as any other animal on earth, should have the right to live decently (Baka,_Ntorli_and_Argyri,_2020; L.4039/12).

In order to protect animals' rights, Greek State has appointed an animal protection prosecutor, whose base is in Athens (<https://www.zoosos.gr/etiketa/eisaggeleas-zoon/#axzz6kPlrvRtq>; <https://www.lawspot.gr/nomika-nea/prostasia-zoon-odigies-gia-ti-diadikasia-kataggelias-stin-astynomia-kai-ton-heirismo-apo>) and a deputy prosecutor for the same reason, whose base is in Thessaloniki (<https://www.voria.gr/article/thessaloniki-lisis-gia-ta-erga-gia-ta-adespota-me-ispraxi-prostimon>; <https://www.zoosos.gr/etiketa/eisaggeleas-zoon/#axzz6kPlrvRtq>).

There are several active Animal_Welfare_Associations in Greece with the dominant ones being the Hellenic_Animal_Welfare_and_Environmental_Protection Organization, founded is in Hania of Crete, which supports and guides another 66 Member Greek Organizations and Associations (<https://pfpo.gr/>), and the Hellenic Animal Welfare Organization (<https://hellenicanimalwelfare.org/contact/>), which base is Athens.

1.4.2. “Catch-neuter-return”/stray dogs'_birth_control_program_in_Greece

Respecting the animal rights and welfare, the pattern of animal birth control or capturing, sterilizing (effective only if it reaches at least 90% of the population), vaccinating (effective only if it reaches at least 70% of the population) (Belsare_and_Gompper,_2013; <https://dharamsalaanimalrescue.org/projects/abcar-project/>; <https://dharamsalaanimalrescue.org/dog-population-management-plan-in-dharamsala/>), electronic marking (Weiss,_Slater_and_Lord,_2012), and finally being returned back to the field (Jackman_and_Rowan,_2007; Totton,_et_al.,_2010,_2011), is being applied to Greece under every Municipality's responsibility and supervision (L.4039/12). It is worth to mention that stray animals are provided with the proper

complete care through such programs (blood test, vaccination for 6 pathogens, treatment of any injuries, feeding, etc.).

1.4.3. Feeding_of_stray_dogs_in_Greece

Same as in most of the rest of the world, in Greece stray-animal are being fed outdoors by the volunteers' aim, receiving the municipalities' contribution to dog- and cat- food supplies (<https://www.ekathimerini.com/251334/article/ekathimerini/news/campaign-to-feed-strays>; <https://saveagreekstray.org/en/about/volunteers/>; <https://www.straysofgreece.org/how-to-help/>).

Chapter-2_Stray_Animals-Conflicts

2.1. Definitions

Zoonosis–Zoonotic_or_anthroponotic_disease

It is any disease originating from animals, being able to be transmitted to human body and cause health problems (Doron,_2020). Such pathogens are either viruses, parasites or bacteria. The close relationship of humans with animals (companion or agricultural) has caused even pandemic incidents to man History (HIV, Ebola, salmonellosis or even corona-virus (<https://www.who.int/news-room/fact-sheets/detail/zoonoses>))

Health_and_safety_risks

It describes the situation in which public health and safety is exposed to hazards (mental and physical diseases, mental and physical injuries and deaths) that are or become out of state control and need to undergo a special state management plan (Rahaman,_2017; https://www.who.int/hac/techguidance/tools/WHO_strategy_safety_risk_management.pdf; <https://www.hsa.ie/eng/Topics/Hazards/>).

Enzootic

Any disease being transmitted from animal to animal of mainly of the same population (<https://www.rxlist.com/enzootic/definition.htm>).

Health_Certificate

An animal's certificate is issued by an official veterinarian, to accompany, any animal travelling for commercial reasons and it is mandatory to be included to the TRACES system (Decision_518,_2013; D._1316/125933,_2019). A health certificate provides information about the animal's immunity to rabies and its treatment against *Echinococcus multilocularis helminths*; it, thus, proves that the animal has been vaccinated against rabies. That is the reason some of the European countries do not accept young dogs and cats into their territory; the shortage of a young animal's life is not enough to guarantee its immunity against rabies. That is the reason some European countries do not accept animals younger than 12 months old or 16 (https://ec.europa.eu/food/animals/pet-movement/eu-legislation/young-animals_en).

2.2. Dangers_because_of_the_free-roaming_companion_animals

Free-roaming street animals or stray dogs might constitute a hazardous source of a variety of health and safety diseases that affect other animals and humans (zoonosis) (Egwu,_et_al.,_2016; Doron,_2019; Omar,_2021), especially if not receiving regular vet-care (Rahaman,_2017; Omar,_2021).

2.2.1. Zoonoses

Analytical list of diseases that can be transmitted from free-roaming cats and dogs to people are listed in Table_3, but the most common and serious ones, are analyzed as it follows:

- **Viral_Zoonotic_Diseases_to_both_dogs_and_cats:**

Rabies virus: is a tropical viral disease that although can be prevented by dogs' and cats', vaccination, it still exists, mostly in low income rural places all over the world, except Antarctica (<https://www.who.int/news-room/fact-sheets/detail/rabies>); it is planned to distinguish man-life loss because of rabies by 2030 through the collaboration of WHO OIE and FAO (WHO, 2018; <https://www.who.int/news/item/28-09-2020-world-rabies-day-2020>). Rabies in dog causes an irritating/aggressive behavior and finally the animal's death because of thirst since it cannot drink water (<https://www.dogsnaturallymagazine.com/rabies-vaccine-side-effects/>); affected dog's body becomes the virus' reservoir, and then is passed on to other mammals (including humans) after biting them, and thus it threatens their lives after causing encephalitis (Gurlal, *et al.*, 2019; Isek, Umoh and Dzikwi., 2019); e.g. 60.000 people per year die out of rabies worldwide (Acharya, *et al.*, 2021), out of which 20,000, in India (<https://dharamsalaanimalrescue.org/projects/abcar-project/>; <https://dharamsalaanimalrescue.org/dog-population-management-plan-in-dharamsala/>; Minhas, *et al.*, 2018; Gurlal, 2019), 35.000 in South and Southeast Asia (Acharya, *et al.*, 2021), including Sri Lanka (Karawital, *et al.*, 2013) and Bhutan (Tenzin, 2015) while more than 100 men and women haven't managed surviving rabies in China since the 90s decade (Miao, *et al.*, 2021). It constitutes a fatal threat to over 3.300.000.000 human beings in the world (WHO, 2010, 2019, 2020; <https://www.who.int/news-room/fact-sheets/detail/rabies>) in more than 150 different countries, mainly in Africa and in Asia (Amaral Wardb and Freitas, 2014; Acharya, 2021; <https://www.who.int/news-room/fact-sheets/detail/rabies>). When rabies affects people, they become oppressive or paralyzed and they eventually die if not treated effectively, the soonest the possible (Pattanaik and Mani, 2019). Although there is a preventive vaccine to animals (Belsare and Gompper, 2013; Minhas, *et al.*, 2018), rabies still constitutes of a threat, because of stray animals' existence on the streets and to wild foxes (Njoga, Ajibo and Njoga, 2020; WHO, 2019, 2020; <https://www.who.int/news-room/fact-sheets/detail/rabies>). In most of the countries, when an animal which bites someone (Figure_3), it is being quarantined and watched for the proper diagnosis about rabies (Minhas, *et al.*, 2018;

Kolawole, *et al.*, 2020), being one of the crucial tasks of Municipalities in Greece (L.4039/12; JMD, 2013) and consisting a major issue (<https://www.who.int/news/item/07-08-2020-oie-endorsement-of-official-control-programmes-for-dog-mediated-rabies>).



Figure 3: A dog with rabies

(<https://www.dogsnaturallymagazine.com/rabies-vaccine-side-effects/>)

Hepatitis: caused by HBV, thus Hepatitis B virus (Hu, *et al.*, 2019; Al-Jumaa, Ajaj and Dahl, 2020), attacks liver of a variety of mammals.

HBV-like virus or feline immunodeficiency virus (FIV): attacks the lymph system of both of cats and human; the latter can be co-affected by both HBV and FIV (Aghazadeh, *et al.*, 2018; Lavane, *et al.*, 2019).

- **Bacterial Zoonotic Diseases to both dogs and cats**

Brucellosis: is found to both cats and dogs and affects 1/3 of stray dogs, with a higher rate to the older, not sterilized ones (Daly, *et al.*, 2020). It is the cause of dogs' abortions, among others, which are mainly inflammations to several organs (diskospondylitis, lymphadenomegaly pyogranulomatous dermatitis polyarthritis, meningoencephalitis, ocular lesions and osteomyelitis) and can be a public health hazard, for owned pets, their owners or people working in Kennels (Hensel, Negrón and Arenas-Gamboa, 2018; Galarce, *et al.*, 2020). Its diagnosis is difficult since it is common for an ill animal to look healthy and further blood tests might be needed, which is almost impossible for every stray dog roaming on the streets,

especially at the proper frequency needed (Cosford,_2018). Brucella's infections resist to antibiotic treatment (NASPHV, 2012; <http://nasphv.org/Documents/BrucellaCanisInHumans.pdf>). It is found that the commercially available quick tests are not reliable (Keid,_et_al.,_2009); blood test is the best and is obliged to be applied before an adoption (Galarce,_et_al.,_2020).

Bartonellosis: is a vector-borne disease (VBZD) (table_3) spread around the world (Chomel_and_Kasten,_2010) not only in Europe (Figures_4_and_5), caused by almost forty different species of Bartonella bacterium, able to be transferred to a variety of mammals, amongst which are humans and dogs and cats (Diakou,_et_al.,_2017; Álvarez-Fernández,_Breitschwerdt_and_Solano-Gallego,_2018; Ebani,_et_al.,_2020). Blood test for these bacteria is not common to be applied for humans and thus cases of such human affection are mis-diagnosed (Breitschwerdt,_et_al.,_2009; Breitschwerdt,_et_al.,_2010; Mylonakis,_et_al.,_2018). The symptoms of Bartonellosis in humans are bacillary tearing, heart, leaver and lymph inflammation, etc. (Chomel,_et_al.,_2006; Olarte,_et_al.,_2012). **Cat-Scratch-Disease** (CSD) is an infection due to Bartonella *henselae* bacterium found in the saliva of almost 40% of kittens and cats, that might not even look ill (Mylonakis,_et_al.,_2018) and it is transmitted to humans via a cat's bite, scratch or licking of a person's wound (Maden,_et_al.,_2015). After an individual is infected he/she the symptoms vary from swollen skin, fever, poor appetite, headaches or even exhaustion (<https://www.cdc.gov/healthypets/diseases/cat-scratch.html>) to optic neuritis and even meningitis (Yap,_et_al.,_2020).

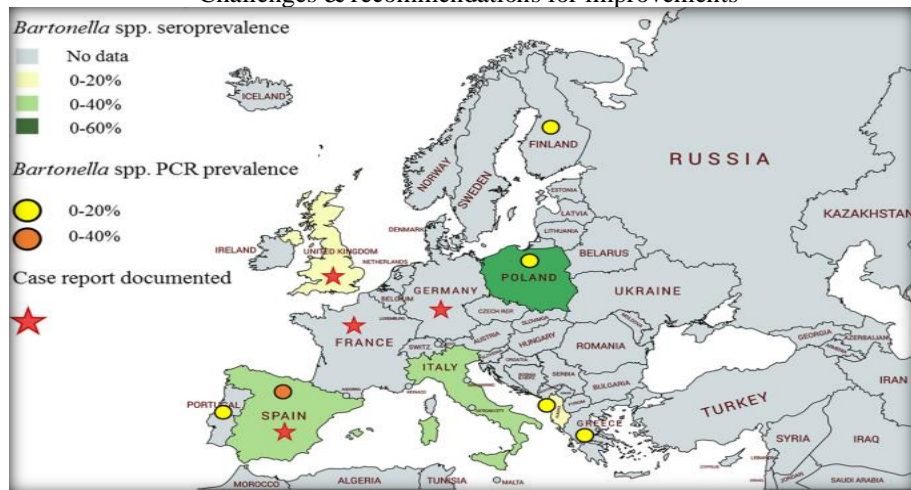


Figure 4: Bartonella spp European spread in dogs

(Álvarez-Fernández, Breitschwerdt and Solano-Gallego, 2018; mapchart.net)



Figure 5: Bartonella spp European spread in cats

(Álvarez-Fernández, Breitschwerdt and Solano-Gallego, 2018; mapchart.net).

Stress management of human resources of stray pet services in Greece.
Challenges & recommendations for improvements

<i>Bartonella</i> species	Primary reservoir	Vector	Accidental host
<i>B. bovis</i> (ex <i>weissii</i>)	Domestic cattle (<i>Bos taurus</i>)	Biting flies, ticks	Humans, cats, dogs
<i>B. volans</i> -like	Flying squirrel (<i>Pteromyiinae</i>)	Fleas	Humans, dogs, horses
<i>B. clarridgeiae</i>	Cats (<i>Felis catus</i>)	Cat flea (<i>Ctenocephalides felis</i>), ticks ^a	Humans, dogs
<i>B. elizabethae</i>	Rats (<i>Rattus norvegicus</i>)	Fleas	Humans, dogs
<i>B. grahamii</i>	Rodents	Rodent flea (<i>Ctenophthalmus nobilis</i>)	Humans, dogs
<i>B. henselae</i>	Cats (<i>Felis catus</i>), dogs (<i>Canis familiaris</i>)	Fleas, ticks ^a	Human, dogs
<i>B. koehlerae</i>	Cats (<i>Felis catus</i>), gerbils (<i>Meriones libicus</i>)	Fleas	Humans, dogs
<i>B. quintana</i>	Humans, gerbils (<i>Meriones libicus</i>)	Human body lice, fleas, bed bugs, pigeon mites ^a	Cats, dogs, monkeys
<i>B. rochalimae</i>	Canids	Fleas ^a (<i>Pulex irritans</i> , <i>Pulex simulans</i>), ticks ^a	Humans, dogs
<i>B. vinsonii arupensis</i>	Rodents	Deer tick (<i>Ixodes scapularis</i>)	Humans, dogs
<i>B. vinsonii berkhoffii</i>	Coyotes (<i>Canis latrans</i>), dogs (<i>Canis familiaris</i>), foxes (<i>Urocyon</i> spp.)	Ticks ^a , <i>Pulex</i> spp. ^a	Humans
<i>B. washoensis</i>	California ground squirrel (<i>Spermophilus beecheyi</i>), rabbits (<i>Oryctolagus cuniculus</i>)	Fleas, ticks ^a	Humans, dogs

^aNot confirmed

Table_3_ Vendors_and_Hosts_of_Bartonella_spp.

(Álvarez-Fernández, Breitschwerdt and Solano-Gallego, 2018)

Lyme disease (Borreliosis): is a bacterial infection due to *Borrelia burgdorferi*, or rarely *Borrelia mayonii*. It is hosted to blacklegged ticks existing in the grass. Humans are infected through a tick's bite and suffer from headaches, fever, plus erythema migrans (skin rash), pain in joints, neurological or even heart problems if not treated with proper antibiotics on time. Lyme disease is not the only pathogen transmitted from arthropods (Ebani, et al., 2020), but mange, too, and thus, strays have to undergo an antiparasitic treatment frequently (Totton, et al., 2010).

Leptospirosis: rat-born zoonotic disease caused by *Leptospira* spp bacteria found at pet and stray dogs, as well (Benitez, et al., 2012; Neela, Philip and Sekawi, 2020). It affects humans via contact to dog or cat urine, vomit or saliva. Animals can be asymptomatic (<https://www.akc.org/expert-advice/health/what-is-leptospirosis-and-should-you-be-concerned/>).

Anaplasmosis: is caused by *Anaplasma* spp bacteria transferred to human from ticks, mainly existing in stray dogs; bodies (Pesapane, et al., 2019; Yousefi, et al., 2019). It is found to be an endemic disease in neighboring Bulgaria (Manev, 2020), with which there is an illegal importing of dogs to Greece because of their cheaper prices ([https://www.vrespets.gr/member/89](https://www.vrespets.gr/member/89;); <https://www.insomnia.gr/forums/topic/106012-αγορά-σκύλου-από-το-εξωτερικό/>;

<https://www.dogforum.gr/community/threads/Εμπόριο-Κουταβιών-από-Βουλγαρία.1.27791/>;
<https://www.irafina.gr/apo-pou-na-min-paro-skilo/>;
<https://www.notosnet.gr/news/pos-eisagontai-ta-katharoaima-zoa-stin-ellada>;
<https://www.zoosos.gr/katanglei-emporo-skylion-ratsas-pou-tou-poulise-arrosta-koutavia-me-plasta-pistopoiitika-sti-veroia-imathias/#axzz6nOjRUyve>).

Erlichiosis: is caused by *Erlichia* spp bacteria being transferred to dogs via ticks (Mylonakis, Harrus and Breitschwerdt, 2019). They attack all kinds of white cells in both dogs and eventually humans (Pesapane, *et al.*, 2019; Nicholson, *et al.*, 2019; Ajaj, Mohammed and Al-Bayati, 2020).

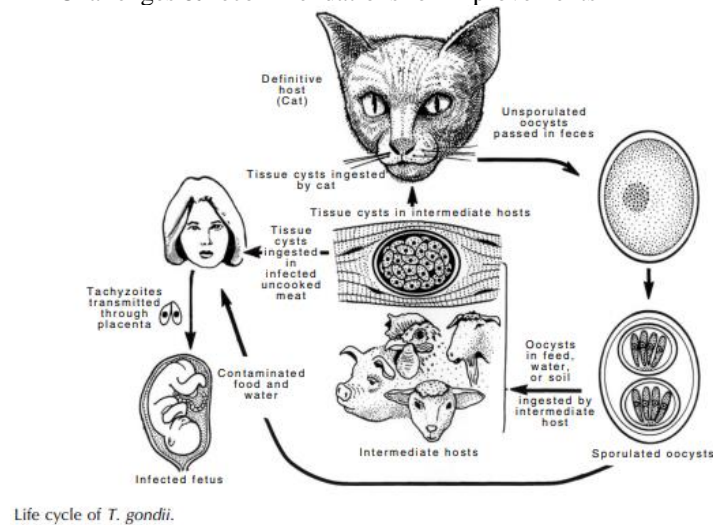
- **Parasitic_Zoonotic_Diseases_affecting_either_dogs_or_cats_or_both**

Parasites constitute the main vendors of serious zoonoses, originating either from the inside part of the animal's body (endoparasites) or from the outside of it (ectoparasites):

Endoparasites: the most common being:

Zoonotic_hookworms: There is a variety of them inhabiting in dogs' and cats' bodies (*A. caninum*, *Ancylostoma braziliense*, *Uncinaria stenocephala* and *A. ceylanicum*) and the risk is high for those worms to be transmitted to people, when their larvae invades the human body through open wounds and causing inflammation (<https://www.cdc.gov/parasites/zoonotichookworm/>; <https://www.cdc.gov/healthypets/diseases/index.html>; Traversa, 2012; Fu, *et al.*, 2019).

Toxoplasma: *Toxoplasma gondii* is a protozoan species, originated from cats and pigs (Figure_6), can fatally affect humans causing either psychiatric, neurological or fetal disorders and fetal deaths (Hill, *et al.*, 2005; Torrey, Simmons and Yolken, 2015; Hou, *et al.*, 2018). In rare cases, dogs, eating from garbage, are also potential to carry toxoplasma (Traversa, 2012; Migliore, *et al.*, 2017).



Figure_6: Cycle_of_*Toxoplasma gondii*

(Hill, *et al.*, 2005)

Dirofilaria nematoides: causes heart-disorder and uses mosquitoes as its vendors. *Dirofilaria immitis*, can be zoonotic (Pampiglione, Rivasi and Vakalis, 2000; Diakou, *et al.*, 2017; Otranto, *et al.*, 2017; Manev, 2020).

Leishmaniasis: originated from *Leishmania* spp protozoa (Gharekhani, Borujeni and Sazmand, 2018; Ebani, *et al.*, 2020), which, like rabies, also belongs to neglected tropical diseases mainly transferred via dogs (Diakou, *et al.*, 2017) and to a lower extend, via cats (Diakou, Papadopoulos and Lazarides, 2009; Bezerra, *et al.*, 2019; Ebani, *et al.*, 2020), planned to be vanished by 2030 worldwide (Figure_7) (WHO, 2018, 2019). It uses female phlebotomine sand flies to be spread. Leishmaniasis constitutes an epidemic zoonosis in Greece among 90 countries

(https://www.cdc.gov/parasites/leishmaniasis/gen_info/faqs.html). It causes fever, weight loss, swollen liver and spleen, and finally, death in high rates (WHO, 2019). Its effective control is related to flea management control (its main vector) (WHO, 2019) while any suggested treatment is not fully affective (table_4) (WHO, 2019). The most known phenotypes of leishmaniasis are the visceral (affecting internal organs, thus liver and

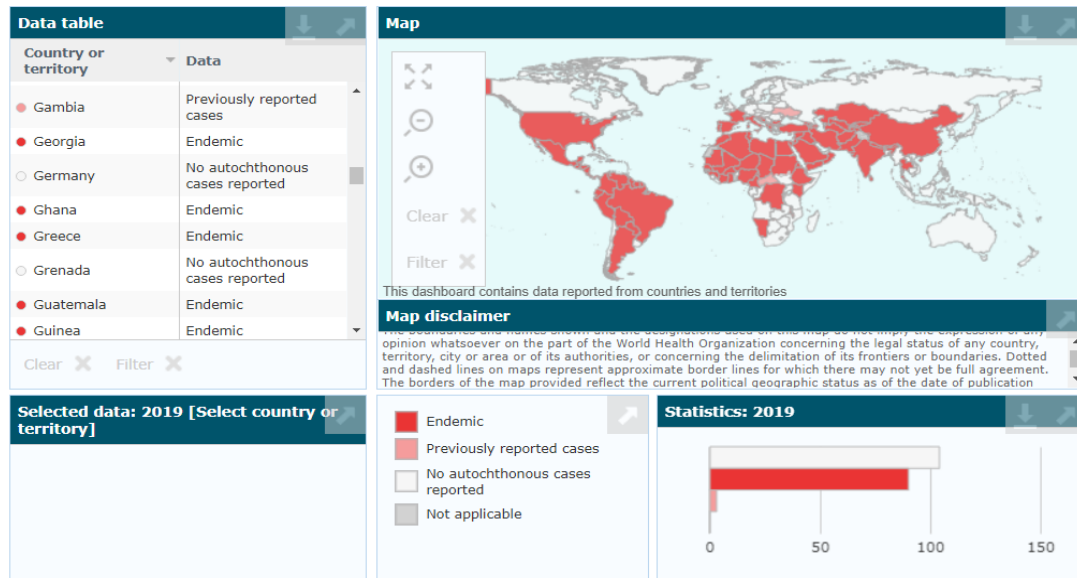


Figure 7: Worldwide Endemicity of Leishmaniasis, 2019

(WHO, 2019; http://apps.who.int/neglected_diseases/ntddata/leishmaniasis/leishmaniasis.html)

TREATMENT FOR CUTANEOUS LEISHMANIASIS			
Medicine	Mode of administration	Advantages	Disadvantages
<ul style="list-style-type: none"> Allopurinol Dapsone Rifampicin Metronidazole Ketoconazole Itraconazole 	Peroral	<ul style="list-style-type: none"> Simple mode of administration 	<ul style="list-style-type: none"> Poor effect Effective only against some species Toxic
Fluconazole	Peroral 200 mg daily for 6 weeks	<ul style="list-style-type: none"> Most promising drug for Old World leishmaniasis 	<ul style="list-style-type: none"> Lack of proper trials for species other than L. major High cost
Miltefosine	Peroral 2.5 mg/kg for 28 days	<ul style="list-style-type: none"> Limited toxic side-effects 	<ul style="list-style-type: none"> Teratogenic
Pentavalent antimonials (meglumine antimoniate 85 mg Sb/ml and sodium stibogluconate 100 mg Sb/ml)	Parenteral – 20 mg/kg intramuscularly or intravenously for 20–28 days for CL/ Local Infiltration	<ul style="list-style-type: none"> Good efficacy Intralesional infiltration less toxic 	<ul style="list-style-type: none"> Very toxic, side-effects (arthralgia, myalgia, abdominal discomfort, elevation of hepatocellular enzymes, chemical pancreatitis, anaemia, leukopenia, thrombocytopenia, EKG abnormalities) Multiple schedules Intralesional infiltration – no ideal regimen
Pentamidine	Parenteral- 3 to 4 mg/kg /day IV every other day Total treatment 3 or 4 injections	<ul style="list-style-type: none"> Used mostly for L. guyanensis and L. braziliensis. 	<ul style="list-style-type: none"> Very toxic, side-effects (diabetes, rhabdomyolysis, hypokalemia, hypocalcemia, renal failure, abdominal discomfort, elevation of hepatocellular enzymes, chemical pancreatitis, anaemia, leukopenia, thrombocytopenia, cardiac abnormalities...)
Cryotherapy and thermotherapy	Physical treatment – application of liquid nitrogen for 20 seconds/radiofrequency device 50°C for 30 seconds.	<ul style="list-style-type: none"> Simple Non-toxic 	<ul style="list-style-type: none"> Cryotherapy : no ideal regimen Thermotherapy: requires high-cost generator, probe must be sterilized, local anaesthesia needed

Table 4_ List of treatment protocols for cutaneous Leishmaniasis

(WHO, 2019)

Babesiosis: is caused by *Babesia* spp tick vector parasites that affect both dogs and cats (Simking, *et al.*, 2010; Reddy, *et al.*, 2016; Ebani, *et al.*, 2020), but some spp can be zoonotic, attacking the host's Red Blood Cells (RBCs) in which the parasite grows and matures, changing their shape, affecting liver and spleen functions, but mainly suppressing the host's immune system (Ord and Lobo, 2015).

Ectoparasites: the most common being:

Ticks: The most common ones being Ixodidae *spp.* or hard ticks (vector of anaplasmosis babesiosis, rickettsiosis, borreliosis and tick-borne encephalitis virus transfer or TBEV,) and Argasidae or soft ticks carry zoonoses diseases. *Dermacentor reticulatus* (vector of TBEV, *Rickettsia* spp, *Coxiella burnetii*, babesiosis, etc.) (Mencke, 2013; Claerebout, *et al.*, 2013), *Rhipicephalus sanguineus* (Lefkaditis, *et al.*, 2015), **lice**, such as *Felicola subrostratus* (Lefkaditis, *et al.*, 2015), **fleas**, such as *Ctenocephalides felis* (Lefkaditis, *et al.*, 2015), and **Mites**, such as *Otodectes cynotis*, *Notoedres cati*, *Cheyletiella blakei* (Lefkaditis, *et al.*, 2015).

2.2.2. Other zoonotic diseases

- **Stray_Dogs**

They are considered to be carrying several pathogenic microorganisms on their vaginal and preputial mucous or mouth, strong enough to be transmitted to owned dogs and thus to humans. Such microorganisms usually are:

Enterobacteria: are found to be more antibiotic-resistant to stray dogs' feces than to the home-dogs' ones (Traversa, 2012; Marchetti, *et al.*, 2021), that cause gastro-intestine problems (vomiting, diarrhea, etc.) (<https://www.mayoclinic.org/diseases-conditions/e-coli/symptoms-causes/syc-20372058>). The most common enterobacteria are **Escherichia coli** (Rey, *et al.*, 2020; Marchetti, *et al.*, 2021), **Proteus**, **Pseudomonas spp.**,

Aeromonas spp.*, *Pasteurella spp.*, *Haemophilus spp.*, *Staphylococcus spp.*, *Bacillus spp.*, etc.** (Razali,*et al.*,_2020) and ***Streptococcus spp. (Changin,*et al.*,_2015), all able to cause pneumonia. ***Ancylostomidae*, *Trichuris*, *Cryptosporidium*, *Toxocara*, *Toxascaris*** (Traversa,_2012; Diakou,*et al.*,_2017; Montoya,*et al.*,_2018; Trasviña-Muñoz,*et al.*,_2020; Regidor-Cerrillo,*et al.*,_2020), ***Taenidae* parasites** (Traversa,_2012; Diakou,*et al.*,_2017; Trasviña-Muñoz,*et al.*,_2020; Regidor-Cerrillo,*et al.*,_2020), ***Sarcocystis spp.*, *Taenia hydatigena*, *Echinococcus granulosus*** (Traub,*et al.*,_2014; Raoul,Hegglinb_and_Giraudoux,_2015), ***Dipylidium caninum*** (Núñez,*et al.*,_2014; Trasviña-Muñoz,*et al.*,_2020) ***Ancylostoma spp.*, *Trichuris spp*** (Núñez,*et al.*_2014), **ascarids, *Cystoisospora*, *Giardia spp*, lungworms** (Garcia-Campos,*et al.*,_2018; Trasviña-Muñoz,*et al.*,_2020), ***Echinococcus spp.*** (Liccioli,*et al.*,_2015), ***Helmatoides*** *spp.* ([https://books.google.gr/books?id=HW93DwAAQBAJ&lpg=PA83&ots=odK7mEaqOD&dq=Nematoda%20\(Roundworms\)%20Seppo%20Saari&pg=PA87#v=twopage&q=Nematoda%20\(Roundworms\)%20Seppo%20Saari&f=false](https://books.google.gr/books?id=HW93DwAAQBAJ&lpg=PA83&ots=odK7mEaqOD&dq=Nematoda%20(Roundworms)%20Seppo%20Saari&pg=PA87#v=twopage&q=Nematoda%20(Roundworms)%20Seppo%20Saari&f=false); Saari,*et al.*,_2018), all of which can be hazardous to public health (Traversa,_2012; Changin,*et al.*,_2015; WHO,_2018,_2019; Rey,*et al.*,_2020; Razali,*et al.*,_2020; Regidor-Cerrillo,*et al.*,_2020; Marchetti,*et al.*,_2021).

- **Stray_cats**

Although, they usually do not suffer from Leishmaniosis, they are also found to be carrying various zoonotic diseases apart from the fore mentioned:

Nematode parasites (Borthakur_and_Mukharjee,_2011; Traversa,_2012) are mainly tube worms such as, **murine typhus and tularemia, and *Porphyromonas*** (Whyte,*et al.*,_2017), ***Coxiella burnetiid*, *Ehrlichia*, *Anaplasma phagocytophilum*, *Cytauxzoon spp*, *Hepatozoon spp*** (Ebani,*et al.*,_2020), plenty of which should be taken seriously since they can cause blindness, abortions or even human death (Traversa,_2012; Gerhold_and_Jessup,_2012).

Sporotrichosis is a relatively rare fungus-caused infection by *Sporothrix schenckii*, applied under the skin (Figure_8), transmitted to humans through an existing wound from a close conduct with an ill cat, usually, or via scratches or bites (Crothers,*et al.*, 2009; Rodrigues,*et al.*, 2013; Duangkaew,*et al.*, 2019) or other **fungi** (Whyte,*et al.*, 2017).



Figure_8:Photos_of_Cat_with_fungus_infection_(sporotrichosis)

(Duangkaew,*et al.*, 2019)

A-hemolytic Streptococcus and Porphyromonas cause blood (https://www.vin.com/apputil/content/defaultadv1.aspx?pId=20539&id=8506228) and mouth problems (http://www.vetstreet.com/care/porphyromonas-in-canine-dental-disease#:~:text=Porphyromonas%20is%20a%20family%20of%20bacteria%20that%20have,in%20most%20cases%20of%20dogs%20with%20periodontal%20disease), respectively (Whyte,*et al.*, 2017). **Yersinia pestis**, transferred by fleas, causes zoonotic plague (https://emergency.cdc.gov/agent/plague/factsheet.asp; Whyte,*et al.*, 2017).

2.2.3. Most_common_diseases_of_strays'_being_contagious_to_domestic_pets

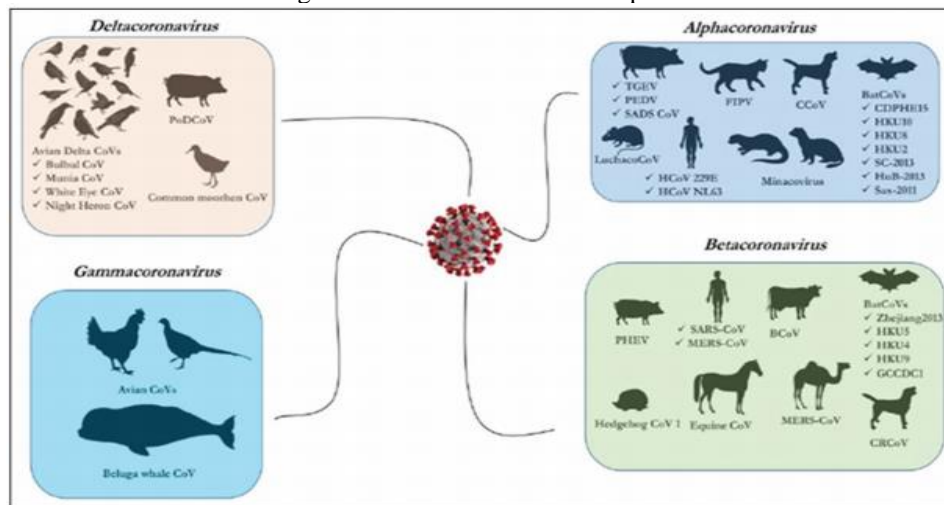
- **Canine parvo-virus type-2 (CPV-2):** is a highly contagious fatal disease that causes gastroenteritis and myocarditis, especially, to young dogs amongst other animals; it is transmitted through the conduct of feces of ill ones (Rishikesavan, Palanivel and Saravanajayam, 2020; https://www.vet.cornell.edu/departments-centers-and-institutes/baker-

[institute/our-research/animal-health-articles-and-helpful-links/canine-parvovirus](https://www.bakerinstitute.org/our-research/animal-health-articles-and-helpful-links/canine-parvovirus);
<https://www.avma.org/resources-tools/pet-owners/petcare/canine-parvovirus>;
<https://www.akc.org/expert-advice/health/parvo-in-dogs/>;
https://www.petmd.com/dog/conditions/infectious-parasitic/c_dg_canine_parvovirus_infection).

Feline panleukopenia virus (FPV): that causes a fatal decrease of white cells to cats (Cheng, *et al.*, 2019; <https://www.vet.cornell.edu/departments-centers-and-institutes/baker-institute/our-research/animal-health-articles-and-helpful-links/canine-parvovirus>).

Feline Pneumonia: caused by a variety of contagious microorganisms or a combination of them (viruses, fungi, parasites and bacteria) (Al-Mallah and Saeed, 2019).

Coronavirus: is caused by four different genera (α , β , γ and δ) (Figure 9) of SARS-CoV-2 (Severe Acute Respiratory Syndrome–Coronavirus-2) viruses affecting different target groups of living creatures worldwide with acute respiratory syndrome (Malik, *et al.*, 2020; Farnia, *et al.*, 2020). A few cases of dogs (AFCD, 2020; Cheng, 2020) and cats (Bryner, 2020) have been reported being positive to SARS, the latter, mainly, resulted in pets' abandons and decrease of their welfare in 2020 (Parry, 2020; https://www.business-standard.com/article/pti-stories/strays-feel-the-bite-as-pandemic-spreads-120040900224_1.html). It is not known whether the virus can be transmitted from companion animals to humans but there are suspicions it can be contagious from pet to pet (Malik, *et al.*, 2020; Parry, 2020; Farnia, *et al.*, 2020).



Figure_9: The four coronavirus sub-species' group targets of animals

(Malik, *et al.*, 2020)

- **Canine hepatozoonosis:** caused by Hepatozoon spp that is transmitted to other dogs by ticks (Allen, *et al.*, 2008; Díaz-Sánchez, *et al.*, 2021) that later suffer from weight loss, fever, blindness, pain all over their body, difficulty to move and lethargy (Ewing and Panciera, 2003)

2.2.4. Dangers and annoyance from free roaming animals

The most common dangers are the **traffic accidents** that cost both animal and human lives (Figure_10) (Broom, 2019; Mohanty, *et al.*, 2020).



Figure_10: Photos of Stray dogs' street accidents

(<http://www.esdaw-eu.eu/the-stray-dogs-in-europe.html>)

Other danger from roaming animals is **the environmental impact** because of their fecal parasites' deposition on the soil and grass at public places (Núñez, *et al.*, 2014) even threatening the human health (Regidor-Cerrillo, *et al.*, 2020), their messing up of the

garbage (Figure_11) or the threats on other species' populations' elimination from roaming animals' attacks (Lepe, *et al.*, 2017; Doron, 2020; <https://www.onegreenplanet.org/animalsandnature/stray-dogs-and-cats-harming-wildlife/>) and bites, especially when they form herds (Figure_12), their behavior becomes violent to other dogs, animals and people (<https://dharamsalaanimalrescue.org/projects/abcar-project/>; <https://dharamsalaanimalrescue.org/dog-population-management-plan-in-dharamsala/>).



Figure_11: Photos_of Stray_dogs_messing_up_garbage

(<http://www.esdaw-eu.eu/the-stray-dogs-in-europe.html>)

Usually the large-sized male dogs form herds (Fig 12) that cause fear to others. The male dogs' attitude becomes more aggressive during the mating season, in early spring and late summer, that they attack other animals and humans, belonging or not to a herd (Sabo *et al.*, 2008; Isek, Umoh, & Dzikwi., 2019). The result of a dog's attack might not only result to some person's physical injury or to his/her disease infection (Akpinar, *et al.*, 2015; Minhas, *et al.*, 2018), but also to that person's future fear to any other dog (Peters *et al.*, 2004; Schalaman *et al.* 2006; Keuster *et al.*, 2006; Alabi *et al.*, 2014; Okeme *et al.*, 2020) plus to him/her going under generalized stress outdoors (Dhillon, Hoopes & Epp, 2018) or even cultivating low animal love for the rest of his/her life.



Figure_12: Photos_of Stray dogs' herds_in_Romania_and_in_Greece_(Kilkis)

(<http://www.esdaw-eu.eu/the-stray-dogs-in-europe.html>; <https://www.eidisis.gr/topika-neatoy-n-kilkis/ageli-adespoton-skylon-eisebale-sto-kilkis-kai-apomakrynthike-me-prospatheies-toy-dimoy.html>).

Annoyance from free-roaming animals can be the **neighborhood disruption (barging, fighting etc.)** because of the dogs' need to express their territorial domination (<https://dharamsalaanimalrescue.org/dog-population-management-plan-in-dharamsala/>; <https://dharamsalaanimalrescue.org/projects/abcar-project/>) or from starvation, which became more intense at time of quarantine due to COVID-19 (<https://www.four-paws.org/our-stories/blog-news/covid-19-and-stray-animals>), an issue coped after the local Animal_Welfare_Associations' Volunteers great efforts, such as PETA_(People_for_Ethical_treatment_of_Animals) (Figure_13) (<https://pfpo.gr/>; <https://hellenicanimalwelfare.org/contact/>; <https://saveagreekstray.org/en/>; <https://www.peta.org/about-peta/faq/what-should-i-do-if-i-find-feral-or-stray-animals/>).



Figure_13:PETA_Offers_services_to_animals_as_locally_as_possible

(<https://www.peta.org/about-peta/faq/what-should-i-do-if-i-find-feral-or-stray-animals/>).

2.3. Health_and_Safety_risks_from_stray_animals_in_Greece

2.3.1. Rabies_in_Greece

In Greece, during and soon after WW II, same as in plenty other European countries, the number of free-roaming, non-vaccinated against rabies, dogs burst same as the mutual incidents to humans. The last animal found infected from rabies was in 1987 in the prefecture of Evros, close to the borders of other Balkan countries (Tsiodras,*et al.*, 2014). Wild wolves and foxes contributed to the spread of this virus (King, Aubert_and_Wandeler, 2004) same as during the period before 2012 where the

neighboring countries indicated cases of 45 rabies' infected wild animals on the total, up to January of 2014. It is worth to mention that 39 of the cases were wild red foxes, while 4 of them were dogs of North of Greece, plus two domestic cattle ones, in Kilikis province. The 6 final incidents were crucial since they were related to animals close to man. No other case was detected since 2014, because of wild life's oral (*per_os*) vaccination, dropped from helicopters to the surrounding mountains of northern Greece (Tsiodras,*_et_al.*,_2014; Tsiodras,*_et_al.*,_2013).

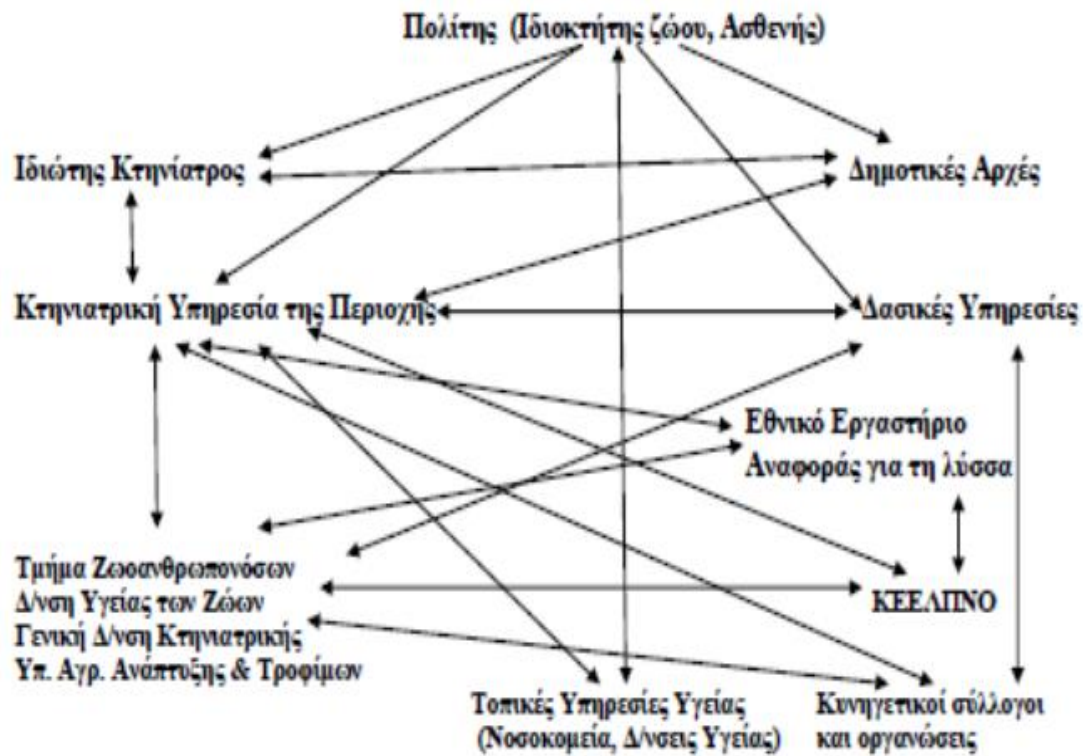


Figure 14: *Per_os* vaccines against rabies of wild life

(Rabies' _prevention_Manual-MADF,_2013).

Nowadays, when (usually) a dog bites someone, it is important that the animal is spotted, the soonest the possible, in order to be quarantined and examined for rabies' symptoms, for at least 14 days, counting the bite's day as the starting point (JMD,_2013; MRDAF,_2013; Tsiodras,*_et_al.*,_2014). If the vet edits a written negative dog's behavior and health diagnosis, the animal is euthanatized, but after a positive one, it is mandatory for the animal to be returned to the capturing spot, unless the kind of the area is excluded by law (e.g. a school or hospital). In such a case, a 5member committee has to take a decision about the animal's luck (L.4039/12). In disagreement among the committee's members, the final decision has to be taken by a special 3member vet committee. All the information about the dog's attacks is being provided to municipal officials through official documents originated from other civil bodies. Those documents include some animal's description (color, size, race etc.), an animal that no employee has seen and how it looks like is based on the words of the attacked citizens plus the subjective judgment of the official who writes the document (policemen,

medical personnel, etc.). Aggressive animals are difficult to be detected when their description varies. All the above secretarial support, to both committees, constitutes an extra duty to the stray animals' service.



Figure_15: _Communication_routes_of_a_dog_bite_incident

(Rabies'_Prevention_Manual:MADF,_2013).

2.3.2. Parasites of stray companion animals in Greece

The large number of parasites found in free-roaming dogs and cats in Greece indicate the importance of their population's control plus the application of regular parasitic programs to stray dogs and cats.

- *Parasites_of_Stray_Dogs_in_Greece*

A large number of parasites of different species, have been indicated in free-roaming dogs in Greece (Kostopoulou,*et al.*,2017), plenty of which are zoonotic or act as vendors of such pathogens:

Stray Dogs' Endoparasites: The most common dog endoparasites are ***Giardia spp.***, ***Ancylostoma/Uncinaria spp.***, ***Toxocara spp.*** (Kostopoulou,*et al.*, 2017; Diakou,*et al.*, 2019), ***Cryptosporidium spp.***, ***Cystoisospora spp.***, ***Toxascaris leonine***, ***Capillaria spp.***, **taeniid eggs**, ***Dipylidium spp.***, ***Strongyloides spp.*** (Kostopoulou,*et al.*, 2017), ***Leishmania infantum***, ***Hepatozoon canis***, ***Mycoplasma haemocanis*** (Hofmann,*et al.*, 2019), **enzootic Nematodes *Dirofilaria immitis***, ***Dirofilaria repens*** (Diakou,*et al.*, 2016, 2019) and ***Ancylos-tomatidae***, ***Ehrlichia canis***, ***Babesia canis*** (Diakou,*et al.*, 2019).

Stray Dogs' Ectoparasites: **Ticks** are vendors of ***Rhipicephalus spp.***, ***Haemaphysalis spp.***, ***Cercopithifilaria bainaie***, ***Hepatozoon canis***, ***Rickettsia spp.*** (Latrofa,*et al.*, 2017; Diakou,*et al.*, 2019), ***Hepatozoon felis***, ***Rickettsia massiliae***, ***Theileria ovis***, ***Anaplasma spp.*** (Latrofa,*et al.*, 2017; Diakou,*et al.*, 2019), **Coxiellalike-endosymbiont** (Latrofa,*et al.*, 2017).

- ***Parasites of Stray cats in Greece***

A large number of parasites of different species, some of which are zoonotic, have been indicated in free-roaming cats in Greece (Lefkaditis,*et al.*, 2015; Diakou,*et al.*, 2017; Kostopoulou,*et al.*, 2017; Mylonakis,*et al.*, 2018), a lot of which can be zoonotic and cause public hazards.

Stray cats' Endoparasites: ***Toxoscara spp.*** (Kostopoulou,*et al.*, 2017; Mylonakis,*et al.*, 2018; Symeonidou,*et al.*, 2018), ***Dipylidium caninum*** (Mylonakis,*et al.*, 2018; Symeonidou,*et al.*, 2018), ***Bartonella spp.*** (Mylonakis,*et al.*, 2018), ***Rickettsia spp.***, ***Leishmania infantum*** (Diakou,*et al.*, 2017), ***Ehrlichia spp.***, ***Anaplasma spp.***, ***Babesia spp.***, ***Cytauxzoon spp.***, ***Mycoplasma spp.*** (Diakou,*et al.*, 2017; Mylonakis,*et al.*, 2018), ***Giardia spp.***, ***Cystoisospora spp.***, ***Ancylostoma/Uncinaria spp.***, ***Cryptosporidium spp.***, ***Capillaria spp.***, **taeniid eggs**, ***Hammondia/Toxoplasma*** (Kostopoulou,*et al.*, 2017;

Symeonidou,*et al.*,_2018), **lungworms** (Diakou,*et al.*,_2015),

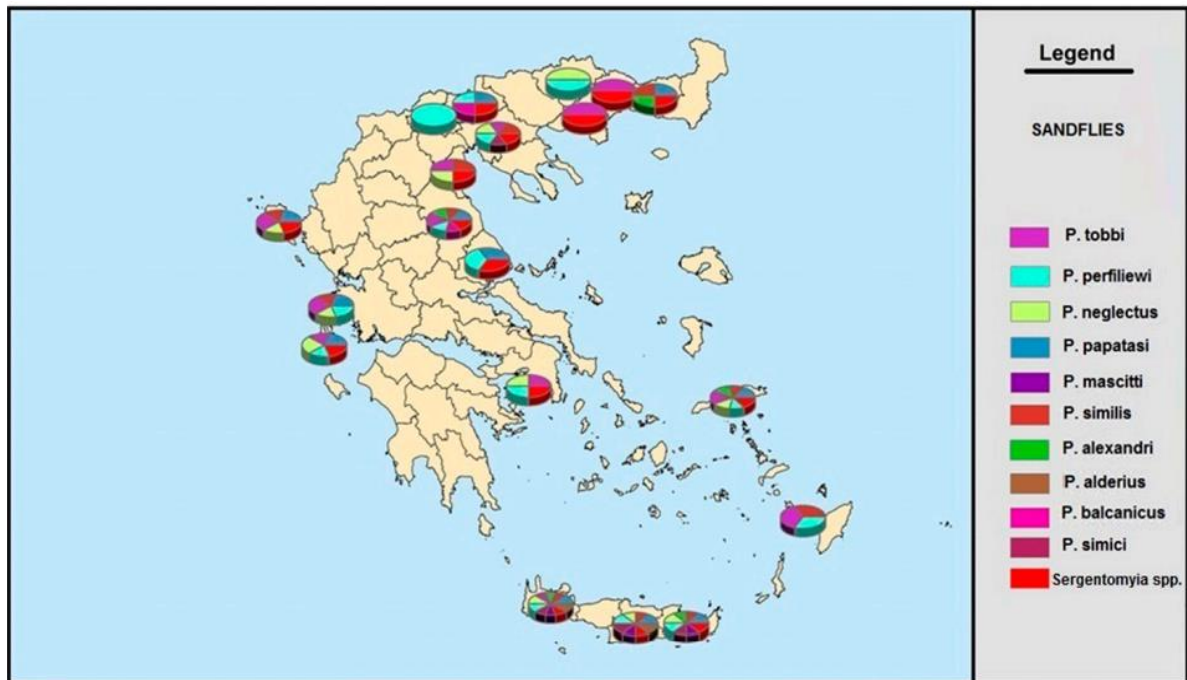
Aelurostrongylus abstrusus, ***Joyeuxiella pasqualei***, ***Capillaria aerophile***,

Troglostrongylus brevior (Symeonidou,*et al.*,_2018).

Stray cats' Ectoparasites: The most common ones are **lice**, such as *Felicola subrostratus* (Lefkaditis,*et al.*,_2015), **ticks**, such as *Rhipicephalus sanguineus* (Lefkaditis,*et al.*,_2015), **fleas**, such as *Ctenocephalides felis* (Lefkaditis,*et al.*,_2015) and **mites**, such as *Otodectes cynotis*, *Notoedres cati*, *Cheyletiella blakei* (Lefkaditis,*et al.*,_2015).

2.3.3. Leishmaniasis_in_Greece

One of the most important species of *Leishmania* parasites susceptible to be transferred in a broad scale not only to stray animals and domestic ones, but also to humans, starting from the active members of Animal_Welfare_Associations, is the *Leishmania tropica*, using the mosquito called *Phlebotomus similis*, found in some Greek areas (Figure_16) (Ntais,*et al.*,_2013).



Figure_16: Spatial_Presentation_of_sand_flies_in_Greece_(distribute_Leishmania_spp.)

(Ntais,*et al.*,_2013).

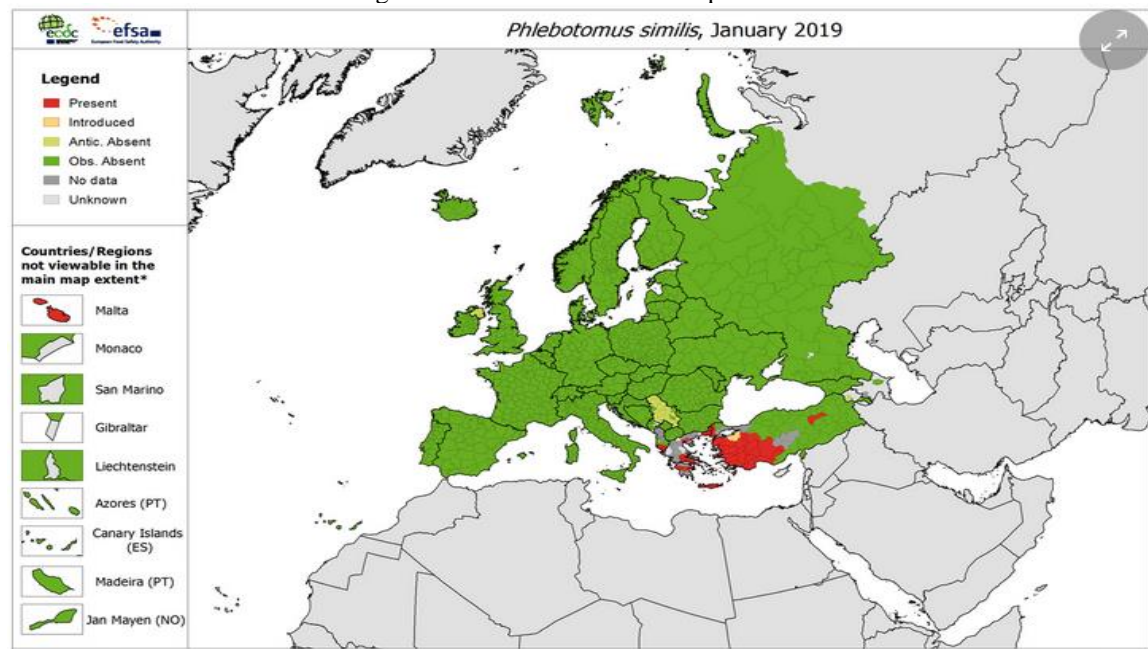


Figure 17: *Phlebotomus similis* mosquito distribution (EU *Leishmania tropica* transfer)

(Ntais, *et al.*, 2013; <https://www.ecdc.europa.eu/en/publications-data/phlebotomus-similis-current-known-distribution-january-2019>)

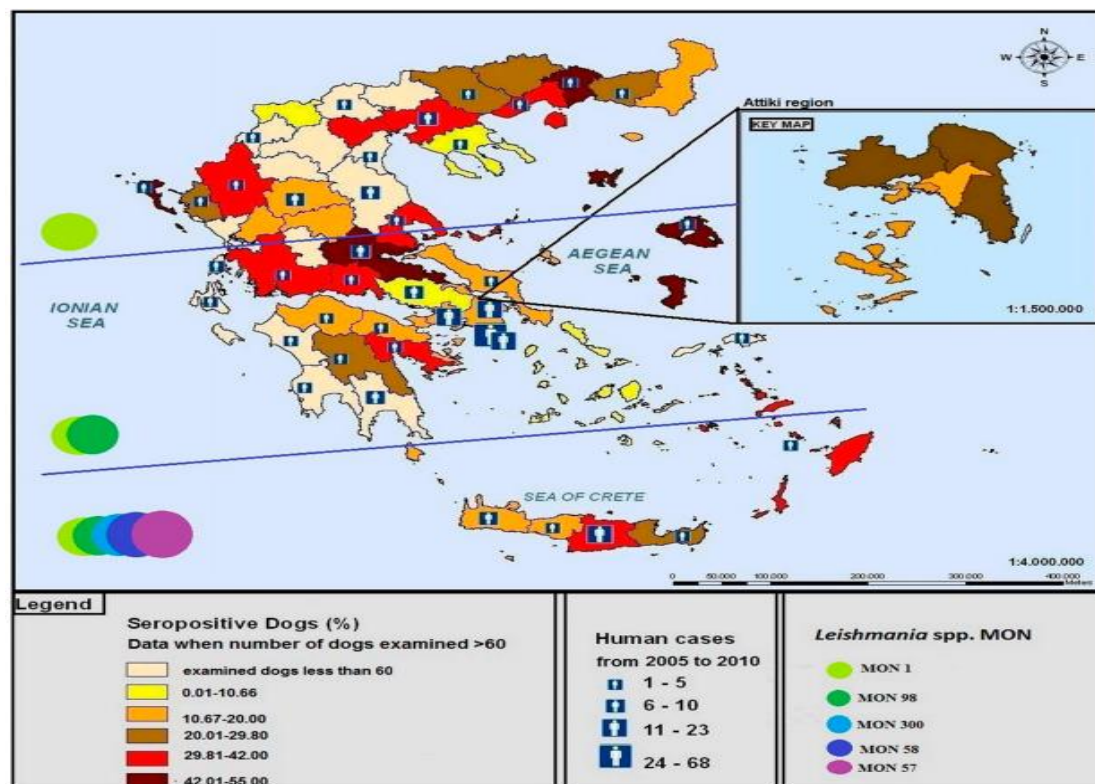


Figure 18: Spatial presentation of human leishmaniasis in Greece

(Ntais, *et al.*, 2013).

There is one zoonotic species of *Leishmania* in Cyprus *L. donovani* and three in Greece (*L. tropica*, *L. infantum*, *L. major*) despite it is a tropical and sub-tropical disease (Figure_17) (Ntais,*et al.*,_2013) being distributed by the contribution of sand flies (Figure_18) (Ntais,*et al.*,_2013).

2.4. Adoption_routes_of_stray_dogs_and_cats_in_Greece

2.4.1. Adoption_routes_of_stray_dogs_and_cats_in_Greece

Apart from birth control programs of stray dogs and cats and rehoming of lost animals, the population of free-roaming companion animals can decrease by the support and enhancement of adoption programs (Cannas,*et al.*,_2014; Spencer,*et al.*,_2017; Talamonti,*et al.*,_2018; Turkena,_Carrillo_and_Paul,_2020; <https://www.liberal.gr/apopsi/oi-filozoikes-organoseis-ekpempoun-sos/315394>).

Based on the existing legal frame (L.4039/12, D.2963/87735,_2015; 2047/68259,_2016; 174/30192,_2018; 569/90358,_2018; 1316/125933,_2019), there are different routes of companion animals' adoption in Greece according to the origin of it.

- **Adopting_a_free_roaming_animal**

Such an animal is detected either by a capturing crew (municipal/private) or by members of the AWA, in the administrative boundaries of the municipality in question. The animal has to enter the municipality's management program of strays and eventually have a file at the national data base of the MINAGRIC, after being electronically marked and thus, be declared as a temporary owned animal by the Municipality.

The animal is only given to adoption after a citizen's application to a municipality and co-signs a special adoption declaration with the relevant co-maire.

The relevant municipal strays' services have to accept any citizen's written information about the existence of a free-roaming animal (569/90358,_2018), including the potential of referring to an actually owned, but not declared, animal, that municipal employees are not able to be aware of.

The municipal officials are obliged to observe any repeating interest of certain citizens, not excluding the AWAs' members; if no tracing of the animal's luck is feasible, they have to withdraw any further strays' adoptions to the person in question.

According to the above legal frame, checking the tracing of an animal's luck, also includes watching any further adoption in a short period, to catch up with possible illegal action; to do so, the employee has to periodically enter the national base of companion animals' data for each of the adopted animals or even possibly visit the new owners' residence to look for the animal itself.

- **Adopting_an_owned_but_not_electronically_marked_animal**

For an owned but not electronically marked animal, the keeper is obliged to take the animal to a private veterinary, who is, in turn, bonded to inform the closest municipality so as to declare it as a stray one. The keeper, in order to become an official owner, has to co-sign an adoption declaration, with the relevant co-maire, as if the animal was a stray one (569/90358,_2018). At this point it is implied that the animal would be included to the municipal stray animals' management program, otherwise it would not be included to the NBCA of MINAGRIC, and thus, be sterilized, before being adopted (L.4039/12; D.887/63969,_2019).

- **Adopting_an_owned_and_electronically_marked_animal**

Although an adoption of an electronically marked animal represents an owner's change name in the NBCA and would be reasonable not to be related to the municipality, it is actually mandatory to follow the same steps as described for a non-electronically marked animal and thus, be initially declared to the municipality and then to the second owner (569/90358,_2018). This presupposes the animal's neutering via the municipality's special program such as any other stray animal being included in the NBCA on the name of a municipality (L.4039/12; D.887/63969,_2019).

2.4.2. Adoption_of strays from Greece to EU countries

During the last five years, in central Europe there is a tendency to adopt stray animals from Greece (<https://www.sofokleousin.gr/greekish-nea-tasi-stin-eyropi-i-yiothesia-adespoton-apo-tin-ellad>).

The only international data for companion animals, adopted abroad, is derived from the Trade Control and Expert System of coding (TRACES) of EU countries, including a health certificate; it refers to animals traveling in groups of more than five ones for non-commercial reasons. TRACES is an on-line system/platform to check if sanitary obligations are properly applied, to every step of the transport of productive animals and animal products, with the exception of companion animals traveling non-accompanied (COUNCIL_DIRECTIVE_65,_1992; PD_184,_1996; D.2963/87735,_2015). The related legal frame is confusing (art.1, PD_184/1996) while the majority of Hellenic Veterinary Services do not issue TRACES codes for the transportation of pets being adopted abroad. This denial on behalf of the specific services results in having animal welfare organizations being accused for illegally moving animals abroad (since they are forced to choose to sending animals away without TRACES but only with a health certificate, being acceptable abroad), in order to earn money than save them. The whole situation emerges doubts to the rest of the Greek citizens about AWA's work and adoptions' legality abroad (<https://freesunday.gr/planet/item/28546-pagkosmia-hmera-adespotwn-zwwn-yiothesies-sto-exwteriko>).

2.4.3. Strays' Adoption from Greece to USA_2nd_usual_destination

The next usual adaptation destination of stray dogs or cats from Greece to other countries are the USA after the EU's ones (<https://www.aphis.usda.gov/aphis/pet-travel/bring-pet-into-the-united-states/pet-travel-dogs-into-us>; <https://www.cdc.gov/importation/bringing-an-animal-into-the-united-states/dogs.html>). Although it is reasonable for imported dogs and cats to USA to bring a health certificate, the ones coming from Greece are excluded (<https://www.cdc.gov/importation/bringing-an-animal-into-the-united-states/rabies-vaccine.html>; <https://www.aphis.usda.gov/aphis/pet-travel/bring-pet-into-the-united->

[states/pet-travel-cats-into-us](#)) unless it is a matter of the airlines' regulations, especially for cats (<https://www.cdc.gov/importation/bringing-an-animal-into-the-united-states/cats.html>). Although the potential for stray dogs' and cats' adoption is high to USA, it is not a preferable destination of promoting stray companion animals from Greece may be because of USA's legal frame and shelters' tactic that still prefer euthanasia than keeping them in the shelters until their adoption (Woglom, 2013; <https://eu.news-journalonline.com/story/lifestyle/pets/2020/09/29/animal-shelters-u-s-still-euthanize-pets-fight-overcrowding/3523111001/>; <https://trihs.gr/stin-ameriki-ekatommiria-skili-ke-gates-ipovalonte-kathe-chrono-se-efthanasia-giati-kapoi-ine-akoma-kata-tis-stirosis/>; <https://www.asPCA.org/animal-homelessness/shelter-intake-and-surrender/pet-statistics>; <https://www.nytimes.com/2019/09/03/upshot/why-euthanasia-rates-at-animal-shelters-have-plummeted.html>) apart from the difficulty of the longer distance that an animal would have to manage to reach this country.

Chapter_3_Stress/Stressors

People are often complaining that they are stressed because of the high workload, they cope with, due to the intense or even overtime work and their family responsibilities. Surveys are being performed focusing on the nature and the level of work being the most important source of employees' stress or even their burnout (Maslach,_Shaufeli_and_Leiter,_2001; Robbins_and_Judge,_2012).

3.1. Definitions

General_Stress

Is a state that an individual is called to face sometimes and it includes a series of situations starting from positive ones, such as an opportunity, to negative ones, such as burnout. Both extreme situations presuppose the person's maximum effort (Robbins_and_Judge,_2012).

Working_stress

It is a complex situation, workforce (worker or employee) have to occasionally face at the working environment. When this happens for a long period of time at such a level that the person is no longer able to handle, it can affect not only the person's productivity the negatively but even hurt his/her health (Maslach,_Shaufeli_and_Leiter,_2001; Robbins_and_Judge,_2012).

Stressors

Are the factors causing stress at such a level that the latter dominates one's performance either the positive or the negative way. Stress at work is not an exception (Robbins_and_Judge,_2012).

Work_Overload

It expresses the situation of an employee whose tasks are, for some reasons, increased at such a level that the change becomes disastrous to the employee's ability to succeed in any task, applying the usual ways to follow up and explain things using the usual norms (Davenport,_1999).

Mobbing

Is synonymous to bullying, the latter usually used to children's cases, describing the same phenomenon among adults. For the person who it refers to, mobbing is like an emotional crisis (Davenport,_1999).

Burnout_Syndrome

Expresses the upper stage of stress and work overload; it represents employees' exhaustion out of a variety of reasons ending up to a syndrome which includes strains to one's psychological status, personality and success (Sears,_Urizar_and_Evans,_2000). Burnout is so strong that it is highly related to one's will to either resign nor be committed to his/her job (Maslach,_Saufeli_and_Leiter,_2001; Alarcon,_2011; Harder,_Gouldthorpe_and_Goodwin,_2015).

3.2. Working Stress and Stressors' Categories–Consequences

Work related stress is being studied for more than fifty years and there are several theories and models developed according to the point of view they approach and interpret the occupational stress, mainly focusing to the causing factors and the outputs received (Krohne,_2002; <https://sallypezaro.wordpress.com/2018/03/22/theories-of-work-related-stress/comment-page-1/>).

3.2.1. Stressors' Categories

They are generally divided into **Challenge-stressors or workload-and-time-pressure stressors** being related to high work amount, the pressure to finish projects, etc. (Robbins_and_Judge,_2012; Van_Oortmerssen,_Caniëls_and_Van_Assen,_2019) and **Hindrance-stressors**, related to factors putting obstacles to success such as bureaucracy, bad employees' relationships, etc. (Robbins_and_Judge,_2012; Van_Oortmerssen,_Caniëls_and_Van Assen,_2019).

Statistics show that inhibitory-stressors cause more intensity than challenge ones and that they interact with each other in such a way that when the Hindrance ones increase,

the challenge ones increase, too (Robbins_and_Judge,_2012; Van_Oortmerssen,_Caniëls_and_Van Assen,_2019).

According to who they refer to, stressors are also categorized in to **individual's (Inner) stressors such as a person's and environment's (Outer) Stressors.**

Individual's (Inner) stressors usually refer to the person's sensitive temperament, any family obligations of his/her (Fedáková_and_Dobeš,_2014), the age, gender and/or lack of proper education to the job he/she is called to manage (Karasek,_et_al.,_1982; Glendon,_Thomson_and_Myors,_2007; Robbins_and_Judge,_2012). In addition, individual stressors can be the person's increased role responsibilities and conflict (Surana_and_Singh,_2013), any confusion about his/her work responsibilities (ambiguity), the possible job insecurity and constraints and/or his/her performance appraisal (Karasek,_et_al.,_1982; Glendon,_Thomson_and_Myors,_2007; Robbins_and_Judge,_2012). It is also difficult for someone to cope with high proportion of job demands compared to tasks' control (Maslach,_Schaufeli_and_Leiter,_2001; Schnall,_Dobsona_and_Landsbergis,_2016), demands for high speed performance (Cieslak,_et_al.,_2020) and finally the person's poor ability to detach from work during his/her days off (Potok_and_Littman-Ovadia,_2013).

The environment's (Outer) stressors refer to any kind of external changes (departmental extension, funding, manager, etc) (Di_Nunzio,_et_al.,_2009; Harder,_Gouldthorpe_and_Goodwin,_2015), bureaucracy (Rey_and_Bastons,_2019), political games or organizational changes especially when are accompanied with environmental uncertainty, low Social and Technical Support and low resources together with high Demands and high Requirements (Leymann,_1996; Schabracq,_Winnubst_and_Cooper,_2003; Glendon,_Thomson_and_Myors,_2007; Robbins_and_Judge,_2012; Falcone,_2012). All the above can lead to lack of autonomy (Glendon,_Thomson_and_Myors,_2007; Di_Nunzio,_et_al.,_2009), or creativity (Di_Nunzio,_et_al.,_2009), low feedback/correspondence (Leymann,_1996; Schabracq,_Winnubst_and_Cooper,_2003; Glendon,_Thomson_and_Myors,_2007; Robbins_and_Judge,_2012; Falcone,_2012) and end up in monotony, routinization (Di_Nunzio,_et_al.,_2009), the managerial denial to be open or even show disbelief to staff (Glendon,_Thomson_and_Myors,_2007) nor cynicism

(Van_Oortmerssen,_Caniëls_and_Van_Assen,_2019). The situation is worst when managers are unethical/dishonest and dis-organized (Glendon,_Thomson_and_Myors,_2007) even expressing abusive behavior (Li,_He_and_Sun,_2020) resulting in lack of trust between them and the human resources (Rey_and_Bastons,_2019; Glendon,_Thomson_and_Myors,_2007). When mobbing occurs, there is lack of respect and collaboration, the employees become ignored, isolated or even resign from their job, etc. (Davenport,_et_al.,_1999; Cornoiu_and_Gyorgy,_2013; <https://work.chron.com/types-abuse-workplace-11426.html>; <https://bullyonline.org/old/workbully/amibeing.htm>). All the above can result to tensed attitudes in the working place (Leymann,_1996; Schabracq,_Winnubst_and_Cooper,_2003; Glendon,_Thomson_and_Myors,_2007; Robbins_and_Judge,_2012; Falcone,_2012). The environmental stressor become high when the job requires regular conduct with citizens/customers as a front-line employee (Di_Nunzio,_et_al.,_2009) and when the latter receive low reward/recognition compared to the overload they are called to face (Di_Nunzio,_et_al.,_2009; Schnall,_Dobson_and_Landsbergis,_2016).

3.2.2. Stressors' Consequences to the individual

High and intense working stress can cause **organic, psychological and behavioral symptoms** to an employee when its level overcomes the individual's boundaries of defense. **Organic symptoms because of stress** include various psychosomatic health problems, such as heart-diseases (such as high blood-pressure, heart-attack), loss of control of hormone levels (such as high respiratory rate, dyspnea, dysphoria, feeling warm up to sweating or cold with no reason), gastro-intestine and kidney disorders (such as ulcers, stomach aches, loss of appetite, metabolic changes ending up in obesity or weight loss), general irritability (such as skin and eye allergies, mouth and eye dryness, headaches, dizziness, insomnia), poor immune system (susceptibility to upper respiratory, cancer), sleeping problems (loss of enough sleep, nightmares), Musculoskeletal disorders (carpal tunnel syndrome) (https://core.ac.uk/reader/52413222?utm_source=linkout; Hulkkonen,_et_al.,_2020; Davenport,_et_al.,_1999; Schabracq,_Winnubst_and_Cooper,_2003; Robbins_and_Judge,_2012). **Psychological Symptoms because of stress** include low

self-efficacy/confidence (difficulty in making routine decisions, poor learning, short memory), tensed/anxious behavior (nervousness, irritability, crying, panic attacks or generally being easily fearful of simple actions such as driving, loss of focusing even to cope with simple tasks, depression, grieve), job-dissatisfaction (low interest/focus, boredom, procrastination/postponeness, feeling of low well-being, low life-satisfaction) (Leymann,_1996; Davenport,_et_al.,_1999;

Schabracq,_Winnubst_and_Cooper,_2003; Judge,_2012; Cornoiu_and_Gyorgy,_2013; Fedáková_and_Dobeš, 2014; Vuori,_et_al.,_2014;).

Behavioral Symptoms because of stress are hard to distinguish from the psychological ones; they include low performance (lack of concentration, momentum in accidents) poor team-member behavior (low co-operation with colleagues, denial to communicate, being characteristically late, presenteeism - going to work but not actually working), negative behavior (negative, aggressive, suspicious, choosing resignation/expulsion, becoming silent, talking less or speaking slowly/rapidly/nervously than before, nervously moving, being self-isolated, mourning behaving, not being cautious with outer appearance or personal hygiene), starting bad habits (tobacco consuming, smoking, drinking alcohol, eating more) or altering habits (doing excessive or no exercise) (Leymann,_1996; Davenport,_et_al.,_1999; Schaufeli,_Leiter_and_Maslach,_2009; Robbins_and_Judge,_2012; Cornoiu_and_Gyorgy,_2013; Yildirim,_Saygin_and_Uguz,_2014; Gavin,_et_al.,_2015).



Figure 19: Being silent as a reaction to working stressors

(Davenport, *et al.*, 1999)

3.2.3. Stressors' Consequences to the organization

PSYCHOSOCIAL AND FINANCIAL COSTS		
Impact on	Psychosocial Costs	Financial Costs
INDIVIDUALS	<ul style="list-style-type: none"> • Stress • Emotional illness • Physical illness • Accidents • Disability • Isolation • Pain of separation • Loss of job-identity • Loss of friendships • Suicide/homicide 	<ul style="list-style-type: none"> • Over the counter medication • Therapy • Doctor bills • Hospital bills • Cost of Accidents • Insurance premiums • Lawyer bills • Unemployment • Underemployment • Job Search • Relocation
FAMILIES	<ul style="list-style-type: none"> • The pain of feeling helpless • Confusion and conflicts • Pain of separation and/or divorce • Impact on children • The costs of separation or divorce 	<ul style="list-style-type: none"> • Loss of family income • The costs of separation or divorce • Therapy
ORGANIZATIONS	<ul style="list-style-type: none"> • Dissent • Diseased corporate culture • Poor morale • Curtailed creativity 	<ul style="list-style-type: none"> • Increased use of sick leave • Costs of higher turnover • Lowered productivity • Lowered quality work • Loss of expertise • Workers' compensation payments • Unemployment costs • Legal/settlement costs • Early retirement • Increased personnel management costs
SOCIETY/ COMMUNITY	<ul style="list-style-type: none"> • Unhappy members of society • Political apathy 	<ul style="list-style-type: none"> • Health care costs • Insurance costs • Loss of taxes due to un- or underemployment • Increased demands on public assistance programs • Increased demands on community mental health programs • Increased demands on disability

Table_5_ Mobbing's Costs to individuals, families, organizations and society

(Davenport, *et al.*, 1999)

Some of the most common consequences of work stressors the whole organization faces are the fewer, worst or delayed work produced (Davenport, *et al.*, 1999), the working environment becomes unpleasant (conflicts among employees, dissatisfaction, human resources divided in cliques, etc.) (Davenport, *et al.*, 1999), the number of people to

working place is being eliminated due to sick leave or resignation and there is the sense of a dis-organized place (Schaufeli,_Leiter_and_Maslach,_2009; Davenport,_et_al.,_1999) and a non-co-operative climate because of the low knowledge shared among employees (Gagne',_2009; Ciftcioglu,_2011; Tsirikas,_et_al.,_2012). All the aforementioned cause extra costs to the organization because of possible work output delays, insurance paid to sick people, court costs from dissatisfied employees, etc (Davenport,_et_al.,_1999).

3.3. Work_Overload,_Mobbing_and_Burnout_Syndrome

3.3.1. Work_Overload

Work overload is one of the most serious factors causing prolonged stress and eventually a physical burnout syndrome (Surana_and_Singh,_2013). It occurs when someone is called to cope with a lot in a short time (Maslach,_Schaufeli_and_Leiter,_2001) which feels worst when tasks are shared unfairly, the employee's values are violated or the demands are high enough to affect his/her personal / family life. In addition, the employee is not only disappointed that his/her opinion does not count, but also he/she receives no recognition (<https://www.mindgarden.com/documents/Maslach-Burnout-Toolkit-for-Human-Services-Intro-Sheet.pdf>). An overloaded staff is unable to avoid mistakes and a gradual worsening stress level.

3.3.2. Mobbing

When an employee becomes a mobbing receiver, which usually includes a high psychological negative pressure on him/her (more often through the oral route), this leads to that person's feeling of being hurt or even emotionally abused, treat with poor justice, insulted, discriminated and finally becoming isolated. Such attitudes, most of the times, originate from an insecure manager to a modest subordinate (Davenport,_1999; Cornoiu_and_Gyorgy,_2013) not excluding the opposite, too, in rare cases though (Glendon,_Thomson-and_Myors,_2007). The mobber might either

be a single person or even a group of colleagues. In the worst case, the mobbed person submits his/her resignation or becomes dismissed. The whole process turns to be a painful experience for the employee with a variety of psychosomatic health hazards (Davenport,_1999; Cornoiu_and_Gyorgy,_2013). Mobbing is usually the stage before a psychological burnout syndrome (Dikmetaş-Yardan,_Top_and_Ergin,_2011; Tosten,_Avci_and_Okcu,_2018).

3.3.3. Turnover_and_Burnout_Syndromes

Turnover/tension to resignation syndrome, is strongly related to the burnout syndrome. It usually represents the stage before a resignation or the employee's transition to a different position in the organization as a solution after recognizing the situation (Wallace,_Eagleson_and_Waldersee,_2000). It constitutes **an era's phenomenon**. It is one of the results of a prolonged occupational stress and constitutes an object to a broad pallet of scientific studies, theories and measurement models (Chirico,_2016; Sung,_2020), since it is thought being a serious pathogenic situation to make individuals, organizations, health sector, governments etc., be worried and aware about it (Kaschka,_Korczak_and_Broich,_2011). When someone undergoes burnout syndrome, he expresses a non-willing to focus on work-tasks, thus resulting in projects postponed, mistakes, tasks forgotten, absenteeism or lateness to work etc. (Schabracq,_Winnubst_and_Cooper,_2003), gradually reduced accomplishment to depersonalization until exhaustion (Maslach,_Schaufeli_and_Leiter,_2001), suppressed responsibility, tension to quit and of low flexibility in addition to health problems such as Cardiovascular disease (CVD) (Schnall,_Dobson_and_Landsbergis,_2016), amongst other serious issues (Schabracq,_Winnubst_and_Cooper,_2003); all the above do not only affect the person itself but the whole organization, too (practically and financially) plus the remaining staff because they are called to bear the work load left. Nowadays, there are people who undergo high pressure at work which is expressed from losing energy until frustration (Surana_and_Singh,_2013; Taris,_2006).

In the most recent studies, burnout syndrome is categorized not only to pathological cases but to forms of depression (Bianchi,_Schonfeld_and_Laurent,_2015), mostly because such people believe it is hopeless to expect any positiveness in both their

working and personal life (Kapusuz_and_Çavuş,_2019); they actually find much of motivation to encourage themselves contribute to their tasks' improvement (Schaufeli,_Leiter_and_Maslach,_2008; Kapusuz_and_Çavuş,_2019). There is also skepticism that burnout syndrome is the result of the employee's mistrust of the organization's values (Albrecht,_2002). **The most important and usual factors leading to burnout**, include the stress causing factors, described in the previous chapter, after reaching high levels of time and tension; burnout contributors can be both **environmental and individual** ones, with the former being the most serious ones (Kaschka,_Korczak_and_Broich,_2011; Galletta,_et_al.,_2016; Rahim_and_Cosby,_2016; Kapusuz_and_Çavuş,_2019) determining the bearing limits. Burnout can be caused by the nature of the job with the most serious being the front-line positions, especially in the public sector (Maslach,_Schaufeli_and_Leiter,_2001). Excessive tiredness can result from a bad organization's system, an unpleasant work unit climate in combination with the individual's sensitivity, needs and values (Glendon,_Thomson_and_Myors,_2007; Harder,_Gouldthorpe_and_Goodwin,_2015). More specifically, a disorganized working environment might mean the lack of resources with high demands and a synchronous low response on behalf of the organization (Alarcon,_2011). In addition, a frustrating senior management attitude plus any kind of organization's change (Albrecht,_2002; Glendon,_Thomson_and_Myors,_2007) can lead to mistrusting the organization's operation and affect the quality of people's relationships, including the ones between superiors and subordinates (Maslach,_Schaufeli_and_Leiter,_2001; Glendon,_Thomson_and_Myors,_2007), destroying any team working spirit (Gagne',_2009; Ciftcioglu,_2011; Tsirikas,_et_al.,_2012), can all be important causes, individually or as a whole, of one's burnout. Finally, any prolonged involvement with clients or colleagues (Ciftcioglu,_2011) or intense mobbing (Tosten,_Avci_and_Okcu,_2018) can be burnout-origins.

Internal (personality-related) and external (environmental) etiological factors for burnout	
• Internal factors/personality traits	
– High (idealistic) expectations of self, high ambition, perfectionism	
– Strong need for recognition	
– Always wanting to please other people, suppressing own needs	
– Feeling irreplaceable; not wanting/able to delegate	
– Hard work and commitment to the point of overestimation of self and becoming overburdened	
– Work as the only meaningful activity, work as substitute for social life	
• External factors	
– High demands at work	
– Problems of leadership and collaboration	
– Contradictory instructions	
– Time pressure	
– Bad atmosphere at work; bullying	
– Lack of freedom to make decisions	
– Lack of influence on work organization	
– Few opportunities to participate	
– Low autonomy/right to contribute opinions	
– Hierarchy problems	
– Poor internal communication (employers, employees)	
– Administrative constraints	
– Pressure from superiors	
– Increasing responsibility	
– Poor work organization	
– Lack of resources (personnel, funding)	
– Problematic institutional rules and structures	
– Lack of perceived opportunities for promotion	
– Lack of clarity about roles	
– Lack of positive feedback	
– Poor teamwork	
– Absence of social support	

Table_6_ Internal_and_External_factors_causing_work_burnout

(Kaschka,_Korczak_and_Broich,_2011)

Chapter_4_Stress_management,_Wellbeing,_Job_Satisfaction

4.1. Definitions

Stress_management

Low to moderate level of stress may enhance performance. For some employees, even such levels may cause unpleasant stress, though. Managers have to take in account any individual specificity in human resources' temperament and pose the less possible stress, high enough to stimulate employees' performance (Robbins_and_Judge,_2012).

Workers'_Health_and_Wellbeing

For most of the people, their life and health level constitute two of the most important job's and salary's aspects someone has while both components started being as much as important for the status of all forms of the broader social groups someone belongs to (Kahn_and_Juster,_2002; Warr,_1978,_1999).

Job_Satisfaction

Is the level of being fond of one's job that urges people to perform well in their working environment (Taheri,_Miah_and_Kamaruzzaman,_2020) and is determined by both environmental (external) and personal (internal) factors (Kocak,_et_al.,_2020).

4.2.Stress_Reduction_(Individual_and_Organizational)

Work stress has to be faced both as a single person's matter matching his/her character and as a whole organization's issue (Robbins_and_Judge,_2012; Cornoiu_and_Gyorgy,_2013).

4.2.1. Individual's Stress Management Approaches

A person can manage the stress, he/she experiences at work, by applying time management techniques such as editing lists after making a priority schedule of his/her work load, after its importance and necessity, and by being aware to evaluate his/her biological daily cycle and execute the most demanding work during his/her more productive time of the day (Davenport, *et al.*, 1999). In order to fight stress someone would feel better after increasing hi/her physical activity (walking, jogging, cycling, doing aerobics or even swimming when possible, while avoiding competitive exercise, etc.) (Davenport, *et al.*, 1999; Glendon, Thomson and Myers, 2007). In contrast, it could help if one gives systematical emphasis to his/her relaxing methods (yoga, meditation, etc.) (Glendon, Thomson and Myers, 2007; Robbins and Judge, 2012) or amusement time and kind of hobbies (drawing, playing theatre, cinema, singing in a choir, etc.) (Cornoiu and Gyorgy, 2013). Amusement can be also achieved by expanding one's social support networks (volunteering, membership in associations, chatting with friends, co-workers or family members, etc.). (Robbins and Judge, 2012; Cornoiu and Gyorgy, 2013). When mistakes are used to learn and improve oneself plus when the actual reasons of stress are balanced before resigning from the effort (Cornoiu and Gyorgy, 2013), stress can be eliminated and be used in a creative way.

4.2.2. Organization's Stress Management Approaches

Working stress preventing tactics for an organization are having clear Mission and Vision statements, emphasizing on objectives and values for everyone involved (Rey and Bastons, 2019) and creating a definite organization chart, with clear organizational levels and job/duties descriptions (Greguras, *et al.*, 2003). An organization should also establish a, detailed and feasibly applicable, regulation of its internal operation, preferably including feedback standards, support several regulation rules, an open multi-level communication system, fair discipline rules and continuous employees' education/training (Greguras, *et al.*, 2003; Wu, Wang and Mobley, 2012). The HR involvement in the organization's wellbeing, under emotional intelligence, would also be stress preventing. Further key

points for facing working stress are the strategy alternation by enhancing work control organizational culture (Schaubroeck_and_Merrit,_1997), modifying any necessary projects' requirements, applying a more realistic targeting and task/job/organizational planning/redesigning even by providing appropriate outsourcing, if necessary, by avoiding unnecessary changes, would rise employee engagement and result in a more meaningful and autonomous work, for the ones who can. Establishing an internal control service, specifying demanding goals/employees' roles, preventing or resolving cases of mobbing (downwards, horizontal and even upwards one) (<https://work.chron.com/types-abuse-workplace-11426.html>; <https://bullyonline.org/old/workbully/amibeing.htm>), also adapting conflict resolution procedures even by involving hiring outside advisors and counselors, would also prevent or fight working stress (Leymann,_1996; Davenport,_*et al.*,_1999; Murphy,_*et al.*,_2001; Topping,_2002; Lloyd,_2007; Glendon,_Thomson_and_Myors,_2007; Wu,_*et al.*,_2012; Robbins_and_Judge,_2012; Falcone,_2012; Cornoiu_and_Gyorgy,_2013).

Topic	Topic
Job analysis	Recruitment
Personnel selection	Training
Motivation	Leadership
Organisational socialisation	Work attitudes
Careers	Personality

Table_7_Most_common_survey_topics_predicting_job_performance_improvement

(Glendon,_Thomson_and_Myors,_2007)

4.3.Workers' _Health_and_Wellbeing_Four_Models

The strong relationships between job characteristics (auto-control, setting goals, sociality, skill utilization, topic-variety, clean and pleasant environment, satisfying salary, safety, social position, clarified demands, autonomy, ambition, enthusiasm) and mental and physical health/wellbeing of the workforce (Glendon,_Thomson_and_Myors,_2007) can be studied through specific models in order to enhance the employee's satisfaction for the job (Hackman_and_Oldham,_1976).

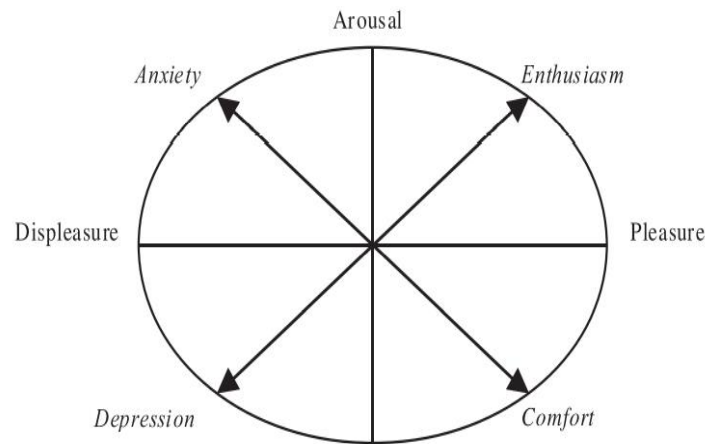


Figure 20: Pairs of feelings related to wellbeing

(Warr, 1999; Glendon, Thomson and Myors, 2007)

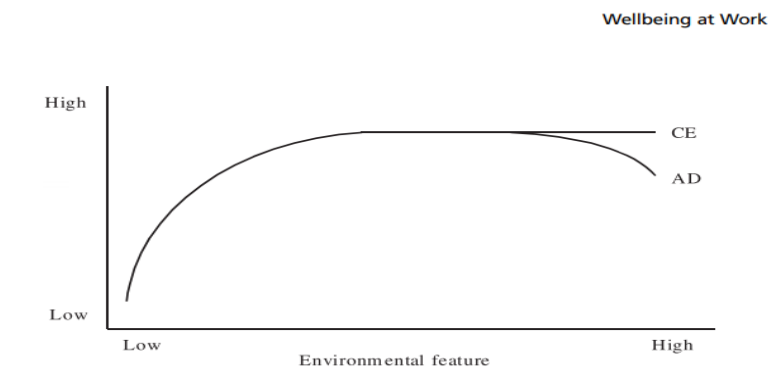
Warr's job feature	Similar terms
Opportunity for personal control	Decision latitude, job control, task autonomy
Opportunity for skill use	Skill use, required skills, use of valued abilities
Externally generated goals	Job demands, role conflict, role demands
Variety	Skill variety, task variety, non-repetitive work
Environmental clarity	Task feedback, low role ambiguity, task identity
Availability of money	Income level, amount of pay, material resources
Physical security	Low physical risk, absence of danger, good working conditions
Supportive supervision	Supervisory support, effective leadership, leader consideration
Opportunity for interpersonal contact	Contact with others, social support, friendship opportunities
Valued social position	Task significance, social rank, meaningfulness of job

Table 8: Terminology of Warr's most important job characteristics

(Glendon, Thomson and Myors, 2007)

The “**Job characteristics’ model**” aims on manipulating any outer stressors (Sauter, 1989). It focuses on some important job characteristics (varied skills, job importance/identity, feedback/autonomy, supporting the employee’s experience, position’s meaningfulness, outcomes’ responsibility and awareness of job’s results) to enhance other features (inner/outer) such as the motivation, satisfaction, avoidance of absence, tasks’ quality, improvement of individual’s progress through the "growth-need-strength" (GNS) of the person. The “**Demand–Control Model**” contributes into improving working life status by reducing work stress, enhancing the workforce’s

motivation and development – by combining someone directly with his/her working environment plus his/her task autonomy/free decision making and the tasks' demands (Glendon,_Thomson_and_Myors,_2007). HR weak control is indicated as strongly related to facing serious health deceases while when combined with high demands at work, a relationship to worst health problems arose (coronary heart disease, tension to commit a suicide) (Karasek,_et_al_,_1982). The “**Demand–Control–Support_Model**” is similar to the previous one but also includes the surrounding's support factor, and is divided into two more “sub-models” (Karasek & Theorell, 1990). It is considered as the easiest to handle and thus the less stressful (Bunce & West, 1996; Glendon,_Thomson_and_Myors,_2007). Last but not least, the “**Vitamin_model**”, which parallels working tasks to vitamins (required for the employee's health even to small amounts), and supports that when work tasks increase, they either leave the employee's health at the same level (like Vit C & E do) or decrease it (like Vit_A and D do) (Warr, 1994; Glendon,_Thomson_and_Myors,_2007).



Figure_21:Steadiness_(CE)/Decrease_(AD)_of_work's_wellbeing_by_the_Vitamin_Model

(Warr,_1994; Glendon,_Thomson_and_Myors,_2007)

4.4.Job_Satisfaction

It is tightly combined to productivity and together they are enhanced mainly by supporting individual and environmental factors (Kocak,_et_al.,_2020), some of which are either **individual or environmental factors** which both affect Job Satisfaction.

Some important **individual factors** affecting job satisfaction refer to employee's gender (Arslan,_Kaya_and_Cakır,_2017), salary he/she believes he/she worth's for, autonomy tension to organize his/her work (De_Jesus,_2018), interest of his/her

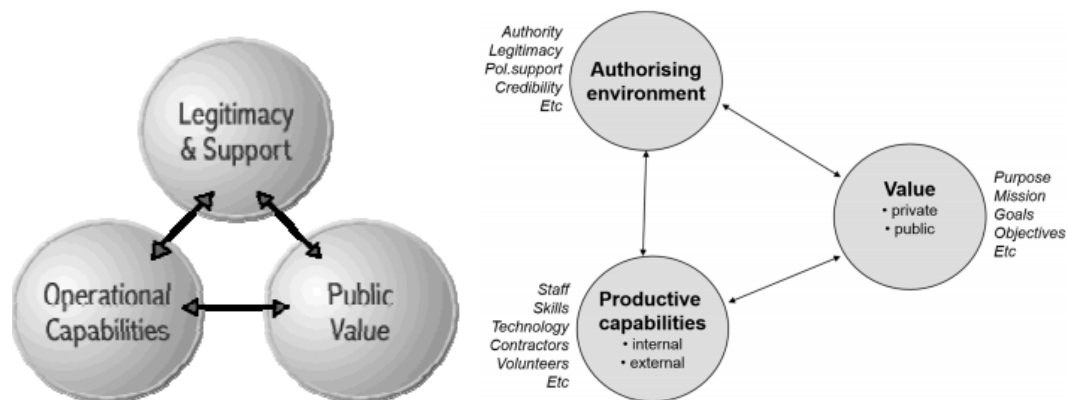
professional evaluation/fridge benefits (Buriro,*et al.*,_2016; Alazzawi,*et al.*,_2020) and their work recognition (Lloyd,_2007). Different people show various creativity (Falcone,_2012; Glendon,_Thomson_and_Myors,_2007) and urge for experience (Zadran,_Tariq_and_Ahmed,_2014). Finally, there are people who receive satisfaction by either feeling they found the proper job fitting their level of education, age, marital status, abilities, etc. (Kocak,_2020) or according to the level of their friendships' evaluation in the working place (Akyuz,_2020).

Some **environmental factors** pay key role to job satisfaction are the position's characteristics (Sugianto,*et al.*,_2018), the general HR attitude of taking care of employees (<https://www.inc.com/john-rampton/communication-techniques-that-motivate-others-to-become-better.html>) by cultivating respect/teamwork to everyone and trust between managers and subordinates (sharing best practices, supporting ways for good family-work balance such as part time, flexible working hours, tele-working, parental leave, etc.), applying talent recruiting tactic, encouraging events/ways to enhance the staff's creativity, participation in decisions, proposing solutions to conflicts, enthusiasm in order to make the organization's progress a common purpose. HR could also organize wellness programs, support ways of rewards (such as providing lunch, sending a message of care and concern to the staff) and motivation (Rey_and_Bastons,_2019) to express the management appreciation to their effort, and thus succeed the absence of working environment's ambiguity (Tsirikas,*et al.*,_2012). Furthermore, employees' motivation (Falcone,_2012; Glendon,_Thomson_and_Myors,_2007), rewards (Lloyd,_2007), managers' training (Falcone,_2012; Glendon,_Thomson_and_Myors.,_2007; Kocak,_2020; Bontis,_2002) accompanied by sharing knowledge and experience (Bontis,_2002; Tsirikas_and_Katsaros,_2014) may also contribute to an employee's job satisfaction, together with a fair evaluation system (Glendon,_Thomson_and_Myors.,_2007; Falcone,_2012; Buriro,*et al.*,_2016), the selection of leading personalities as supervisors (Topping,_2002; Gore_and_Gore,_1999) and an emotional intelligence culture to human resources of any level (Goleman,_1995). When a working environment manages to enhance the employees' sociality and to secure their physical needs and safety (Taheri,_Miah_and_Kamaruzzaman,_2020), such as by offering the proper technology devices, or even the space's sanitation at a satisfied level

(Taheri,_Miah_and_Kamaruzzaman,_2020), it shows respect to human life and inspires trustworthiness/faith among co-workers, between the managers and the subordinates and between the staff and the organization itself (Albrecht,_2002; Glendon,_et_al.,_2007; Akyuz,_2020; Fischer,_Hyder_and_Walker,_2020). Finally, the fight against mobbing, by applying a specific tracing procedure (Dikmetaş-Yardan,_Top_and_Ergin,_2011; Tosten,_Avci_and_Okcu,_2018), and the general support of work values, everyone should fight for (Braun_and_Baumgartner,_2006), can contribute to high job satisfaction.

Chapter-5_Public_Sector

It is generally obliged to secure the most of public services' value (Figure_23) gaining the citizens' trust and the employees' commitment to their tasks (Wu,_Pan_and_Zhang,_2015).



Figure_22:Strategic_triangle_factors_in_public_services

(Moore_and_Khagram,_2004; Alford_and_Greve,_2017)

The public sector undergoes serious changes during the last 20 years (Albrecht,_2002; Di_Nunzio,_et_al.,_2009) in order to offer services of qualified level, both to citizens and professionals, considered as a refund for their annual taxes payments (OECD,_2015). A non-satisfied generalized opinion about any of the public services

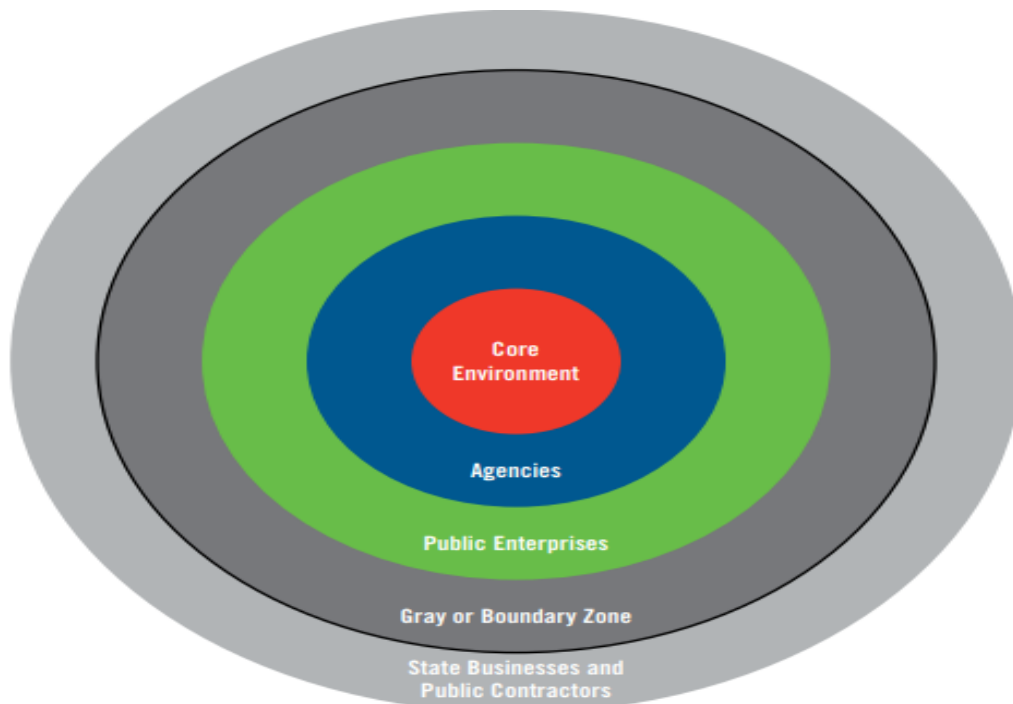
can lead to mistrusting the government itself (Bouckaert_and_Van-de-Walle,_2003; OECD,_2017), same as for the mayor in case of the municipal services' malfunction.

One of the front-line public services, municipalities are called to handle, is the strays companion animals' management population since 2003 (L.3710/03), by municipal means or after any form of their co-operation with the private sector (L.4039/12).

5.1.Definitions

Public_Sector

Is represented by any form of the public sector delivering (local, regional, national, international) services/goods such as the core government, the municipalities, the health section, the courts, public associations, enterprises, etc. (Dube_and_Danescui,_2011).



Figure_23:Diagram_of_public_Sector_Organizations

(Dube & Danescui, 2011)

Front-line_civil_servants

The ones under increased work load, facing high personal and emotional involvement with the citizens themselves and the customers'-oriented services (Di-Nunzio,_et_al.,_2009).

Back-office_civil_servants

The ones who mainly cope with paper work (Di-Nunzio,*et al.*,2009).

Public/private_partnerships-outsourcing

It is the execution of public services from private providers under the supervision of civil servant (Wu,*Pan_and_Zhang*,2015).

Corruption

Abuse of public power or usage of it for self-benefit satisfaction (Congress,2015).

5.2.Stressful_factors_for_municipal_officials

Nowadays, the civil sector is asked to innovate and become customer-oriented. Several civil servants, especially the municipal ones, undergo a lot of working stress when they are at **front-line positions**, handle loads of **unnecessary paper-work**, supervise **Public/private partnerships**, but mainly face a **potential accusation for corruption**.

The work load of a **front-line civil employee** is characterized by unpredictable volume (Moore_and_Khagram,2004), either because of the citizens' daily queries (calls or in vivo conducts) or of the relevant paper work. Such tasks lack of autonomy, creativity opportunity, acknowledged working activity and suffer from routinized procedures (Di_Nunzio,*et al.*,2009). Apart from the above, they are also "exposed" to verbal and gesture communication with the "customers" (Racca_and_Yukins,2014), which contribute to increased staff's psychosocial anxiety (Di-Nunzio,*et al.*,2009).

Unnecessary paper work is increased when the citizens' conduct is chosen to be replaced by impersonal call-lines for complains (outsourcing the front lining service) eventually working with not relevant, to the various tasks, employees, ending up in not filtering the resulting back-office administration work, increasing the limitation of autonomy and creativity (Di-Nunzio,*et al.*,2009).

When the public sector chooses to pay for outsourcing services it makes its own rules, for quality criteria and procedures, **and supervises the services provided by the private partnerships**, under special regulations on the related legal basis. The more insufficient the legal frame is, the more responsibility (Wu,*Pan_and_Zhang*,2015) and increased space for **corruption** (Congress,2015) for civil servants it creates and

which can both be stressful to the related employees. The **potential accusation for corruption** is higher for the front-line civil servants, either working in the field or in the office, especially when they have to supervise services paid by state funds (Racca_and_Yukins,_2014) and/or the related law is huge and insufficient (Congress,_2015). They are thought to be prone to accepting bribe (present, money or other kinds of benefits) from the private sector and, thus, to corrupting (Racca_and_Yukins,_2014; Congress,_2015).

The stages of procurement procedures (mainly the offerings' period, supervision after contract, receiving service/goods), which presuppose the employees' signed confirmation (Racca_and_Yukins,_2014), become uncontrolled when others of prestige positions, even politicians, are involved (Congress,_2015) and put pressure to employees causing stress to the related work force (Wu,_Pan_and_Zhang, 2015).

Critical_Analysis_of_Literature_Review

A serious number of scientific-work analyzes the employees' working stress and its causes, while a large part of it occupies with the civil servants' level of stress caused by their job_nature, the majority of which refer to teachers, nurses and front-line officials. Publications about municipal officials are met to deal with the municipal policemen stress while most of the scientific work found, it mostly coped with the companion animals' diseases or the vet-treatment they receive; not with the perspective employees. Almost any paper about stress of municipal employees was related to the municipal policemen and the ones that work for the social public services, and thus only two of them were used for the present dissertation (Figure_24).

No survey was found about the level of stress the municipal officials, of stray services, are called to cope with every day.

In literature, working as a civil servant is stressful (Bouckaert_and_Van-de-Walle,_2003; Moore_and_Khagram,_2004; Janwantanakul,_et_al.,_2008; Di-Nunzio,_et_al.,_2009; Dube,_and_Danescui,_2011; Tsirikas,_et_al.,_2012; Tsirikas_and_Katsaros_2014; Racca_and_Yukins, 2014; Congress,_2015; Wu,_Pan_and_Zhang, 2015; OECD,_2017; Alford_and_Greve,_2017), while stress is found to increase with work overload (Leymann,_1996; Maslach,_Schaufeli_and_Leiter,_2001; Schabracq,_Winnubst_and_Cooper,_2003; Glendon,_Thomson_and_Myors,_2007; Di_Nunzio,_et_al.,_2009; Robbins_and_Judge,_2012; Falcone,_2012; Surana_and_Singh,_2013; Schnall,_Dobsona_and_Landsbergis,_2016) and lack of experience/practical knowledge (Karasek,_et_al.,_1982; Glendon,_Thomson_and_Myors,_2007; Robbins_and_Judge,_2012), plus the fact that working stress is related to gender (Karasek,_et_al.,_1982; Glendon,_Thomson_and_Myors,_2007; Robbins_and_Judge,_2012).

The majority of the dissertation's findings agree with the existing literature (stress level increase with the work overload and after lack of experience) with the exception of the stress level difference related to the gender; it was found that working in Greek municipal stray services is statistically equally stressful to men as to women. The latter

can be accepted since the nature and the demands of stray services employees' qualifications are not related to gender and most of such services are similarly dis-organized in order to make the same impact to both men and women.

Dissertation's Findings and Hypotheses

1st Survey's finding: Working as a civil servant in strays' services is stressful.

2nd Survey's finding: There is a relationship between stress in Strays' Services and the number of employees in the specific service (implying work overload).

3rd Survey's finding: There is a relationship between stress in Strays' Services and sex of employees.

4th Survey's finding: There is a relationship between stress in Strays' Services and the general experience of employees.

5th Survey's finding: There is a relationship between stress in Strays' Services and the experience of employees in this service.

Comparison of Stress Variable's Affection on Employees: according to the number of employees, their general and specialized experience.

Hypothesis Test: There is no real difference between the stress level of men and women, being generally or especially experienced, nor belonging to understaffed services of the Municipal Strays' Services in Greece.

Implications in Literature

The present dissertation includes literature review about various areas in order to cover any possible angle of the investigation about the stress that the municipal employees of stray services are facing every day; conflicts of roaming companion animals, the working stress and categories of stressors in general, civil servants'/municipal officials' stress and stress factors.

It is more likely to be the only study to gradually report the work stressors from the general (any employee) to the specified (civil servant, municipal official, stray services' staff) (Figure_24).

In order to give emphasis to the respective municipal officials' stress, originating from the conflicts caused by the roaming companion animals, an extended report was synthesized on the dogs' and cats' diseases, zoonoses, pathogens, damages, environmental impact, traffic accidents, bites and attacks those animals are involved with, because of being returned to field after their vet treatment. Such a chapter is literally rare if not unique.

Implications_in_Practice

The findings of the present dissertation can be useful to all Greek municipalities, since they remain related to stray animals' managing programs for the moment, which may alter their organizational culture and the stray services' structure, hire vets and capturing crew members, build strays' shelter/vet clinic, encourage their existing staff to join specialized educational programs about strays and increase the specific departments' work force.

For more drastic changes in practice, the findings of this dissertation could contribute to the change of the ambiguous existing legal frame, having no more roaming animals by fencing them after their inclusion to a managing program, while even a specialized central and specifically organized new Body could be founded to take care of strays.

Stress management of human resources of stray pet services in Greece.
Challenges & recommendations for improvements

Scientific works analysing employees' stress features and its causing factors (from general to specified thus, from any employee to civil servants, then to municipal officials and finally to stray services' work force)	Related Literature
<p>Employees' Officials' difficulties: work stress, mobbing, work overload, depression, burnout, inner stressors (person's sensitive temperament, family obligations, age, gender, lack of proper education to the job's demands, increased role responsibilities and conflict, confusion about work responsibilities, job insecurity and constraints, performance appraisal, high proportion of job demands/tasks' control, demands for high speed performance, person's poor ability to detach from work during vacation), outer stressors (any external change, bureaucracy, political games or organizational changes especially when are accompanied with environmental uncertainty, low social and technical support and low resources together with high Demands and high Requirements, lack of autonomy/creativity, low feedback/correspondence, routinization, managerial denial to be open show disbelief to staff, cynicism, no team working-spirit, job dis-satisfaction</p>	<p>Warr, 1978; Karasek, <i>et al.</i>, 1982; Bunce and West, 1996; Leymann, 1996; Schabroek and Merit, 1997; Davenport, 1999; Sears, Utrich and Evans, 2000; Malach, Shafeli, and Leiter, 2001; Albrecht, 2002; Schabroek, Wimmels and Cooper, 2003; Endle, 2005; Arvovio, 2006; Braun and Baumgartner, 2006; Tatis, 2006; Glandon, Thomson and Myers, 2007; Gagne, 2009; Di Nunzio, <i>et al.</i>, 2009; Schaufeli, Leiter and Maslach, 2009; Alarcon, 2011; Kachika, Korczak and Broich, 2011; Citriciglo, 2011; Alarcon, 2011; Dikmetas, Yarden, Top, and Ergin, 2011; Robbins and Judge, 2012; Falcone, 2012; Corniois and Groggy, 2013; Potok and Littman-Ovadia, 2013; Corniois and Groggy, 2013 Surana and Singh, 2013; Potok and Littman-Ovadia, 2013; Fedakova and Dolei, 2014; Koinis and Saridi, 2014; Yildirim, Saygin and Uguz, 2014; Zaidan, Tariq and Ahmed, 2014; Garin, <i>et al.</i>, 2015; Bianchi, Schonfeld and Laurent, 2015; Harder, Gouldthorpe and Goodwin, 2015; Bianchi, Schonfeld and Laurent, 2015; Schnall, Dobson and Landbergis, 2016; Rahim and Cosby, 2016; Burro, <i>et al.</i>, 2016; Chirico, 2016 and 2017; Despreaux, <i>et al.</i>, 2017; Alford and Greve, 2017; Arslan, Kaya and Cabur, 2017; Sugianto, <i>et al.</i>, 2018; Tosten, Avel and Okcu, 2018; Van Oortmerssen, Caniëli and Van Assen, 2019; Rey and Bastons, 2019; Li, He and Sun, 2020; Magnavita and Chirico, 2020; Cielak, <i>et al.</i>, 2020; Godia, <i>et al.</i>, 2020; Kocak, <i>et al.</i>, 2020; Manriquez, 2020; Taheri, Miah and Kamaruzzaman, 2020; Sung, 2020; https://saltpazzaro.wordpress.com/2018/03/22/theories-of-work-related-stress-comment-page-1/</p>
<p>Civil servants' difficulties: Similar to any other employees' difficulties with politicians' presence, public-conduct and low job insecurity plus being in front/back line positions, facing citizens' non-satisfied generalized opinion about public services and/or coping with increased work load and/or routinized procedures and/or unnecessary paper work, Politicians involvement/pressure to employees' work, Potential accusation for Corruption, Supervision of outsourcing services, Ambiguity of law regulations</p>	<p>Bouckaert and Van-de-Walle, 2003; Moore and Khagram, 2004; Janwantanakul, <i>et al.</i>, 2008; Di-Nunzio, <i>et al.</i>, 2009; Dube and Danesoni, 2011; Tiritkas, <i>et al.</i>, 2012; Tiritkas and Katsaros, 2014; Rascia and Yukins, 2014; Congress, 2015; Wu, Pan and Zhang, 2015; OECD, 2017; Alford and Greve, 2017;</p>
<p>Municipal officials' difficulties: Similar to any other employees' and civil servants' difficulties with high intense politicians' presence and public-conduct and low job insecurity; the resources about municipal officials mainly focus on municipal policemen job difficulties stress</p>	<p>Kohari and O'Connor, 2002; Cielak, <i>et al.</i>, 2020;</p>
<p>Greek Strays' Services' employees' difficulties: increasing strays' populations, variety of zoonoses and pathogens that strays carry, ex-owners' irresponsibility to obligations of pet ownership; communities' high tolerance in strays' existence, non-veterinary treated stray animals (non-vaccinated, non-anti-parasitized etc.), strays' feeding by citizens, success of catch-neuter-return programs, electronic marking, car accidents because of strays, environmental impact, threats to human health safety and/or other species' populations, messing up the garbage, doubts about legality of stray animals' adoptions abroad, AWA's implications in stray animals' management, ambiguity of related law frame,</p>	<p>Omar, 2021; Peters, <i>et al.</i>, 2004; Kauster, Lamoureux and Kahn, 2006; Manhart, 2007; Jackson and Rowan, 2007; Falconer, 2009; HBS, 2009; White, Jefferson and Levy, 2010; Totton, <i>et al.</i>, 2010, 2011; Tenzin, <i>et al.</i>, 2011; Touchatti, <i>et al.</i>, 2012; Gerhold and Jessup, 2012; Weiss, Slater and Lord, 2012; Hughes and Macdonald, 2013; Belara and Gempster, 2013; Karavital, <i>et al.</i>, 2013; Ntats, <i>et al.</i>, 2013; Weglom, 2013; Camas, <i>et al.</i>, 2014; Alabi, <i>et al.</i>, 2014; Ntiaz, <i>et al.</i>, 2014; Tsodras, <i>et al.</i>, 2014; Tenzin, <i>et al.</i>, 2015; Lefkaditis, <i>et al.</i>, 2015; Egru, <i>et al.</i>, 2016; Lepa, <i>et al.</i>, 2017; Kostopoulou, <i>et al.</i>, 2017; Rahaman, 2017; Lepa, <i>et al.</i>, 2017; Diakou, <i>et al.</i>, 2017; Kostopoulou, <i>et al.</i>, 2017; Spencer, <i>et al.</i>, 2017; Martinez, <i>et al.</i>, 2018; Karal and Rowan, 2018; Guilloux, <i>et al.</i>, 2018; Minhas, <i>et al.</i>, 2018; Montoya, <i>et al.</i>, 2018; Mylonakis, <i>et al.</i>, 2018; Gerla, 2019; Broom, 2019; Singh and Nath, 2019; Mohanty, <i>et al.</i>, 2020; Davey, Zhao and Khori, 2020; Regidor-Carrillo, <i>et al.</i>, 2020; Doron, 2020; Omar, 2021; Mohanty, <i>et al.</i>, 2021; JMD, 2013; MRDAF, 2013; L403912; https://dharmaanimalrescue.org/projects/about-project/; https://www.peta.org/about-peta/faq/what-should-i-do-if-i-find-feral-or-stray-animals/; https://www.who.int/news-room/fact-sheets/detail/zoonoses; https://www.akathimerini.com/2013/34/article/ekathimerini/news/campaign-to-feed-strays; https://saveagreekstray.org/en/about/volunteers/; https://www.straysofgreece.org/how-to-help/; https://www.onagreepplanet.org/animalsandnature/stray-dogs-and-cats-harming-wildlife/; https://freesunday.gr/planet/item/28546-pagkosmia-hnara-adespotwn-zwnn-yiothesies-sto-swvteriko;</p>

Figure_24: 'Work Stress' and 'Stressors' Scientific Studies studies (from general to specified; from any employee to civil servants, municipal officials and to stray services' work force)

Method

When the Greek economic crisis began in 2011, the population of strays increased and so the relevant paper work for the municipality officials, a lot of whose job satisfaction started descending.

The present study was realized to detect if the municipal officials working for the stray animals' services in Greece undergo any stress, either working outdoors nor in the office. The results of the present survey are based on the response of the target group constituting of such employees (including the relative directors) on a questionnaire made for the case; interesting suggestions for improvements were also proposed by several of the specific group of responded human resources.

The questionnaire was written in Greek (in order to comply with any non-English language speakers), after the mutual literature was investigated to as many dimensions as possible. Some of these stressor factors, strongly connected to the respect a civil servant has to honor the public-taxes funding his/her wage, are the difficulties included in the supervision of private vet and/or capturing crew/s, the need for on time accurate execution of the official administrative work (documentation, registration etc.), and the proper handling of citizens' calls and queries, especially when they are angry.

The questionnaire consisted of **5 Units** (9 - 18 questions each) of mainly qualitative variables. In more details, **Unit A** referred to demographic information for the individual and his/her working environment (9 compulsory questions), **Unit B** was related to general information about the way the employee's Municipal service handles the strays' population elimination program (8 optional questions), **Unit C** was designed to focus on the insecurity the employee feels about his/her tasks' level of control (10 Linkert-1-5 scale compulsory questions), **Unit D** was also designed to focus on the mental and physical stress the employees are called to face due to the nature of their work (13 Linkert-1-5 scale compulsory questions) and **Unit E** included questions for any suggestions for improvements that the target group was willing to mention about reducing their working common stress (18 optional multi answered plus an open one questions).

A google questionnaire-form was created by the units described above and was initially sent electronically to all 332 Greek municipalities to the mayors' email address with the request to be promoted to the relevant employees (found in the internet (KEDE in <https://docs.google.com/spreadsheets/d/1RXxo0QWO1ezKzGQL8cbw3Sdf0vV5ze4hYzYbnXiyu8s/edit#gid=390822183>; HELSTAT, 2014). After being convinced that only a few mayors responded to my request, a message was sent to one by one municipality through a specific webpage that all Greek municipalities share (www.dhmoi.gr) and eventually after a long wait and little response, a personal email was sent to the possible employees related to the strays' management department, as a result of a detailed web-surfing of each municipality's webpage (if and to which provided- a web personnel's catalogue).

Theory_about_statistical_analysis_of_qualitative_variables

Qualitative variables express the descriptive characteristics of a sample (sex, religion, nationality, marital status, opinion etc.) and have to be distinctively categorized.

They can be dependent (outcome/response variable) or independent (predictor variable) (https://webstat.une.edu.au/unit_materials/c3_collecting_data/quant_qual_approaches.html). The dependent variable's values vary relatively to an independent one (Χαλικιάς, Μανωλέσου, Λάλου, 2015).

Qualitative surveys, have some advantages; they have missing information when the answers are pre-determinedly categorized, they are time and money consuming to run properly, and are susceptible to fail when their questionnaire is not sufficiently designed from the beginning (Χαλικιάς, Μανωλέσου, Λάλου, 2015). Moreover, they are subjectively affected and cannot be easily generalized. However, sampling surveys of qualitative variables are advantageous compared to others because they refer to large populations' issues, difficult to investigate differently, and are relatively easy to interpret when taking "close" or specified answers. They are the main ones investigating social problems (https://webstat.une.edu.au/unit_materials/c3_collecting_data/quant_qual_approaches.html).

The present survey's statistical analysis of qualitative variables

After 2 months of effort to have the survey's target group responded, 104 answers were initially collected, four of which were eventually excluded; two of them found to be politicians (that do not count as employees), one was taken as fake (for several reasons) (Appendix 2, figures 29 & 30) and the fourth one belonged the same person whose first answer was already valid (same e-mail address, same answers, same Municipality).

Eventually, the survey's results were based on **100** target group answers of **85** municipalities out of the 332, representing the 25,6 % of the Greek municipalities.

On the other hand, 35% of the municipalities (more than 100 ones) were found not to include any telephone number or any e-mail address for a special strays' service's employee through an internet research (mainly the small and geographically isolated municipalities). This could be taken as a disability to offer any serious civil or private veterinary services, either being located to an island or on a mountain, and one could say that the real responses of the survey represented 42,5% of the Greek municipalities with stray' services (85 out of 200), which makes the responders a more representative sample of the target population.

The answers of *C* group – questions (*Strays' services' employees' insecurity of their tasks' level of control*), and *D* ones (*Strays' services' employees' mental and physical stress due to the nature of their work*), are all related to the strays' service' employees' feelings (anxiety, joy, disappointment) and was decided to be taken as one variable in order come up with safer conclusions since they were all related to any anxiety of the strays' services' employees, being the main priority of the survey.

On a next level, it was observed that the C1, C2, C4, C7 and D11 answers, which referred to positive feelings (joy or pleasure) coming out of a negative job-description, were completely different from the same people's answers to similar questions, when clearly asking about their level of anxiety or stress. Thus, it was thought that those questions were confusing and decided to be excluded from the statistical analysis.

At the beginning, all the results of the Google Form were extracted as an excel spreadsheet. Representing non-numeric values of qualitative variables for a social phenomenon, they were transferred to SPSS program (Superior Performance Software

System or Statistical Package of Social Sciences) for further analysis. Any knowledge about SPSS's usage was gained through internet tutorials on behalf of the present survey.

Appendix_1 includes the survey's questionnaire and Appendix_2, the raw data and/or the mutual useful outcoming (Figures_29_and_30).

C and D variables are both qualitative and the answers for each question were collected by Linkert's scale 1-5, targeting to indicate the level of anxiety or stress (1 for Completely Disagree, 2: Disagree, 3: Not decided or neuter, 4: Agree and 5: Completely Agree).

Bar_Charts, from Google form, excel or SPSS program for group-questions A and B, giving both information about the organizational culture and the present situation of the civil strays' services combined both the nature of this job, are presented in appendix 2 and comments about them are posed in the "Discussion" part.

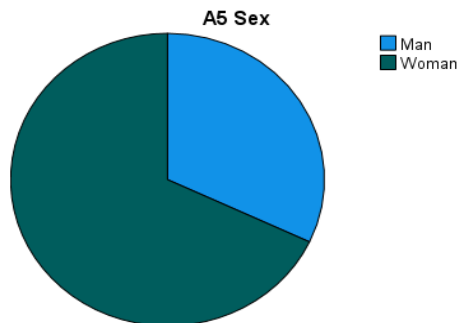
Any comments about the difficulties these employees face and the most important of their suggestions for improvements (Question E) are respectively shared in the "Discussion" and the "Conclusion" parts.

Results

A/B_Data_About_Employees_(Initial_and_Analyzed)

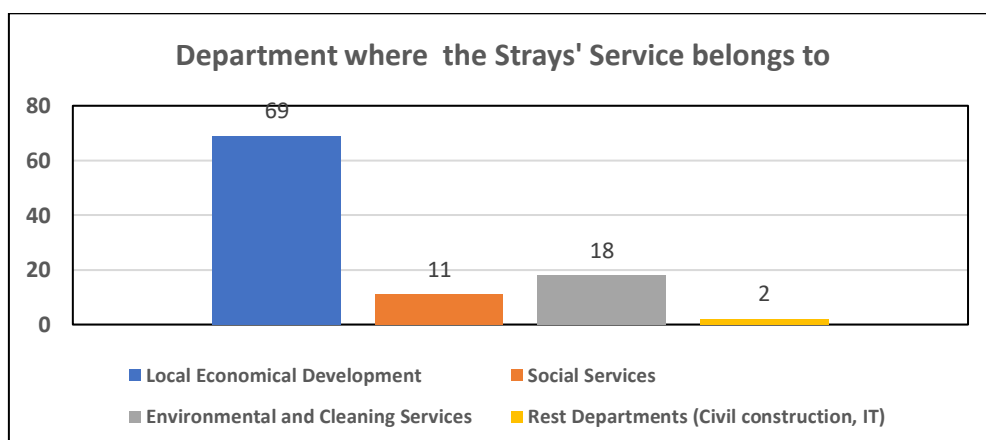
The 100 responders of 85 municipalities, on the total consisted of 68 women (68%) and 32 men (32%) (Fig_25_of_A5).

		A5 Sex			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Man	32	32,0	32,0	32,0
	Woman	68	68,0	68,0	100,0
Total		100	100,0	100,0	



Figure_25:A5: Responders_by_sex_(Blue:_Men,_Green:_Women)

Almost $\frac{3}{4}$ of the Strays' Services belong to the Directorate of Local Economic Development of their municipality while the rest are spread amongst the Social Services, the Environmental and Cleaning Services and the Civil Construction or IT Services (Bar_Chart_1_A2).



Bar_Chart 1: _A2:Department_where_the_Strays'_Service_belongs_to

85% of the Strays' services consist of less than 3 people while 72%, have only 2 employees and more than half (41%) of the last ones, function with only one person, most probably the Head of Department while in 3 municipalities, the Head of Directorate is the only strays' service's employee (3 zero frequencies answering about the relevant employees apart from the Head of the Directorate) (Table_9; Bar_Chart_2_A3).

Thus, at least 42,5% (85/200) of the Greek municipalities, which definitely offer Strays' Services, on average work a loading and demanding task with only 2 employees (Tables_9_and_10).

A3 Num of Strays' employees

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	3	3,0	3,0	3,0
	1	38	38,0	38,0	41,0
	2	31	31,0	31,0	72,0
	3	13	13,0	13,0	85,0
	4	3	3,0	3,0	88,0
	5	5	5,0	5,0	93,0
	6	2	2,0	2,0	95,0
	7	1	1,0	1,0	96,0
	8	1	1,0	1,0	97,0
	10	2	2,0	2,0	99,0
	15	1	1,0	1,0	100,0
	Total	100	100,0	100,0	

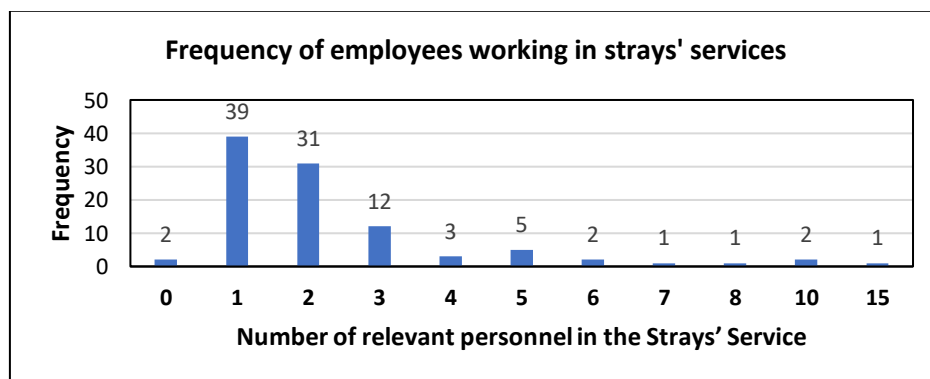
Table_9_Number_of_Strays'_Service_Employees_(Valid_%_and_cumulative_%)

Statistics

A3 Num of Strays' employees

N	Valid	100
	Missing	0
Mean		2,38
Median		2,00
Std. Deviation		2,237
Range		15
Minimum		0
Maximum		15

Table_10:Mean_Median_Range_of_number_of_employees_in_Strays'_Services

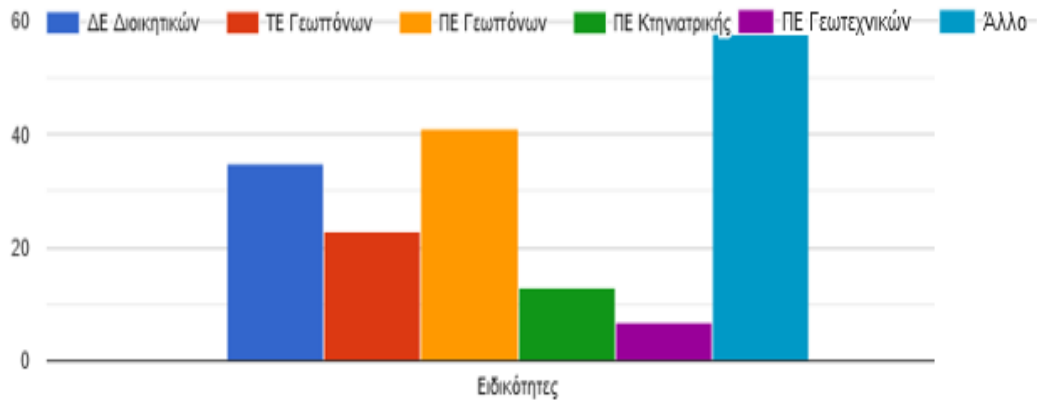


Bar_Chart_2_A3_Number_of_relevant_personnel_in_Strays'_Service_of_responders'_municipality

More than half of all the strays' services' employees (19,1% officials + 4% geotechnologists + 33,1% other) are of a specialization not-relative to companion animals, while only 7,4 % of the municipalities have vets (the most relative ones) (Table_11; Bar_Chart_3_A4).

A4 Responses about all the Employees' Specializations of the Municipality's Strays' Service							
	Officials	Technological Agriculturist	University Agriculturist	Vet	University Geotechnology	Other	Total
Answers	34	23	40	13	7	58	175
% of the total Answers	19,4	13,1	22,9	7,4	4,0	33,1	100

Table_11_Specializations_of_all_the_Municipality's_Strays'_Services_Employees



Bar_Chart_3_A4:Kind_of_education(specialization)_of_the_responder

(Blue:_High_school,_Red:_Technological_Agriculturalists,_Yellow:_University_Agriculturalists,_Green:_Vets,_
Purple:_University_Geo-specialties,_Light_Blue:_Other_education)

From the responders, around half of them are holders of a high education BSc degree (22% Technology School + 25% University), while 36% of the are holders of after BSc specialized degrees (34% MSc + 2% PhD) (Table_12; Bar_Chart_4_A6).

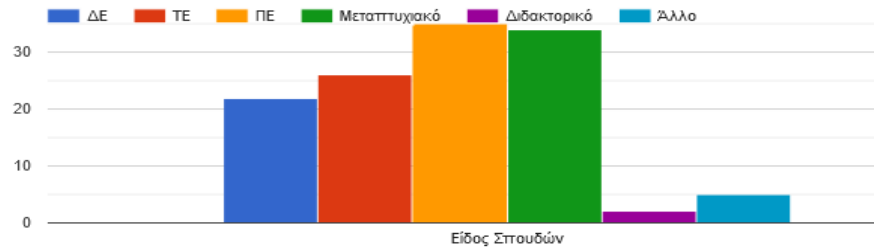
A6 Ultimate education

		Frequency	Percent	Valid Percent
Valid	High School	12	12,0	12,0
	Technology School	22	22,0	22,0
	University	25	25,0	25,0
	MSc	34	34,0	34,0
	PhD	2	2,0	2,0
	Muscellaneous	5	5,0	5,0
	Total	100	100,0	100,0

Table_12_A6:The_%_of_the_highest_Level_of_responders'_education

Stress management of human resources of stray pet services in Greece.
Challenges & recommendations for improvements

A6) Κατηγορία (ΠΕ, ΤΕ, ΔΕ) και Ειδικότητα;



Bar_Chart_4_A6:The_highest_Level_of_the_responders'_education

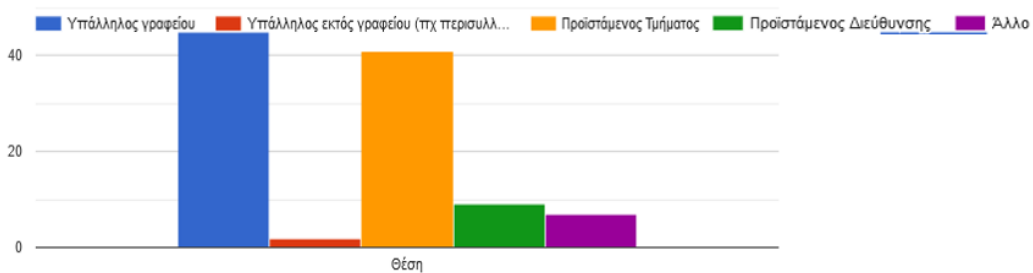
(Blue:_High_school,_Red:_Technological_School,_Yellow:_University,_Green:_MSc,_Purple:_PhD,_Light_Blue:_Other)

91% of the responders work from the office [45% office employees + 46% Heads of the Strays' Services (39% Department + 7% Directorate)] and only 2% work out office, hopefully close to the animals which are roaming on the streets, and not even kept in shelters (Table_13; Bar_Chart_5_A7).

Current Position	Num of Responders	% of Responders	Cumulative %
Office Employee	45	45	45
Head of Department	39	39	84
Head of Directorate	7	7	91
Other	7	7	98
Employee out of office	2	2	100
Totals	100	100	

Table_13_A7:Current_Responder's_Position

A7) Θέση που καταλαμβάνετε κατά την ώρα συμπλήρωσης του ερωτηματολογίου;



Bar_Chart_5_A7:Current_Responder's_Position

(Blue:_office_employee,_Red:_Employee_outside_office,_Yellow:_Head_of_Department,_Green:_Head_of_Directory,_Purple:_other)

72% (100-32%) of the responders generally work for more than fifteen years but more than half of them (48%) work in the Strays' Services for less than 5 years or, more than all of them (78%) have Strays' Services; work experience for less than 10 years (Tables_14_and_15; Bar_Chart_6_A8 and Bar_Chart_7_A9).

Thus, for at least 42,5% of the Greek municipalities with Strays' Services, the relevant employees are on average consisted of 5-10 years specialized experience with a general experience of 10-15 years (Tables_16_and_17).

Statistics			Statistics		
A8 General experience			A9 Experience at Strays		
N	Valid	100	N	Valid	100
	Missing	0		Missing	0
Mean		3,47	Mean		1,81
Median		4,00	Median		2,00
Std. Deviation		,989	Std. Deviation		,940
Range		3	Range		3
Minimum		1	Minimum		1
Maximum		4	Maximum		4

Table_14:Median_of_Generally_experienced_ones

Table_15:Median_of_Strays'_Services_Experienced_ones

A8 General experience							
		Frequency	Percent	Valid Percent	Cumulative Percent	Percent	A8 General experience
Valid	0-5 yrs	11	11,0	11,0	11,0		
	5-10 yrs	3	3,0	3,0	14,0		
	10-15 yrs	14	14,0	14,0	28,0		
	>15 yrs	72	72,0	72,0	100,0		
	Total	100	100,0	100,0			
A9 Experience at Strays						Percent	A9 Experience at Strays
		Frequency	Percent	Valid Percent	Cumulative Percent		
Valid	0-5 yrs	48	48,0	48,0	48,0		
	5-10 yrs	30	30,0	30,0	78,0		
	10-15 yrs	15	15,0	15,0	93,0		
	>15 yrs	7	7,0	7,0	100,0		
	Total	100	100,0	100,0			

Table_16 A8_General_work_experience

Table_17: A9_Strays'_services'_experience

Bar_Chart_6_A8:General_work_experience

Bar_Chart_7_A9:General_work_experience

(0-5, 5-10, 10-15, >15 years)

Only a little over 20% of the municipalities provide Strays' Services with a shelter and a special vehicle for animal capture while less than 10%, owe an animal hospital (Bar_Chart_8_B1). In addition, only 1/5 of the municipalities provide Strays' Services with vet/s and/or University Agriculturalist of Animal Production Specialization and/or capturing crew. (Bar_Chart_9_B2) Both results support the need to "fill_the_gap" and co-operate with the private sector, which is a reality for more than 90% of the municipalities (Bar_Chart_10_B3); actually, 9/10 of the municipalities offer private vet-services, 8/10 co-operate with a shelter owner while 2/3 of the municipalities offer food to free-roaming animals (Bar_Chart_11_B4).



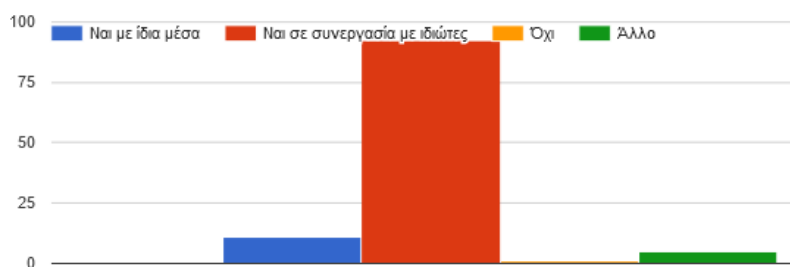
Bar_Chart_8_B1: Municipal material and technical facilities offered to strays' service

(Blue: Shelter, Red: Clinic, Yellow: appropriate vehicle, Green: other)



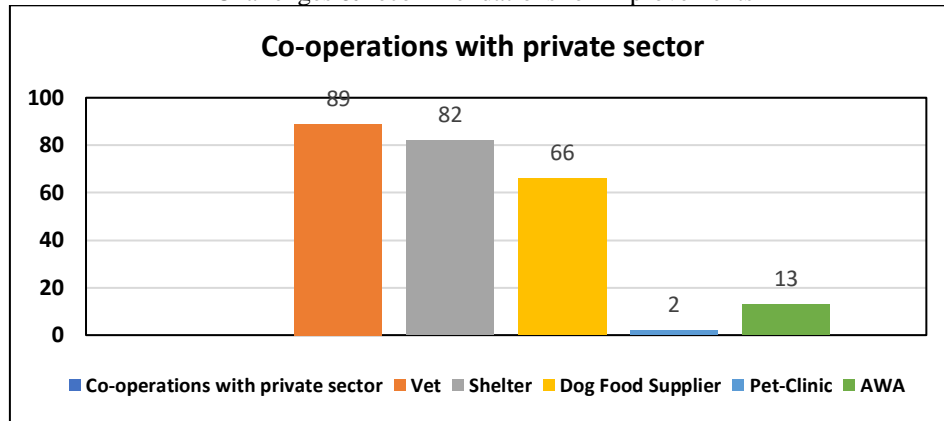
Bar_Chart_9_B2: Municipal personnel relevant to the demands of strays' service

(Blue: Vet, Red: University Animal Production Agriculturalist, Yellow: Capturing Crew, Green: other)



Bar_Chart_10_B3: About the responder's municipality strays' program

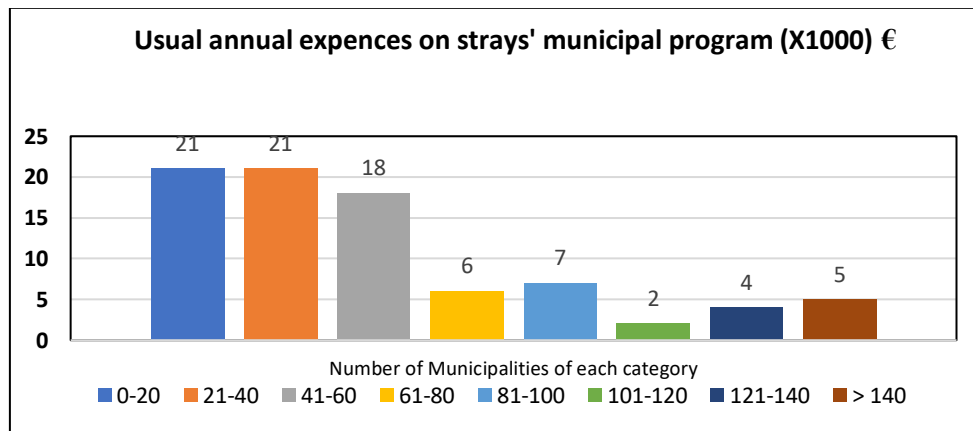
(Blue: Yes, by self means, Red: Yes, after co-operating with the private sector, Yellow: No, Green: other)



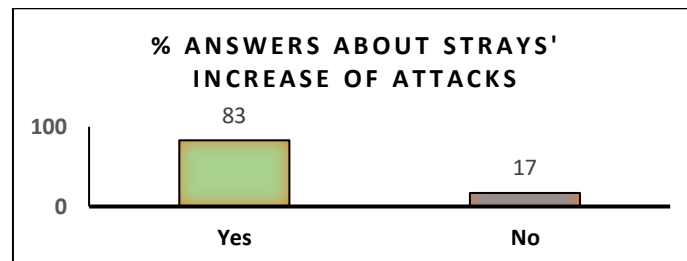
Bar_Chart_11_B4: Kinds_of_Private_Sector_Co-operating_with_municipalities

(Orange:_Vet,_Grey:_Shelter-owner,_Yellow:_Dog-Food_supplier,_Light Blue:_Pet-Clinic,_Green:_AWA)

All the related services from private sector annually cost the least of 20.000 € for 2/3 of the municipalities (21% + 21% + 18 %), close to 60.000 € to 1/5 of them (18%), while it reaches more than 140.000 € to 5% of the municipalities (Bar_Chart_12_B5); in contrast, dog-attacks increased to 8/10 of the municipalities, than at least remain the same (Bar_Chart_13_B6).

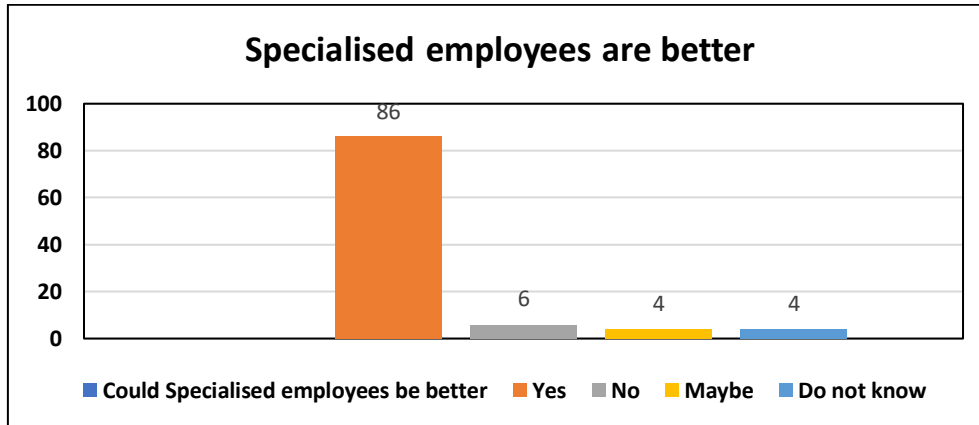


Bar_Chart_12_B5:Usual_annual_expenses_on_Strays'_program_of_84_out_of_100_of_responders'_municipalities_(X1000_euros)



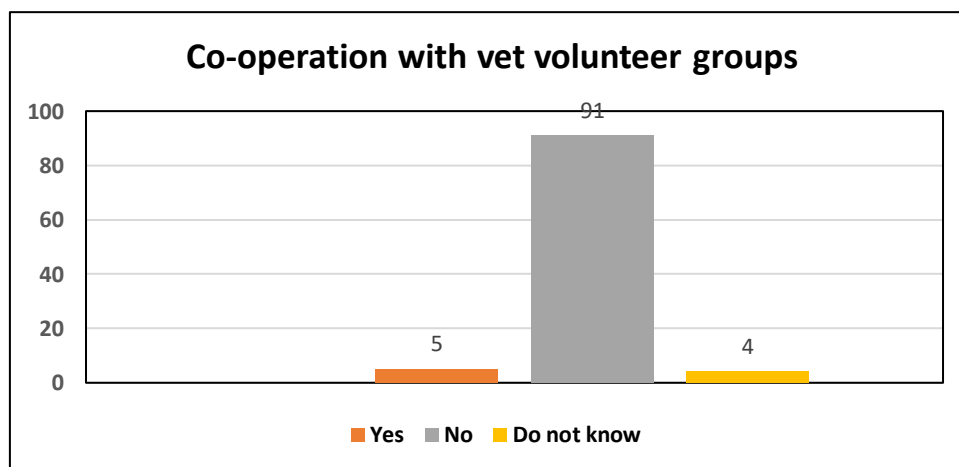
Bar_Chart_13_B6:_%_of_answers_about_strays'_increase_of_attacks_during_employees'_occupation_in_the_relevant_service

Almost 9/10 (86%) of the responders believe that specialized employees would respond better to the task of strays' services (Bar_Chart_14_B7).



Bar_Chart_14_B7: % of responders' answers about whether specialized employees are better

Only 5% of the municipalities managed to co-operate with volunteer vet-teams (Bar_Chart_15_B8).



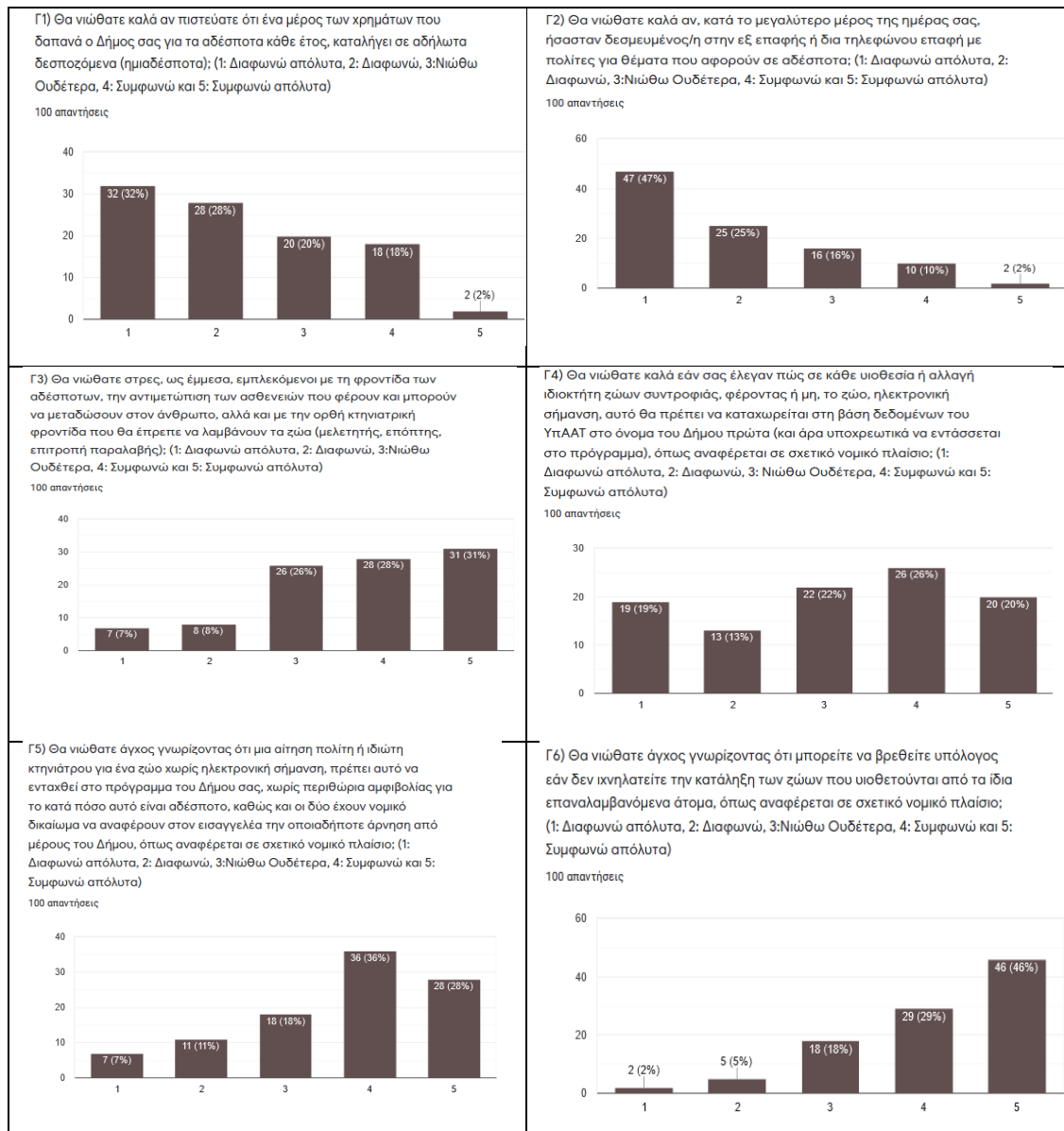
Bar_Chart_15_B8: % of municipalities ever co-operated with vet volunteers

C/D_Initial_Data__(Linkert_Scale)

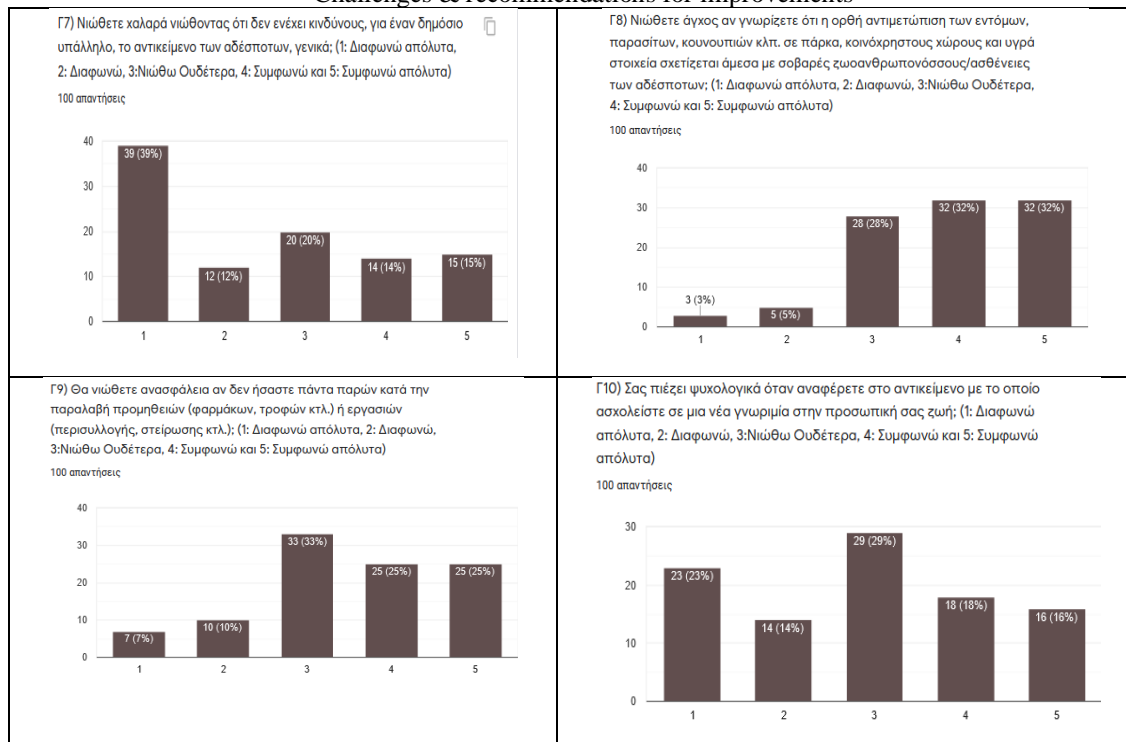
Questions C (10_ones) and D (13_ones) were initially designed to hopefully express different variables about Strays' Services Employees (C, the employees' insecurity for his/her level of control of the work magnitude and D, the employees' psychological and physical tiredness because of the specific job's characteristics). When trying to analyze the data, it was realized that in order to avoid a statistical mistake out of expressing one

variable at the end (since the questions were prepared by a student and not a statistician who would have them tested for reliability), it was decided that C and D questions should be used as one variable expressing negative feelings (anxiety, pressure, stress) the municipal Strays' Services' employees might have.

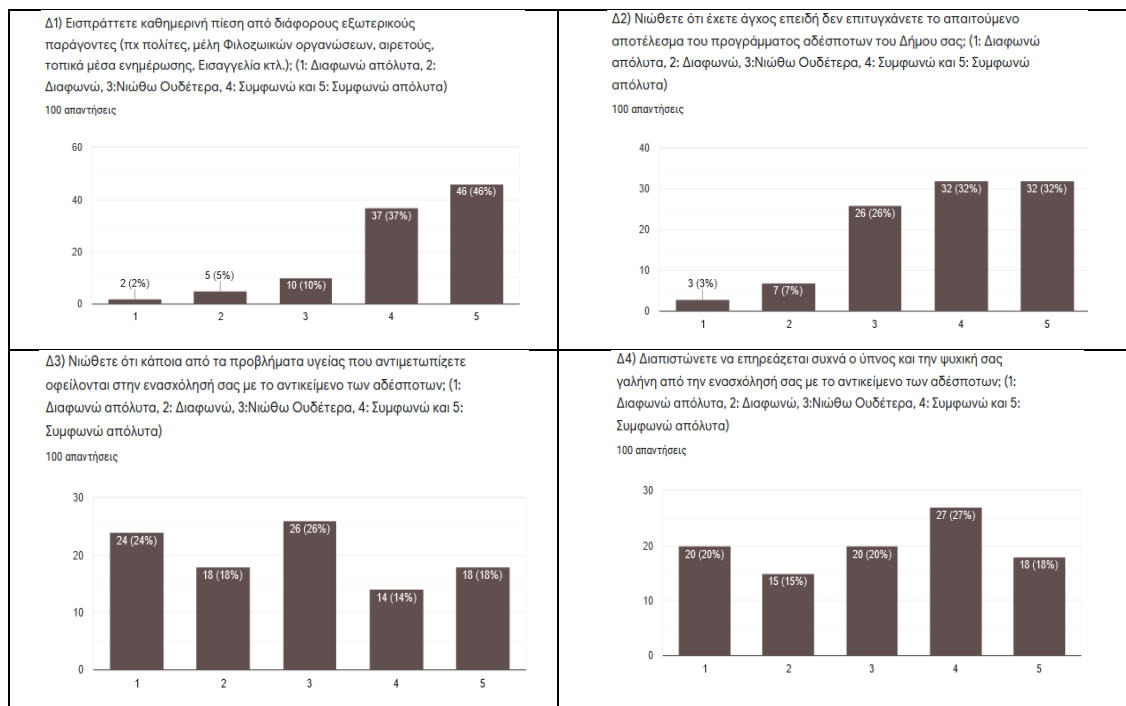
The most negative answers were the ones closer to 5 of the Likert's scale except C1, C2, C4, C7 and D11) which were negative when closer to 1, and for the needs of proper data preparation, they were diversely altered.



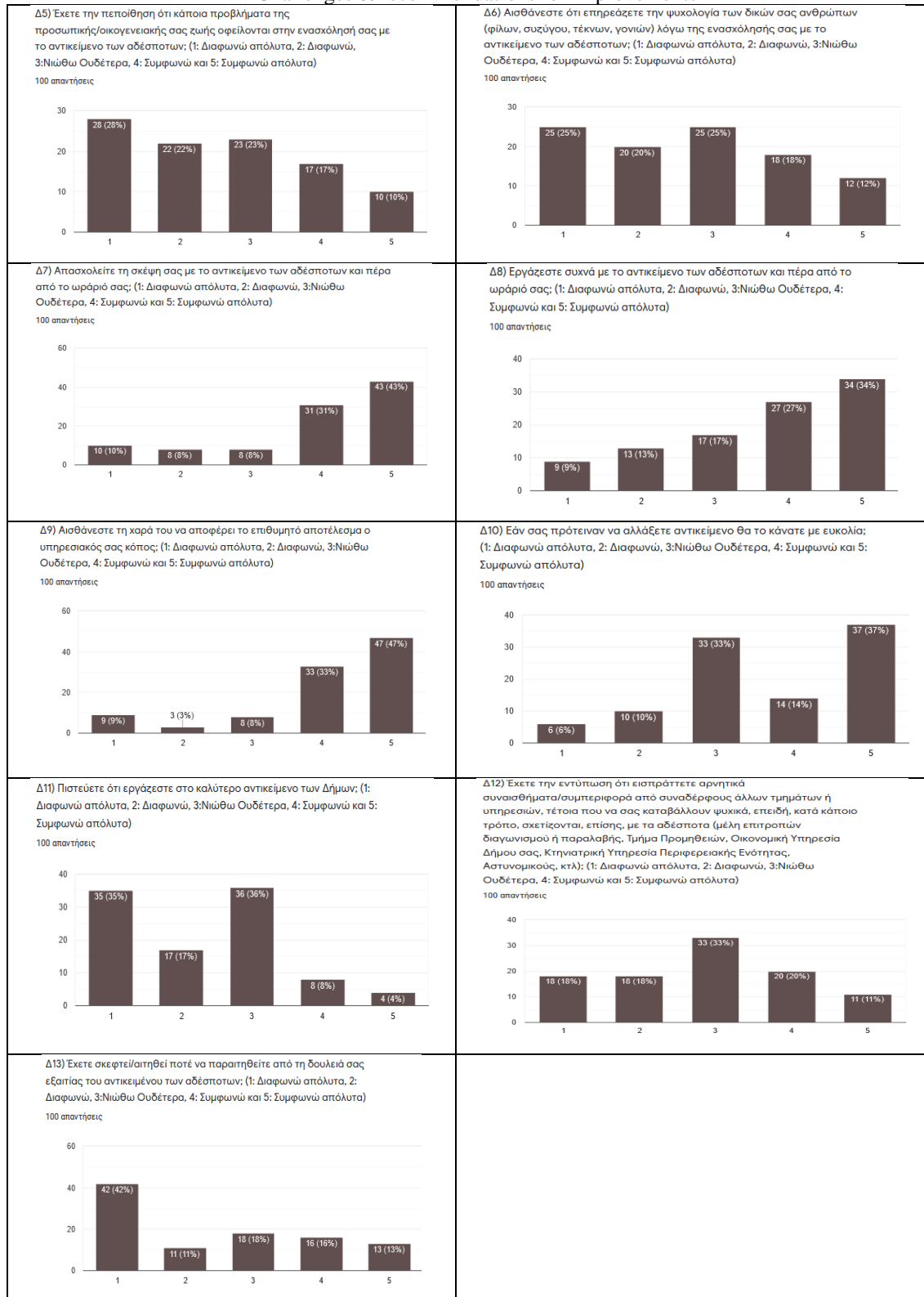
Challenges & recommendations for improvements



Figure_26:Bar_Charts_of_all_C_values_(1-10)_(from_left_to_right)



Challenges & recommendations for improvements



Figure_27:Bar_Charts_of_all_D_values_(1-13)_(from_left_to_right)

C/D_Data_Preparation_of_Stress_Variable

C1, C2, C4, C7, D11 deversily_altered

In order to statistically analyze the data, the frequencies of the 100 related observed values (C and D question-groups) were summarized in the following tables, since they all referred to anxiety or stress caused by their job to the strays' services employees.

Report												
A5 Sex	C1 Anx owned	C2 Anx calls	C3 Stress signature	C4 Stress all animals	C5 Anx every animal	C6 Anx Law	C7 Anx danger	C8 Anx mosquito	C9 Stress not seeing	C10 Stress new friends	D1 Outside pressure	D2 Anxiety failure
Man	3,50	4,03	3,56	2,63	3,72	3,97	3,41	3,94	3,41	3,00	4,00	3,81
Woman	3,79	4,04	3,74	2,94	3,65	4,19	3,03	3,81	3,56	2,85	4,28	3,84
Total	3,70	4,04	3,68	2,84	3,67	4,12	3,15	3,85	3,51	2,90	4,19	3,83
A5 Sex	D3 Health Problems	D4 Sleep problems	D5 Family problems	D6 Surrounding problems	D7 Strays after work	D8 Overtime working	D9 Joy of success	D10 Changing job	D11 Worst job	D12 Problems with colleagues	D13 Think of quitting	Average
Man	2,59	2,88	2,63	2,59	3,63	3,47	3,84	3,63	3,81	3,03	2,66	3,38
Woman	2,96	3,18	2,57	2,78	4,01	3,74	4,15	3,68	3,62	2,81	2,38	3,46
Total	2,84	3,08	2,59	2,72	3,89	3,65	4,05	3,66	3,68	2,88	2,47	3,43

Table_18:Analytical_Mean_Report_for_Each_C_and_D_variables(indicating_which_to_be_excluded)

C3, C4, C5, C7, C9, C10, D3, D4, D5, D6, D8, D12 and D13 excluded

After excluding C3, C4, C5, C7, C9, C10, D3, D4, D5, D6, D8, D12 and D13 (of total mean <3,65) the average rose showing that the remaining questions were clearly expressed and understood.

Report excluding C3, C4, C5, C7, C9, C10, D3, D4, D5, D6, D8, D12, D13											
A5 Sex	C1 Anx owned	C2 Anx calls	C6 Anx Law	C8 Anx mosquito	D1 Outside pressure	D2 Anxiety failure	D7 Strays after work	D9 Joy of success	D10 Changing job	D11 Worst job	Average
Man	3,50	4,03	3,97	3,94	4,00	3,81	3,63	3,84	3,63	3,81	3,82
Woman	3,79	4,04	4,19	3,81	4,28	3,84	4,01	4,15	3,68	3,62	3,94
Total	3,70	4,04	4,12	3,85	4,19	3,83	3,89	4,05	3,66	3,68	3,90

Table_19:Mean_Report_of_the_variabes_to_be_used_for_the_statistical_analysis_of_C_and_D

C/D_Data_Analysis_Stress_Variable's_affection_on_Employees

For the statistical analysis the answers of C1, C2, C6, C8, D1, D2, D7, D9, D10 and D11 questions will be used which constitutes **the survey's stress-variable**.

Indications 1-5 express the various levels of anxiety/stress from the “no-stress” to “excess stress”, respectively.

Since C and D questions express ordinal descriptive, and thus nonparametric, data (Linkert Scale indicate levels of stress), any statistical analysis is restricted to the usage of median (central tendency), mode (most popular answer/higher frequency) and frequency (even cumulative) plus bar_charts/crosstabulations to present the results (<https://teaching.shu.ac.uk/hwb/ag/resources/material/questionnaireanalysisusingsspss.pdf>).

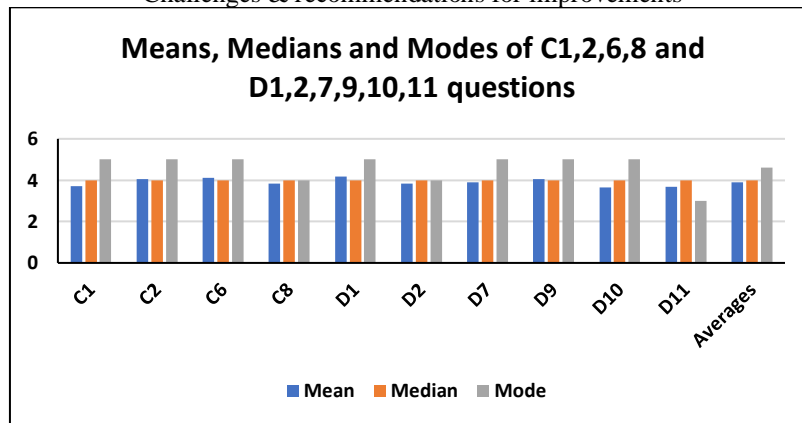
Using parametric tests for nonparametric data, it will result in a false significant effect ("type_1 error" being more serious than the opposite, thus, “type_2_error”) (<https://teaching.shu.ac.uk/hwb/ag/resources/material/analysingdatausingsspss.pdf>).

Stress-Variable_and_the_Employees'_Levels_of_Stress

Linkert Scale							Statistics			
Question	1	2	3	4	5	Responders	Question	Mean	Median	Mode
C1	2	18	20	28	32	100	C1	3,7	4	5
C2	2	10	17	24	47	100	C2	4,04	4	5
C6	2	5	18	29	46	100	C6	4,12	4	5
C8	3	5	28	32	32	100	C8	3,85	4	4
D1	2	5	11	36	46	100	D1	4,19	4	5
D2	3	7	26	32	32	100	D2	3,83	4	4
D7	10	8	8	31	43	100	D7	3,89	4	5
D9	9	3	9	32	47	100	D9	4,05	4	5
D10	6	10	33	14	37	100	D10	3,66	4	5
D11	4	9	36	17	34	100	D11	3,68	4	3
Totals	43	80	206	275	396	1000	Averages	3,9	4	4,6

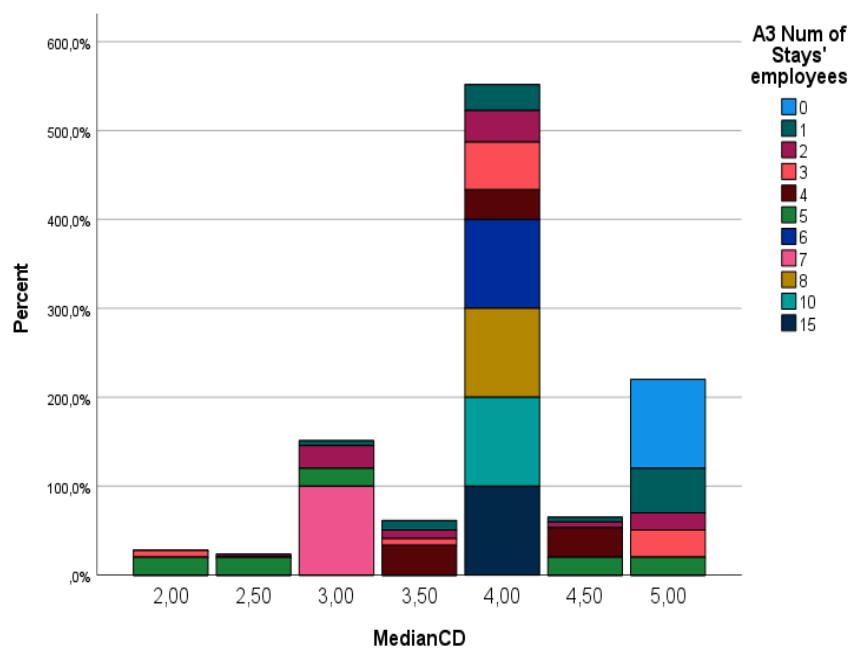
Table_20:Median_and_Mode_of_each_Variable

For all 10 questions (100%), the employees reported high levels of stress, on average, (Median 4) and for 80% of the questions, excess stress (Mode 5 for 8 out of 10) (table_20, Bar_Chart_16).



Bar_Chart_16:Means_Medians_and_Modes_of_questions_of_analysis

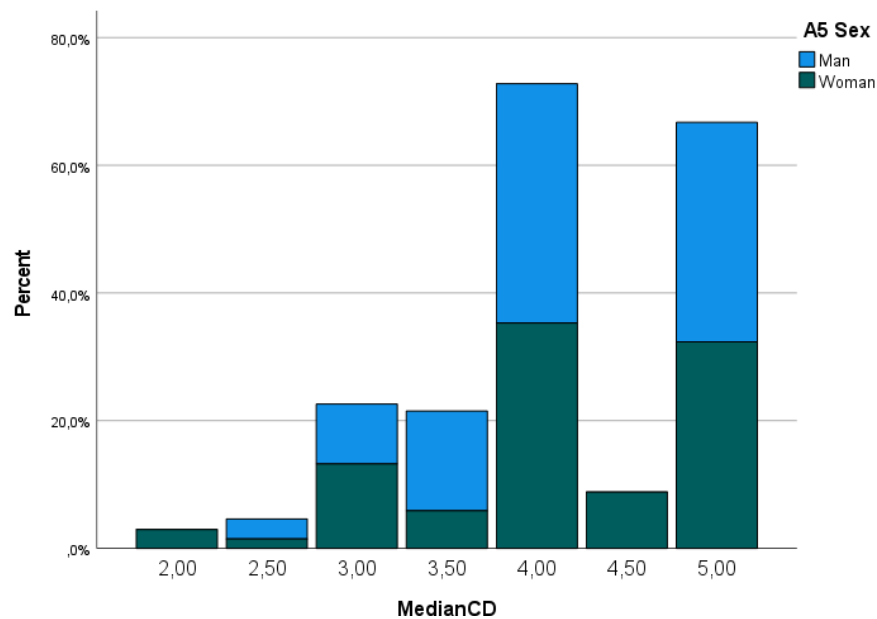
Stress_Variable_and_the_Understaffed_Services' _Employees' _Levels_of_Stress



Bar_Chart_17:Medians_according_to_Stays'_Service'_number_of_staff_(Linkert_Scale)

One can see that the employees working in Services constituting of less than 3 members (0:light blue, 1:dark green, 2:dark red, 3:phosphorising pink) have high/excess levels of stress (4 to 5). Thus, when working in understaffed Strays' Services, more than half of the employees are highly stressed.

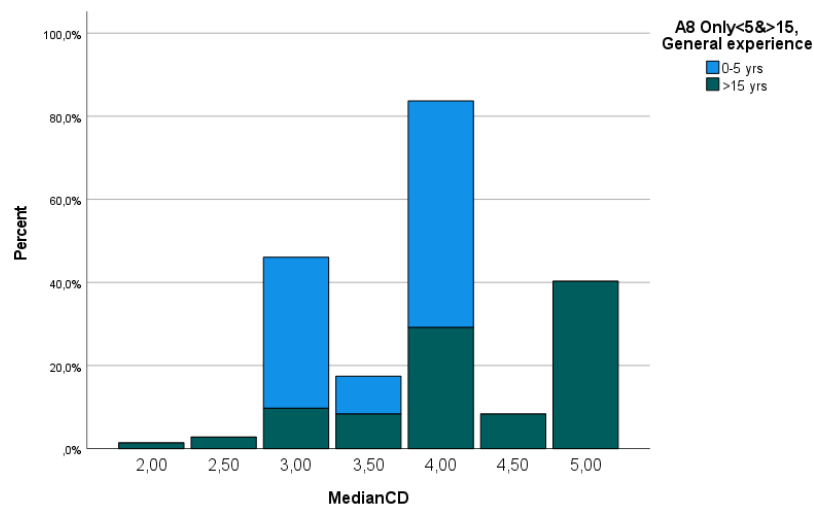
Stress_Variable_and_Levels_of_Stress_by_Sex



Bar_Chart_18: Medians' comparison by sex (Linkert Scale)

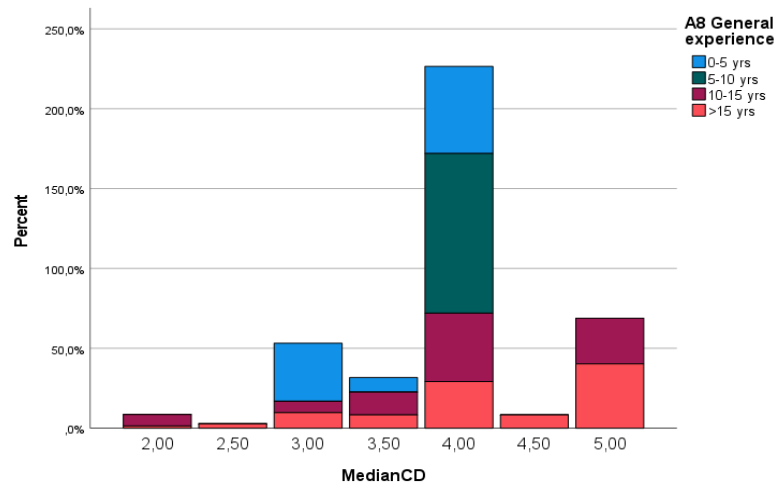
One can see that the same proportions of women and men share high levels of stress working in such services (4 and 5).

Stress_Variable_and_Employees'_Levels_of_Stress_with_General_Experience



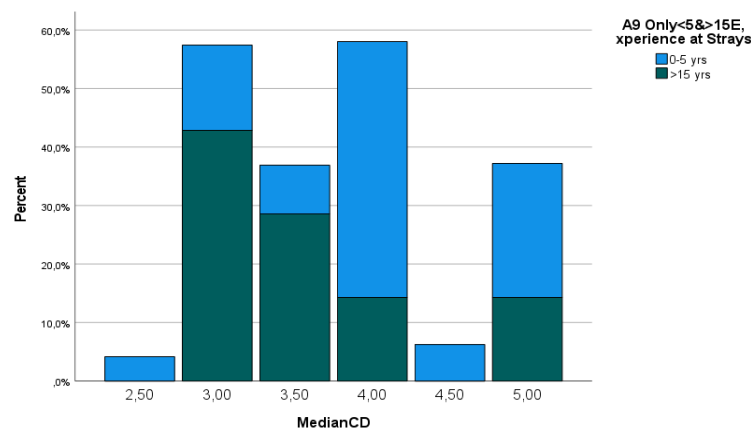
Bar_Chart_19: Medians' comparison of only generally inexperienced/highly experienced employees (Linkert Scale)

Most of the experienced and highly experienced employees are very and highly stressed (4 to 5) (Bar_Chart_20) which is become more obvious when the >15 yr-employees are opposed to the new ones (<5 years) (Bar_Chart_19).



Bar_Chart_20:Medians' comparison of the generally experienced categories of employees (Linkert Scale)

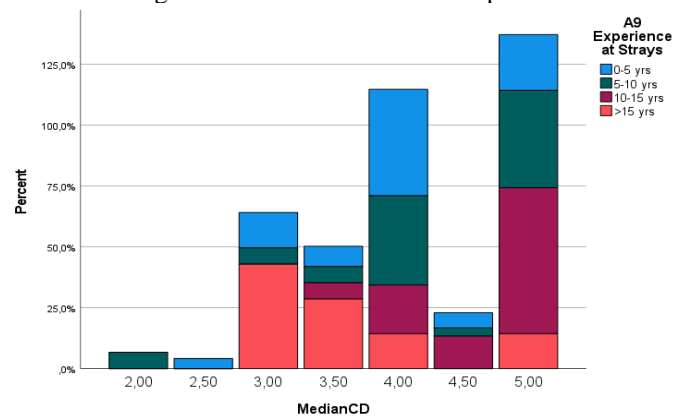
Stress_Variable_for_Employees'_Levels_of_Stress_with_Specialized_Experience



Bar_Chart_21:Medians' comparison of only the especially inexperienced/highly experienced employees (Linkert Scale)

Most of the inexperienced to Strays' Services ones are very and highly stressed (4 to 5) opposed to the highly specially experienced employees (Bar_Chart_21), but the main groups of Strays' Services' experienced people are very and highly stressed being specialized in such services from 5 to 15 years (<5 years) (Bar_Chart_21). These are the ones who have experienced the decade of the enactment of L.4039/12 (2012-2021) and thus the increase of dog numbers and their attacks.

Stress management of human resources of stray pet services in Greece.
Challenges & recommendations for improvements



Bar_Chart_22:Medians' presentation comparing the specially experienced employees

Comparison_of_Stress_Variable's_Affection_on_Employees

In order to statistically compare the three variables contribution to stress (A3, A8 and A9), the Standard Deviation, which indicates the disperse of values from the mean, A3 being the highest one shows that most of the values are away from the mean value. The number of employees in Strays' Services, is the most serious stressor compared to the general experience and the specialized one, since it indicates once more that the majority of the answers is extreme (close to 5=excess stress), already mentioned above.

Statistics

		A3 Num of Strays' employees	A8 General experience	A9 Experience at Strays	A8 Only<5&>15, General experience	A9 Only<5&>15E ,xperience at Strays
N	Valid	100	100	100	83	55
	Missing	0	0	0	17	45
Std. Deviation		2,237	,989	,940	1,023	1,009

Table_21:Comparison_of_Standard_Deviation_of_A3,_A8,_A9_(plus_the_inexperienced/highly_experienced)

Inferential_Statistics-Hypothesis_Test

In order to test the similarity of two or more, independent but from the same population, descriptive and nonparametric, variables, a Mann Whitney test, as the t-test for parametric data is, could be realized (by SPSS) with the assumption/presupposition that the surveys' sample is randomly collected from the all the municipal Strays' Services in Greece. This test is useful to understand the population through a representative

sample but also to predict future phenomena and results about it (Inferential Statistics)

(<https://teaching.shu.ac.uk/hwb/ag/resources/material/analysingdatausingsspss.pdf>).

The null hypothesis: There is no real difference between the stress level of men and women, being generally or especially experienced, nor belonging to understaffed services of the Municipal Strays' Services in Greece.

Alternative hypothesis: The men and women in question, are stressed at different levels.

Hypothesis Test Summary				
	Null Hypothesis	Test	Sig. ^{a,b}	Decision
1	The medians of A3 Num of Stays' employees are the same across categories of A5 Sex.	Independent-Samples Median Test	,099 ^c	Retain the null hypothesis.
2	The distribution of A3 Num of Stays' employees is the same across categories of A5 Sex.	Independent-Samples Mann-Whitney U Test	,289	Retain the null hypothesis.
3	The medians of A8 General experience are the same across categories of A5 Sex.	Independent-Samples Median Test	. ^d	Unable to compute.
4	The distribution of A8 General experience is the same across categories of A5 Sex.	Independent-Samples Mann-Whitney U Test	,149	Retain the null hypothesis.
5	The medians of A9 Experience at Strays are the same across categories of A5 Sex.	Independent-Samples Median Test	,812 ^c	Retain the null hypothesis.
6	The distribution of A9 Experience at Strays is the same across categories of A5 Sex.	Independent-Samples Mann-Whitney U Test	,933	Retain the null hypothesis.

a. The significance level is ,050.

b. Asymptotic significance is displayed.

c. Yates's Continuity Corrected Asymptotic Sig.

d. All test field values are less than or equal to the median.

Table_22:Hypothesis_Test_Summary_(Mann_Whitney_U_Test_for_nonparametric_data)

All levels of significance (0,99, 0,289, 0,149, 0,812, 0,933) are $> p=0,05$, thus the null hypothesis is not rejected; men and women employees in such positions, are statistically equally stressed.

E_Data_Presentation_(Employees'_Suggestions_for_Improvements

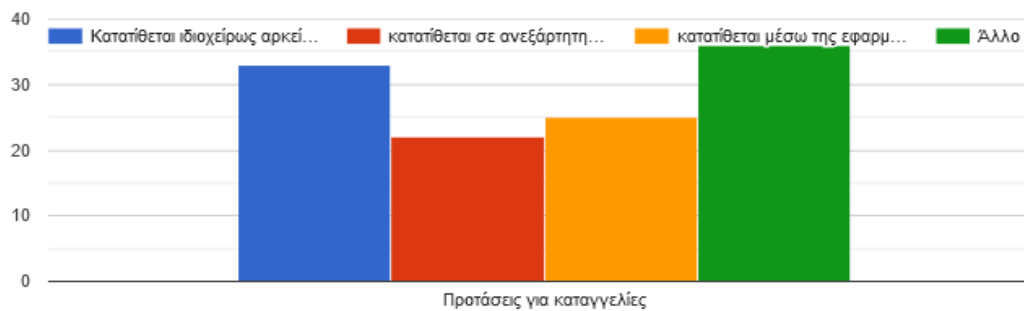
In order to collect any suggestions for improvements about the services' operation, 17 multi-answering non-compulsory questions were included in the questionnaire(E-group), related to usual difficulties an employee at such positions regularly faces.

In addition, targeting to collect as much information as possible, the last question E18, was open to accept any additional comments.

E_Data_Interpetation_(Employees'_Suggestions_for_Improvements

E1-E17_Multi-Choice_non-compulsory_Questions_about_suggestions

E1) Η οποιαδήποτε καταγγελία, αναφορά, παράπονο στην υπηρεσία σχετικά με αδέσποτα, προτείνετε να γίνεται αποδεκτή μόνο εάν:



Bar_Chart_23_E1:Suggestions_for_complaints_about_Strays

For the complaints about strays' incidents, the most popular choice was that the they should always be branded and submitted to the municipality, in person (Bar-Chart_23_E1).

E2) Οι 5μελής και 3μελής Επιτροπές προτείνετε να:



Bar_Chart_24_E2:Suggestions_about_the_3_member_and_5member_Committees

About the operation of the 5-member Committee, the most popular answer was that they should meet by will, after being regularly informed by the employees of the submitted complaints to the service (Bar_Chart_24_E2).

E3) Τα δεσποζόμενα προτείνετε να:



Bar_Chart_25_E3:Suggestions_for_owned_animals'_management

The most popular choice for the owned animals' management, was the one about their declaration in the special Ministry's platform, with more information even about their vet's data (which is not accessed by municipal services for the moment) (Bar_Chart_25_E3).

E4) Γενικά, αδέσποτα σκυλιά που εντάσσονται στο πρόγραμμα προτείνετε να:



Bar_Chart_26_E4:Suggestions_about_stray_dogs_after_being_included_to_the_municipal_managerial_program

The most popular choice for the strays' management was the support and encouragement of their adoption (Bar_Chart_26_E4).

Stress management of human resources of stray pet services in Greece.
Challenges & recommendations for improvements

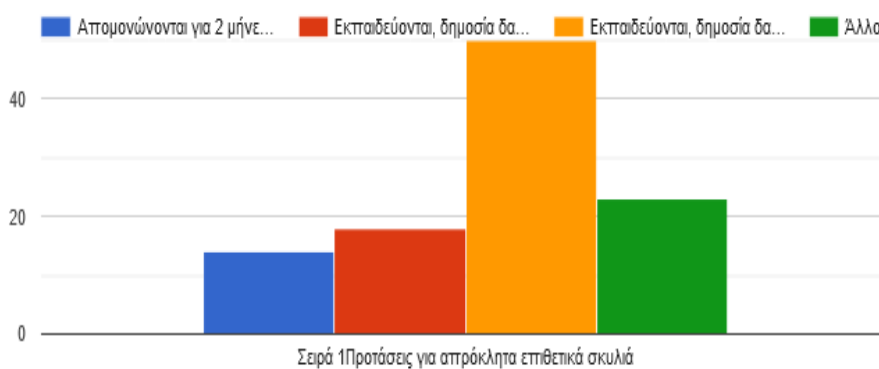
E5) Τα αδέσποτα που διαγνώσκονται με ζωνοθρονονόσους, προτείνεται να τα:



Bar_Chart_27_E5: Suggestions for proper handling of animals with zoonoses

For the management of ill dogs, especially the zoonoses' carriers, the answers were shared between two ones; to be undertaken by the existing vet services of the local Regional Units and be properly treated to be left outside as it applies today (Bar_Chart_27_E5).

E6) Τα αδέσποτα που επιτίθενται απρόκλητα, είναι δεν είναι στερημένα, προτείνεται να:



Bar_Chart_28_E6: Suggestions for handling of attacking dogs

The most popular answer for handling the aggressive dogs which attack, was to have them trained under state funding and keep them fenced until being adopted (Bar_Chart_28_E6).

Stress management of human resources of stray pet services in Greece.
Challenges & recommendations for improvements

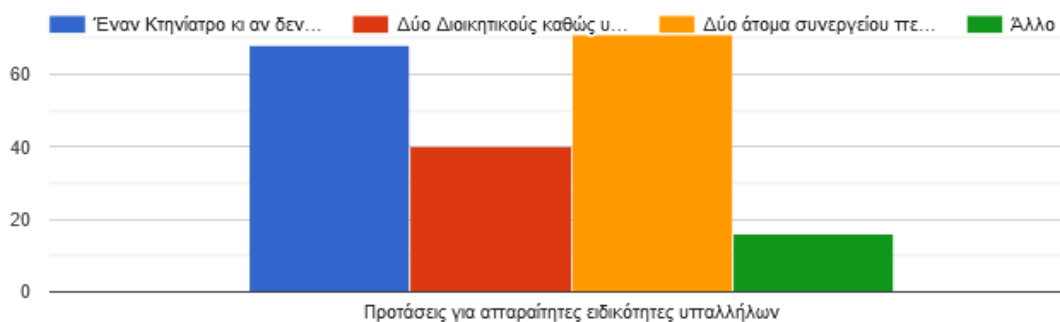
E7) Στο εξωτερικό, επειδή οι γάτες έχουν ελεύθερο χαρακτήρα, καθώς ακόμη και δεσποζόμενες, κυκλοφορούν εκτός του χώρου τους, γι' αυτό, όταν τις εντοπίζουν να περιφέρονται εκτός οικισμού, τις θανατώνουν ακόμη και πολίτες, με ειδική άδεια από τις Αρχές. Τι πιστεύετε για την Ελλάδα; Προτείνετε να τις:



Bar_Chart_29_E7:Suggestions_about_cats'_management

Cats' Management is suggested to be realized by private vets under state funding (Bar_Chart_29_E7).

E8) Η στελέχωση των αρμοδίων υπηρεσιών αδέσποτων (αριθμός υπαλλήλων και ειδικότητες) προτείνεται να απαρτίζεται από τουλάχιστον:



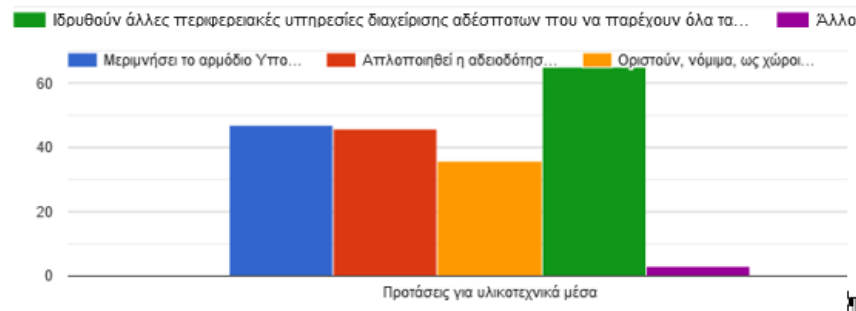
Bar_Chart_30_E8:Suggestion_about_the_least_necessry_specializations_of_employees_involved

About the kind of employees' specializations that is important to be included in the Strays' Services, the most popular choices were two: to have at least one vet (in case there is no municipal one, to be obligatory for a civil one even from another Body to contribute) and secondly, to have the least a two-member capturing crew (in case there are no specialized ones, it is suggested to appoint two employees of another service and to be accordingly trained) (Bar_Chart_30_E8).

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Stress management of human resources of stray pet services in Greece.
Challenges & recommendations for improvements

E9) Για τις σχετικές υλικοτεχνικές παροχές προτείνετε να :



Bar_Chart_31_E9:Suggestions_about_the_necessary_means_of_strays' task

About the necessary means that a Strays' Service should have, all of the suggestions were almost been equally selected (capturing loops, vehicles etc. to be centrally bought by the Ministry's initiative, the shelters' construction and foundation to be simplified, and to be legal to permanently keep the strays fenced) while the most popular is the one suggesting that another autonomous service should be founded from scratch, equipped with all the necessary means (Bar_Chart_31_E9 and Bar_Chart_38_E16).

E10) Το αρμόδιο Υπουργείο προτείνετε να δημιουργήσει, ή να ανανεώσει την ήδη υπάρχουσα, ειδική ηλεκτρονική πλατφόρμα συμπλήρωσης όλων των στοιχείων των ζώων συντροφιάς, συμπεριλαμβανομένου:



Bar_Chart 32_E10:Suggestions_for_Minagric's_electronic_Data_Base_improvements

About any deficiencies of the Ministry's Data-Base operation, all of the suggestions were almost equally selected (the declaration of the vaccination against rabies vaccination, of the owned births and of the registration's date printing, automatically, on the ownership-certificate), while the most distinguished choice was the necessity of the automatic receipt of the ownership-certificate by the municipalities (Bar_Chart 32_E10).

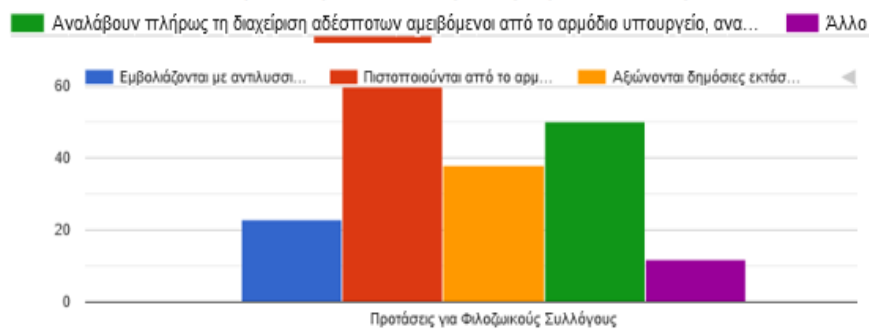
E11) Οι ιδιώτες κτηνίατροι, μη εξαιρουμένου κανενός, προτείνουν να:



Bar_Chart_33_E11:Suggestions_for_the_role_of_private_vets

The role of the private vets should include all four suggestions, more or less, about their responsibility to properly inform the pet owners rights, restrictions and obligations, to declare any owned dogs' births and new owners, plus their electronic marking number, while neutering them by state funding (Bar_Chart_33_E11).

E12) Οι Φιλοζωικοί Σύλλογοι που εμπλέκονται στη διαχείριση αδέσποτων, προτείνουν να:



Bar_Chart_34_E12:Suggestions_for_the_role_of_AWAs

The AWAs are both suggested to be appropriately certified, for their ability to handle strays, by Minagric and be paid by it in order to undertake the specific task after regular reporting of their actions to the municipality (Bar_Chart_34_E12).

E13) Ως προς την αποτροπή πρόσβασης των δεσποζόμενων ζώων συντροφιάς σε κοινόχρηστους χώρους, προτείνετε αυτά να μην έχουν πρόσβαση εντός:



Bar_Chart_35_E13:Suggestions_for_non-access_of_owned_companion_animals_to_Public_Places

E14) Ως προς την πρόσβαση των δεσποζόμενων ζώων συντροφιάς σε κοινόχρηστους χώρους, αυτά προτείνετε να έχουν πρόσβαση εντός



Bar_Chart_36_E14: Suggestions for access of owned companion animals to Public Places

The owned animals are suggested to have access only to places constructed especially for companion animals (Bar_Chart_35_E13) and mainly not to have access to public parks (Bar_Chart_36_E14).

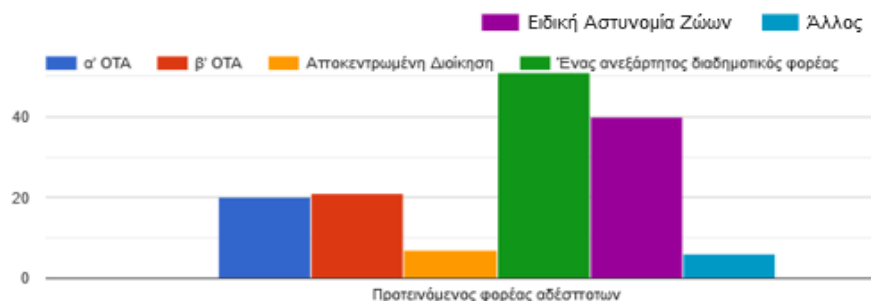
E15) Ως προς την αναπαραγωγή των δεσποζόμενων σκύλων, προτείνετε να:



Bar_Chart_37_E15: Suggestions about owned animals' Breeding Management

The neutering of owned companion animals should be compulsory with the only exceptions of the shepherd and hunting dogs (as it is applied until today) with the obligation of a strict declaration of the dogs' births (Bar_Chart_37_E15).

E16) Ο φορέας - επίπεδο βαθμίδας της υπηρεσίας που προτείνετε να ασχολείται με τα αδέσποτα είναι:



Bar_Chart_38_E16: Suggestions about the appropriate Body to undertake strays' task

The special Body to undertake the strays' task should be founded saw as Bar_Chart_31_E9 (Bar_Chart_38_E16).

E17) Αν το αντικείμενο παραμείνει στους Δήμους, προτείνετε να:



Bar_Chart_39_E17: Suggestions for the Directory to undertake Strays task if remaining in Municipalities

In case the Strays' task remains to be municipal, it is suggested that an independent Department should be defined (Bar_Chart_39_E17).

E18_Open_non-compulsory_Question_for_further_relevant_information

Most of the problems originate from the fact that strays have to be left outside again after joining the municipal strays' vet care managerial program (electronic marking, neutering, receiving anti-parasites' care etc.).

Most of the employees' arguments about the stress they receive was related to the problematic law and the fact that municipalities are not the proper Bodies to invest on seriously equipped and organized services and thus, to hold such a responsibility against citizens' protection and safety.

Discussion

Homeless companion animals in Greece arose rapidly since 2012, because of various reasons the main of which are the economic crisis since 2011, the parallel enactment of law 4056/12 causing the shutting down of several animal farms while ending up in releasing their shepherds despite the law, plus the fact that rabies' incidents of 2014 affected strays' adoptions in a negative way.

Through the present survey, it was investigated if and why the relevant employees undergo stress. A questionnaire of initially 58 questions, 13 of which were eventually excluded, was responded by 100 valid answers, which were observed better and further analyzed statistically. The analysis referred to 5 findings, the comparison

among them, a hypothesis test for future expectations if the situation remains the same and finally detect the causes and make suggestions for improvements.

It was found that the related employees undergo high or even excess stress, no matter they are men or women. One of its main factors is that, although the Strays' Services are mainly staffed with overqualified and highly generally experienced people, the majority of them is relatively new to the special strays' service or the experienced ones undergo the deficiencies the related law holds, during the last decade. Over 70% of the municipal services in question are understaffed, or zero-staffed, which puts pressure to the Head of the Directory to cope alone with the loads of the related administrative work, among his/her managerial duties.

Most of the strays' services' officials are of irrelevant specialty, since a very small proportion of the municipalities have hired vets, capturing crews and constructed a municipal shelter. Most of the employees in question are obliged to supervise specialized private co-operators, for services they are not aware of, stack to their offices, spending most of their daily working time to answering the phone calls of angry citizens' about aggressive animals and their increasing populations and attacks, that the municipality has to take the responsibility of, with the "hands tight" not having the right to keep the strays permanently fenced. The owned companion animals should follow birth control but no authority took the responsibility to check. In addition, feeding of roaming animals being allowed to any public place, causes confusion to the appreciating and eventually attacking dogs, because of their protection of the place they feel familiar with.

Among the complainers, AWAs are the more active ones, putting either direct pressure to the municipal political bodies, through legal or illegal ways, or indirect pressure through some radio and TV advertisement misinforming spots, about the municipalities' legal restrictions, resulting in excess mobbing against the related employees.

The fact that the various municipalities have defined the strays' service under a range of different Directories, keeping them understaffed both from the proper number and the related specializations, indicates disorganization and confusion of how to handle strays' task.

Such services are responsible of handling high levels of funding, which undergoes general judgment for the possibility of covering politicians' cliental dealings.

My personal estimation is that small municipalities, of no or very little staff and ability to fund such services, is possible to parasite against their neighborhood municipalities after politicians' intervention and against the related employees' awareness; this can explain part of the lack of related information to about 100 small municipalities' web sites.

The Linkert Scaled questions with the highest score of employees' anxiety or stress (the average of the medians of which, constituted the "Stress Variable") were ten of them; the ones of excess stress were about the official's possibility against the state funding's destination (whether it is spent for owned instead of stray animals), the long working hours into listening to citizens' complaints, the deficiency of post-adoption information about the lack of stray dogs, the relevance of the mosquito control program with the spread of zoonoses, the daily mobbing from external factors (AWAs, politicians, Media, the district attorney), the failure of the work targets, the continuous thinking about work even after leaving work, the will to change position easily and finally the officials' disagreement that they have the best job in the municipality.

There were thirteen more scaled questions of lower medians, posing important topics, but probably not clearly expressed, being the reason those were excluded from "Stress Variable" estimation. They referred to the responsibility the employees have, being indirectly involved with the supervising and signing of related documents, about the proper strays' vet care; in addition, according to a Ministerial Circular, owned animals, not obliged to be neutered, being adopted by another owner or even via a citizen's written application who would claim that the animal was found outside, have to be treated like strays and be electronically marked and sterile, under civil funds, the ones a civil servant signs for, fostering illegality on behalf of the officials and customer relationship phenomenon on behalf of the politicians. The rest of the excluded scaled questions were about the legal dangers, civil servants, involved with the strays' service, usually face, together with any health and psychological consequences of them, their families, friends or even surroundings related to the strays' task's stressful demands, and finally, the level the officials' tensed attitude and their overtime working or bad

mood that contributes to a malfunctioning co-operation with their colleagues or the thought of quitting from their job.

Most of time, mood and energy consuming tasks that a municipal official is called to face, daily, are the various documentation and the frequent listening to angry citizens, both time and energy consuming procedures, some of the documentation originating from other authorities and civil bodies which presupposes more caution on the answers' context. In more details, one of the most demanding tasks of municipal employees of strays' services refers to the written answers or reviews (several of them under urgent priority) that have to be responded to citizens' oral, e-mailed, announced to local press or written requests, to other civil bodies' related documentation, to Animal_Welfare_Associations' claims and accusations or police penalties to companion animals' owners, etc. Most of the requests are related to abandoned puppies, pregnant, hungry, hurt, or ill roaming animals and the damages or attacks of theirs.

Documentation also includes the drafting of technical specifications of the written co-operation with private specialists' contracts such as the shelters' owners, the vets, or the dog-food suppliers, demanding specialized knowledge.

Being close to a political Head of the Service can also be mood – costing and pressure imposing to the municipal officials.

The, at least once a month, secretariat support to usually the 5-member committee can also be demanding since the related employee, has to be cautious to initially spot the same dog's repeating attacks, from the incoming documentation and pass it on to the 5member committee, in order for it to take a fair decision on behalf of other animals, humans and the attacking animal itself. In a non-homophone decision, the topic has to be examined from the 3member committee (L. 4039/12). All the above, are necessary to be based on specific collected documentation, in order to avoid the municipality being accused for indifference to its legal obligations, but also to convince the two members of AWA, although they are practically time-consuming, are necessary to be realized frequently, constituting another demanding task for the employees.

Despite the efforts and the high levels of funding, under the present legal frame and the existing municipal organization, the situation becomes worst for all parties, referring to AWAs, animals and civil Bodies, but most importantly, the dog bites and, generally,

their attacks to other animals or people still increase together with the excessive stress of the related municipal employees.

Conclusions

The strays' managerial system in Greece is indicated to be problematic and is bound to undergo serious legal and organizational changes in order to be faced properly and have the related employees working under normal conditions.

The excessive number of bites from stray animals indicates the importance of the utilization of animal shelters and the control of stray animals (Akpinar, *et al.*, 2015).

The related municipal employees, being the most relevant ones, suggested that the stray animals should be fenced in large planted areas (thus not left in the civil environment anymore) or via merged shelters (Turken, Carrillo and Paul, 2020), with an AWAs strong role on the care the restricted animals would receive (Sandøe *et al.*, 2019). A parallel owned animals' commitment to be sterile or at least under serious birth control, having several Civil Bodies seriously involved, would be a serious solution on eliminating free roaming populations, whose natural environment or guarantee their welfare, is proved not to be the civil one, apart from people's welfare (Doron, 2020; <https://onlinelibrary.wiley.com/doi/epdf/10.1111/taja.12380>) (Figure_28).



Figure_28: Human, non-human and animal welfare are strongly connected

(Doron, 2020; <https://onlinelibrary.wiley.com/doi/epdf/10.1111/taja.12380>)

The responders also posed two basic renewal and improvement propositions for the proper strays' management, one of which was about crucial changes to the Municipal Strays' Services, in case the task remained. The service should constitute an independent Department under no Directory, with the private vets being bound to support the owned animals' birth control, after having those animals neutered, by a special state voucher (Høgåsena,_2013), and any related information declared to the Ministry's platform, to which it is suggested that the municipal officials will be provided with higher access; in addition, the 5-Committee's composition should change and exclude AWA members whose role should be governmentally supported on the promotion of adoptions, having the ill strays under the responsibility of the existing vet services of the local Regional Units before entering the large restricted areas of permanent stray fencing until their adoption or death from physical causes. Stray adoption should be supported by special governmental campaigns via TV, flyers etc. (Høgåsena,_et_al.,_2013; Alabi,_et_al.,_2014) or special platforms (Kolondaisamy,_et_al.,_2016; <https://www.thejakartapost.com/life/2019/07/13/pet-adoption-mobile-app-adopsi-seeks-to-help-more-stray-animals.html>; <https://www.thepuketnews.com/new-app-to-help-find-homes-for-stray-animals-78771.php>) or mobile applications for both about to be adapted (<https://www.thejakartapost.com/life/2019/07/13/pet-adoption-mobile-app-adopsi-seeks-to-help-more-stray-animals.html>) and lost owned animals (<https://www.thepuketnews.com/new-app-to-help-find-homes-for-stray-animals-78771.php>). The campaign in question should focus to the advantages that both stray animals and their adopters would receive (Scott,_et_al.,_2018; <https://adoptastray.com/>) and provide financial privileges to the adopters (Spencer,_2017), in order to prevent roaming animal increase (Mohanty,_et_al.,_2020)..

Stray Services should consist of increased personnel, and have at least one vet (in case there is no municipal one, a civil one even from another Body should be legally obliged to contribute, instead) and not less than a two-member capturing crew (in case there are no specialized ones, it is suggested to appoint two employees of another service and to be accordingly trained) with all the involved equipment (capturing loops, vehicles etc.),

including a vet clinic to apply the Birth-Control-Programs (Høgåsen, 2013) but not releasing the animals afterwards. A special police force would seriously contribute, too.

The unnecessary documentation could be eliminated to the related employees, eventually turned into back-office employees (Di_Nunzio, *et al.*, 2009) and eliminating their burnout, because of social commitment duties (Upadaya and Salmela-Aro, 2020), by founding a central line for receiving any kind of complaints, including the ones for possible roaming animals, since their population would decrease after keeping them fenced.

The alternative proposition, to which most of the employees supported, was a two way one with the co-founding of an independent and autonomous, specialized Body and a Special Animals' Police Force. The first one should be properly equipped and staffed, in order to operate as a central vet clinic serving neighboring municipalities and being able to respond to any stray animal's incident, on a 24hr basis. The second one could be a sub-group of the existing police force, but constituting of trained employees to handle owned dogs and not pose penalties to illegal animal owners without checking on their animals.

Finally, the cultivation of animal welfare spirit should start from the youngsters' proper school education (Arikan, Bakir and Özden, 2019), while the same should be supported for adults through educational campaigns in order to enhance responsible ownership (Yavuzcan, *et al.*, 2019; Alabi, *et al.*, 2014).

In conclusion, Strays' Services are high job-demanding positions (Linos, Ruffini and Wilcoxon, 2019), for which the HR departments should implement to spot the problems and help to prevent employees' burnout. (Jackson and Schuler, 1983) through various programs such as Functional Analytic Psychotherapy (FAP) with Acceptance and Commitment Therapy (ACT) (Macías, *et al.*, 2019) or even a BurnOut Application to spot any burnout (Godia, *et al.*, 2020). The municipal HR Departments are, usually, under or mal-staffed, too.

No proposition, crucial to eliminate the employees' excess stress capable to lead to their burnout, will become true unless a radical change of the existing legal framework occurs, including details about the operation of every Civil Body involved.

Proposal_for_further_investigation

Although municipal officials constitute the main civil body working on the stray animal management issues, a more complete picture of the situation and suggestion for improvements would result from a broaden recommended study, including all the other bodies involved starting from the police force, plus the people working on the health care, the private and civil vets, plus the employees of the forestry and fishery service.

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Appendix_1: Questionnaire_for_target_group

(<https://docs.google.com/forms/d/e/1FAIpQLSdEhcIIBVfCQrJefmka5Jv1BAE73xOpOYttjW8eJW34CtgCtg/viewform>)

A) Δημογραφικά στοιχεία καθώς και για το προσωπικό του Δήμου τους που ασχολείται με το αντικείμενο των αδέσποτων

(Ερωτήσεις ανοιχτού τύπου)

A1) Σε ποιο Δήμο εργάζεστε;

A2) Σε ποιο Τμήμα και Διεύθυνση εντάσσεται το αντικείμενο των αδέσποτων στο Δήμο σας;

A3) Αριθμός ατόμων που ασχολούνται με τα αδέσποτα στο Δήμο σας πέρα από τον Προϊστάμενο Διεύθυνσης.

A4) Ειδικότητες των υπαλλήλων που ασχολούνται με τα αδέσποτα στον Δήμο σας, συμπεριλαμβανομένου του Προϊσταμένου Διεύθυνσής σας.

A5) Φύλο.

A6) Κατηγορία (ΠΕ, ΤΕ, ΔΕ) και Ειδικότητα και άλλο.

A7) Θέση (Προϊστάμενος Τμήματος, υπάλληλος εντός γραφείου, υπάλληλος εκτός γραφείου)

A8) Έτη προϋπηρεσίας σας, γενικά.

A9) Έτη ενασχόλησής σας με το αντικείμενο των αδέσποτων.

B) Ερωτήσεις και στοιχεία για τον Δήμο τους ως προς το αντικείμενο των αδέσποτων.

(Ερωτήσεις ανοιχτού τύπου)

B1) Ποιες υλικοτεχνικές παροχές διαθέτει ο Δήμος σας (καταφύγιο, κτηνιατρείο, όχημα μεταφοράς ζώων συντροφιάς, κτλ);

B2) Ποιο προσωπικό σχετικών ειδικοτήτων έχει ο Δήμος σας, συνολικά (κτηνίατρο, συνεργείο, περισυλλογής);

B3) Πραγματοποιείτε πρόγραμμα διαχείρισης αδέσποτων (ναι με ίδια μέσα, ναι με ιδιώτες, όχι);

B4) Αν συνεργάζεστε με ιδιώτες, ποιων ειδικοτήτων είναι αυτοί (προμηθευτής τροφών, κτηνίατρος, ιδιοκτήτης καταφυγίου, περισυλλογέας, κτλ);

B5) Ποιο το ύψος της δαπάνης που διαθέτει ο Δήμος σας σε προμήθειες και υπηρεσίες (εξαιρουμένων των μισθών των υπαλλήλων) για τα αδέσποτα κάθε έτος κατά μέσο όρο;

B6) Έχει αυξητική τάση, με το πέρασ των ετών που ασχολείστε εσείς, η υποβολή παραπόνων/καταγγελιών επιθέσεων σε πολίτες και αποζημιώσεων από αδέσποτα στο Δήμο σας, κι αν ναι, κατά πόσο σχετίζεται αυτό, πιστεύετε, με τα αρθρ. 10 και 17 του ν. 4056/12 (ανεπιτήρητα παραγωγικά ζώα) ή την οικονομική κρίση;

B7) Πιστεύετε ότι οι υπάλληλοι με ειδικές σπουδές αποδίδουν καλύτερα από άλλους λειτουργώντας υπό το ίδιο νομικό πλαίσιο;

B8) Αν έχετε συνεργαστεί με εθελοντές κτηνιάτρους, πόσο εύκολο ήταν αυτό και ποι α εμπόδια είχατε να αντιμετωπίσετε;

Γ) Ερωτήσεις για την ανασφάλεια ως προς τον έλεγχο που νιώθει ότι έχει ο υπάλληλος για το αντικείμενο των αδέσποτων.

(Απάντηση: Συμφωνώ απόλυτα-5, Συμφωνώ-4, Ουδέτερα-3, Διαφωνώ-2, Διαφωνώ πλήρως-1)

Γ1) Θα νιώθατε καλά αν πιστεύατε ότι ένα μέρος των χρημάτων που δαπανά ο Δήμος σας για τα αδέσποτα κάθε έτος, καταλήγει σε δεσποζόμενα (ημιαδέσποτα);

Γ2) Θα νιώθατε καλά αν, κατά το μεγαλύτερο μέρος της ημέρας σας, ήσασταν δεσμευμένος/η στην εξεπαφή ή δια τηλεφώνου επαφή με πολίτες για θέματα που αφορούν σε αδέσποτα;

Γ3) Θα νιώθατε στρες, ως έμμεσα, εμπλεκόμενοι με τη φροντίδα των αδέσποτων, την αντιμετώπιση των ασθενειών που φέρουν και μπορούν να μεταδώσουν στον άνθρωπο, αλλά και με την ορθή κτηνιατρική φροντίδα που θα έπρεπε να λαμβάνουν τα ζώα (μελετητής, επόπτης, επιτροπή παραλαβής);

Γ4) Θα νιώθατε καλά εάν σας έλεγαν πως σε κάθε υιοθεσία ή αλλαγή ιδιοκτήτη ζώου συντροφιάς, φέροντας ή μη, το ζώο, ηλεκτρονική σήμανση, αυτό θα πρέπει να καταχωρείται στη βάση δεδομένων του ΥπΑΑΤ στο όνομα του Δήμου πρώτα (και άρα υποχρεωτικά να εντάσσεται στο πρόγραμμα);

Γ5) Θα νιώθατε άγχος γνωρίζοντας ότι μια αίτηση πολίτη ή ιδιώτη κτηνιάτρου για ένα ζώο χωρίς ηλεκτρονική σήμανση, πρέπει αυτό να ενταχθεί στο πρόγραμμα του Δήμου σας, χωρίς περιθώρια αμφιβολίας για το κατά πόσο αυτό είναι αδέσποτο, καθώς και οι δύο έχουν νομικό δικαίωμα να αναφέρουν στον εισαγγελέα την οποιαδήποτε άρνηση από μέρους του Δήμου;

Γ6) Θα νιώθατε άγχος γνωρίζοντας ότι μπορείτε να βρεθείτε υπόλογος εάν δεν ιχνηλατείτε την κατάληξη των ζώων που υιοθετούνται από τα ίδια επαναλαμβανόμενα άτομα;

Γ7) Νιώθετε χαλαρά νιώθοντας ότι δεν ενέχει κινδύνους, για έναν δημόσιο υπάλληλο, το αντικείμενο των αδέσποτων, γενικά;

Γ8) Νιώθετε άγχος αν γνωρίζετε ότι η ορθή αντιμετώπιση των εντόμων, παρασίτων, κουνουπιών, κλπ. σε πάρκα, κοινόχρηστους χώρους και υγρά στοιχεία σχετίζεται άμεσα με σοβαρές ζωοανθρωπονόσους/ασθένειες των αδέσποτων;

Γ9)_Θα_νιώθετε_ανασφάλεια_αν_δεν_ήσαστε_πάντα_παρών_κατά_την_παραλαβή_προμηθειών_(φαρμάκων,_τροφών,_κτλ.)_ή_εργασιών_(περισυλλογής,_στείρωσης,_κτλ.);

Γ10)_Σας_πιέζει_ψυχολογικά_όταν_αναφέρετε_στο_αντικείμενο_με_το_οποίο_ασχολείστε_σε_μια_νέα_γνωριμία_στην_προσωπική_σας_ζωή;

Δ)_Ερωτήσεις_(κλειστού_τύπου)_περί_της_ψυχικής_και_σωματικής_κατ_απόνησης_των_υπαλλήλων_που_ασχολούνται_με_τα_αδέσποτα_στρες_λόγω_φύσης_δουλειάς.

(Απάντηση:_Συμφωνώ_απόλυτα-5,_Συμφωνώ-4,_Ουδέτερα-3,_Διαφωνώ-2,_Διαφωνώ_πλήρως-1)

Δ1)_Εισπράττετε_καθημερινή_πίεση_από_διάφορους_εξωτερικούς_παράγοντες_(πχ_πολίτες_μέλη_Φιλοζωικών_οργανώσεων,_αιρετούς,_τοπικά_μέσα_ενημέρωσης,_κτλ.);

Δ2)_Νιώθετε_ότι_έχετε_άγχος_επειδή_δεν_επιτυγχάνετε_το_απαιτούμενο_αποτέλεσμα_του_προγράμματος_αδέσποτων_του_Δήμου_σας;

Δ3)_Νιώθετε_ότι_κάποια_από_τα_προβλήματα_υγείας_που_αντιμετωπίζετε_οφείλονται_στην_ενασχόλησή_σας_με_το_αντικείμενο_των_αδέσποτων;

Δ4)_Διαπιστώνετε_να_επηρεάζεται_συχνά_ο_ύπνος_και_την_ψυχική_σας_γαλήνη_από_την_ενασχόλησή_σας_με_το_αντικείμενο_των_αδέσποτων;

Δ5)_Έχετε_την_πεποίθηση_ότι_κάποια_προβλήματα_της_προσωπικής/οικογενειακής_σας_ζωής_οφείλονται_στην_ενασχόλησή_σας_με_το_αντικείμενο_των_αδέσποτων;

Δ6)_Αισθάνεστε_ότι_επηρεάζετε_την_ψυχολογία_των_δικών_σας_ανθρώπων_(φίλων,συζύγου,_τέκνων,_γονιών)_λόγω_της_ενασχόλησής_σας_με_το_αντικείμενο_των_αδέσποτων;

Δ7)_Απασχολείτε_τη_σκέψη_σας_με_το_αντικείμενο_των_αδέσποτων_και_πέρα_από_το_ωράριό_σας;

Δ8)_Εργάζεστε_συχνά_με_το_αντικείμενο_των_αδέσποτων_και_πέρα_από_το_ωράριό_σας;

Δ9)_Αισθάνεστε_τη_χαρά_του_να_αποφέρει_το_επιθυμητό_αποτέλεσμα_ο_υπηρεσιακός_σας_κόπος;

Δ10)_Εάν_σας_πρότειναν_να_αλλάξετε_αντικείμενο_θα_το_κάνατε_με_ευκολία;

Δ11)_Πιστεύετε_ότι_εργάζεστε_στο_καλύτερο_αντικείμενο_των_Δήμων;

Δ12)_Έχετε_την_εντύπωση_ότι_εισπράττετε_αρνητικά_συναισθήματα/συμπεριφορά_από_συναδέρφους_άλλων_τμημάτων_ή_υπηρεσιών,_τέτοια_που_να_σας_καταβάλλουν_ψυχικά,_επειδή,_κατά_κάποιο_τρόπο,_σχετίζονται,_επίσης,_με_τα_αδέσποτα_(μέλη_επιτροπών_διαγωνισμού_ή_παραλαβής,_Τμήμα_Προμηθειών,_Οικονομική_Υπηρεσία_Δήμου_σας,_Κτηνιατρική_Υπηρεσία_Περιφερειακής_Ενότητας,_Αστυνομικούς,_κτλ.);

Δ13)_Έχετε_σκεφτεί/αιτηθεί_ποτέ_να_παραιτηθείτε_από_τη_δουλειά_σας_εξαιτίας_του_αντικειμένου_των_αδέσποτων;

Ε) Αποβλέποντας στη μείωση άγχους των υπαλλήλων που ασχολούνται με τα αδέσποτα, προτάσεις για:

(Ερωτήσεις πολλαπλών επιλογών)

E1) Η οποιαδήποτε καταγγελία, αναφορά, παράπονο στην υπηρεσία σχετικά με αδέσποτα, προτείνετε να γίνεται αποδεκτή μόνο εάν:

- (α) Κατατίθεται ιδιοχείρως αρκεί να έχει φωτογραφία του ζώου,
- (β) Κατατίθεται σε ανεξάρτητη κεντρική υπηρεσία,
- (γ) Κατατίθεται μέσω της εφαρμογής gov.gr μέσω εξειδικευμένης φόρμας,
- (δ) Άλλο

E2) Οι 5μελής και 3μελής Επιτροπές προτείνετε να:

- (α) Καταργηθούν,
- (β) Μειώσουν τα μέλη τους,
- (γ) Ενισχυθούν με περισσότερα μέλη,
- (δ) Συνεδριάζουν κατά βούληση καθώς θα γνωρίζουν όλες τις υποθέσεις της υπηρεσίας με καθημερινά ηλεκτρονικά μηνύματα από τους αρμοδίους υπαλλήλους,
- (ε) Άλλο.

E3) Τα δεσποζόμενα προτείνετε να:

- (α) Στερώνονται από ιδιώτες κτηνίατροι δημοσία δαπάνη.
- (β) Καταγραφούν από τη Ελληνική Στατιστική Υπηρεσία (ΕΛΣΤΑΤ).
- (γ) Επιδοτούνται/έτος από το κράτος, με κάποιο τρόπο και μετά από έλεγχο, εάν παρ αμένουν υπό την επιτήρηση κάποιου ιδιοκτήτη,
- (δ) Δηλωθούν σε ειδική πλατφόρμα, με αναφορά στο όνομα του κτηνιάτρου που τα παρακολουθεί, όπως και την ημερομηνία της πιο πρόσφατης γέννας του θηλυκού ζώου τους (παραδίδοντα) ειδική βεβαίωση στις υπηρεσίες διαχείρισης αδέσποτων).
- (ε) Άλλο.

E4) Γενικά, αδέσποτα σκυλιά που εντάσσονται στο πρόγραμμα προτείνετε να:

- (α) Διατηρούνται σε ελεύθερους χώρους μεγάλων εκτάσεων.
- (β) Προωθούνται προς υιοθεσία.
- (γ) Θανατώνονται μετά από ένα διάστημα εάν δε βρεθεί ενδιαφερόμενος.

(δ) _Επιστρέφονται_στο_περιβάλλον,_όπως_ισχύει.

(ε) _Άλλο.

E5)_Τα_αδέσποτα_που_διαγνώσκονται_με_ζωανθρωπονόσους,_προτείνετε_να_τα:

(α) _Αναλαμβάνουν_οι_Κτηνιατρικές_των_ΔΑΟΚ.

(β) _Κάνουν_ευθανασία.

(γ) _Θεραπεύουν_και_να_τα_αφήνουν_ελεύθερα,_όπως_ισχύει.

(δ) _Άλλο.

E6)_Τα_αδέσποτα_που_επιτίθενται_απρόκλητα,_είναι_δεν_είναι_στειωμένα,_προτείνετε_να_τα:

(α) _Απομονώνονται_για_2_μήνες_σε_χώρο_με_λιγότερες_απαιτήσεις_του_υπάρχοντος_νομικού_πλαισίου.

(β) _Εκπαιδεύονται,_δημοσία_δαπάνη,_για_κάποιο_διάστημα_και_να_αφήνονται_ελεύθερα_μετά.

(γ) _Εκπαιδεύονται,_δημοσία_δαπάνη,_και_να_διατηρούνται_έγκλειστα_σε_χώρο_με_λιγότερες_απαιτήσεις_του_υπάρχοντος_νομικού_πλαισίου,_μέχρι_να_υιοθετηθούν_ή_να_φύγουν_από_τη_ζωή_από_φυσικά_αίτια.

(δ) _Άλλο.

E7)_Στο_εξωτερικό,_επειδή_οι_γάτες_έχουν_ελεύθερο_χαρακτήρα,_καθώς_ακόμη_και_δεσποζόμενες,_κυκλοφορούν_εκτός_του_χώρου_τους,_γι'_αυτό,_όταν_τις_εντοπίζουν_να_περιφέρονται_εκτός_οικισμού,_τις_θανατώνουν_ακόμη_και_πολίτες,_με_ειδική_άδεια_από_τις_Αρχές._Τι-πιστεύετε_για_την_Ελλάδα;_Προτείνετε_να:

(α) _Περιφέρονται_αρκεί_να_εντάσσονται_στο_πρόγραμμα_του_Δήμου.

(β) _Περιφέρονται_και_να_εντάσσονται_στο_πρόγραμμα_μόνο_αυτές_που_ασθενούν_ή_τραυματίζονται.

(γ) _Στειρώνονται_από_ιδιώτες_κτηνιάτρους,_δημοσία_δαπάνη,_με_πρωτοβουλία_πολιτών,_καθώς_οι_περισσότερες_είναι,_κατά_κάποιο_τρόπο,_δεσποζόμενες_(άρα_τσιπ_στο_όνομα_1_διοκτήτη).

(δ) _Άλλο.

E8)_Η_στελέχωση_των_αρμοδίων_υπηρεσιών_αδέσποτων_(αριθμός_υπαλλήλων_και_ειδικότητες)_προτείνετε_να_απαρτίζεται_από_τουλάχιστον:

(α) _Έναν_Κτηνίατρο_κι_αν_δεν_υπάρχει_αυτός,_να_ορίζεται_υποχρεωτικά_από_τη_ΔΑΟΚ_κάποιος_ή_να_υπογράφεται,_υποχρεωτικά,_σύμβαση_εργασίας_ειδικού_καθεστώτος_με_ένα_ιδιώτη.

(β) Δύο Διοικητικούς καθώς υπάρχει φόρτος διαχείρισης αλληλογραφίας και του αρχείου.

(γ) Δύο άτομα συνεργείου περισυλλογής, κι αν δεν υπάρχουν, να ορίζονται δύο από άλλο τομέα και να εκπαιδεύονται από τη ΔΑΟΚ, ή να προσλαμβάνονται υποχρεωτικά με ειδικό καθεστώς, δύο άτομα που να αποδεικνύουν εμπειρία.

(δ) Άλλο.

E9) Για τις σχετικές υλικοτεχνικές παροχές προτείνετε να :

(α) Μεριμνήσει το αρμόδιο Υπουργείο την προμήθεια οχημάτων, βρόγχων περισυλλογής, σαρωτών ταυτοποίησης (τσιπ) κτλ., κεντρικά, και να τα διανέμει σε κάθε Δήμο.

(β) Απλοποιηθεί η αδειοδότηση ενός δημοτικού κτηνιατρείου.

(γ) Οριστούν, νόμιμα, ως χώροι ενδιατημάτων, μεγάλες εκτάσεις, προς μόνιμη φύλαξη των ζώων.

(δ) Ιδρυθούν άλλες περιφερειακές υπηρεσίες διαχείρισης αδέσποτων που να παρέχουν όλα τα σχετικά (προσωπικό, εργασίες, χώρους, κλπ.).

(ε) Άλλο.

E10) Το αρμόδιο Υπουργείο προτείνεται να δημιουργήσει, ή να ανανεώσει την ήδη υπάρχουσα, ειδική ηλεκτρονική πλατφόρμα συμπλήρωσης όλων των στοιχείων των ζώων συντροφιάς, συμπεριλαμβανομένου:

(α) Του αντιλυσσικού εμβολίου.

(β) Των γεννών των ενηλίκων θηλυκών.

(γ) Της αυτόματης εμφάνισης της ημερομηνίας εφαρμογής της ηλεκτρονικής σήμανσης (τσιπ) στο ζώο στην εκτυπωμένη βεβαίωση πιστοποιητικού δεσποζόμενου ζώου συντροφιάς.

(δ) Της αυτόματης ηλεκτρονικής αποστολής της ανωτέρω βεβαίωσης στον οικείο Δήμο, αφού οι κτηνίατροι θα μπορούν να τον επιλέγουν από ειδικό σημείο αναζήτησης κατά την καταχώρηση του ζώου.

(ε) Άλλο.

E11) Οι ιδιώτες κτηνίατροι, μη εξαιρουμένου κανενός, προτείνετε να:

(α) Αναρτούν, υποχρεωτικά, σε εμφανές σημείο του χώρου τους, ειδική αφίσα και φυλλάδιο του Αρμοδίου Υπουργείου, ώστε να ενημερώνουν τους πολίτες για τις υποχρεώσεις τους.

(β) Παρακολουθούν τις γεννές των δεσποζόμενων ζώων συντροφιάς, να δηλώνουν των αριθμό των κουταβιών και των νέων ιδιοκτητών, και να ενημερώνουν ειδική πλατφόρμα του αρμοδίου Υπουργείου, προσβάσιμη από όλους τους Δήμους.

(γ) Καταχωρούν την ηλεκτρονική ταυτότητα ενός δεσποζόμενου ζώου στην ανωτέρω πλατφόρμα, προσβάσιμη από όλους τους Δήμους.

(δ) Στερούν τα δεσποζόμενα ζώα συντροφιάς, δημοσία δαπάνη από το αρμόδιο Υπουργείο.

(ε) Άλλο

E12) Οι Φιλοζωικοί Σύλλογοι που εμπλέκονται στη διαχείριση αδέσποτων, προτείνετε να:

(α) Εμβολιάζονται με αντιλυσσικό εμβόλιο, δημοσία δαπάνη από το Αρμόδιο Υπουργείο.

(β) Πιστοποιούνται από το αρμόδιο Υπουργείο, ως την περισυλλογή και τη διαχείριση αδέσποτων ζώων συντροφιάς.

(γ) Αξιώνονται δημόσιες εκτάσεις, δωρεάν, προς τη φύλαξη και διάσωση αδέσποτων (μόνο αν τα διατηρούν έγκλειστα και αναλαμβάνουν τη φροντίδα τους οι ίδιοι).

(δ) Αναλάβουν πλήρως τη διαχείριση αδέσποτων αμειβόμενοι από το αρμόδιο υπουργείο, αναφερόμενοι κάθε μήνα στον οικείο Δήμο τους για την όλη διαχείριση (οικονομικά και στατιστικά στοιχεία, φωτοτυπίες καρτελών κτλ.)

(ε) Άλλο.

E13) Ως προς την αποτροπή πρόσβασης των δεσποζόμενων ζώων συντροφιάς σε κοινόχρηστους χώρους, προτείνετε αυτά να μην έχουν πρόσβαση εντός:

(α) Δημοσίων υπηρεσιών.

(β) Χώρων εστίασης.

(γ) Μέσων μεταφοράς.

(δ) Κοινόχρηστων πάρκων.

(ε) Καμία πρόσβαση αλλά μόνο σε ειδικούς χώρους για ζώα συντροφιάς (πχ είσοδος σε δημόσιες υπηρεσίες, ειδικός χώρος στα μέρη εστίασης, χώρος αποσκευών και σε ειδικά πάρκα για ζώα συντροφιάς).

(στ) Άλλων χώρων.

E14) Ως προς την πρόσβαση των δεσποζόμενων ζώων συντροφιάς σε κοινόχρηστο υς χώρους, αυτά προτείνετε να έχουν πρόσβαση εντός:

(α) Δημοσίων υπηρεσιών.

(β) Χώρων εστίασης.

(γ) Μέσων μεταφοράς.

(δ) Κοινόχρηστων πάρκων.

(ε) Άλλων χώρων.

E15) Ως προς την αναπαραγωγή των δεσποζόμενων σκύλων, προτείνετε να:

(α) Επιτρέπονται οι γέννες μόνο στα κυνηγετικά και ποιμενικά σκυλιά, δεδομένου του ρόλου τους, μετά από τη δήλωσή τους σε ειδική πλατφόρμα (αριθμό κουταβιών, νέοι ιδιοκτήτες και αριθμός ηλεκτρονικής ταυτοποίησης αυτών), προσβάσιμη από τους Δήμους.

(β) Επιτρέπεται να γεννάνε όλα, αρκεί να δηλώνεται η γέννα, ως άνω.

(γ) Επιβληθεί η στειρώση σε όλα τα δεσποζόμενα ζώα.

(δ) Άλλο.

E16) Ο φορέας/επίπεδο βαθμίδας της υπηρεσίας που προτείνετε να ασχολείται με τα αδέσποτα είναι:

(α) α' ΟΤΑ.

(β) β' ΟΤΑ.

(γ) Αποκεντρωμένη Διοίκηση.

(δ) Ένας ανεξάρτητος διαδημοτικός φορέας.

(ε) Ειδική αστυνομία ζώων.

(στ) Άλλο.

E17) Αν το αντικείμενο παραμείνει στους Δήμους, προτείνετε να:

(α) Ορίζεται ως αυτοτελές Τμήμα.

(β) Εντάσσεται στη Διεύθυνση Πρόνοιας.

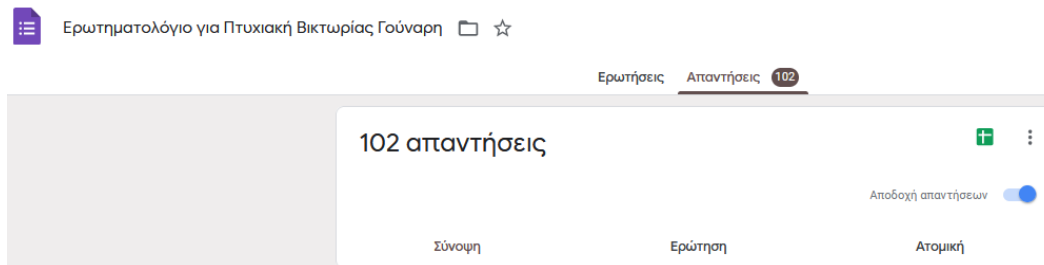
(γ) Εντάσσεται στη Διεύθυνση Περιβάλλοντος και Πρασίνου.

(δ) Εντάσσεται στη Διεύθυνση Οικονομικής Ανάπτυξης.

(ε) Άλλο

E18) Οτιδήποτε άλλο που εσείς θεωρείτε άξιο λόγου

Appendix_2:_Initial_outcoming_data



Figure_29:102_Responses_before_excluding_the_fake_and_the_duplicated_ones

<p>ΔΕΛΤΑ ΘΕΣΣΑΛΟΝΙΚΗΣ</p> <p>Καλαμάτα, Μεσσηνία</p> <p>Δήμος λοκρων φθιωτιδας</p> <p>ΔΗΜΟΣ ΠΕΝΤΕΛΗΣ</p> <p>Δήμος αποκορωνου</p> <p>ΠΑΡΟΥ</p> <p>Ζωγράφου</p> <p>ΜΑΛΕΒΙΖΙΟΥ</p>	<p>ΔΙΟΝΥΣΟΥ</p> <p>ΔΗΜΟΣ ΑΛΜΟΠΙΑΣ, Ν. ΠΕΛΛΗΣ</p> <p>ΔΗΜΟΣ ΔΥΤΙΚΗΣ ΣΑΜΟΥ</p> <p>ΔΗΜΟΣ ΕΡΕΤΡΙΑΣ, ΕΥΒΟΙΑ</p> <p>ΔΗΜΟΣ ΚΙΛΚΙΣ , ΝΟΜΟΥ ΚΙΛΚΙΣ</p> <p>Στον Δήμο Ιστιαίας Αιδηψου</p> <p>Δήμος Τανάγρας, Ν. Βοιωτίας</p> <p>ΔΗΜΟΣ ΝΙΚΑΙΑΣ-ΑΓ.Ι.ΡΕΝΤΗ</p>	<p>Δήμο Ναυπλίων Νομού Αργολίδας</p> <p>ΔΗΜΟ ΒΕΡΟΙΑΣ ΝΟΜΟΣ ΗΜΑΘΙΑΣ</p> <p>ΔΗΜΟΣ ΛΕΡΟΥ</p> <p>ΔΗΜΟ ΠΑΓΓΑΙΟΥ ΝΟΜΟΥ ΚΑΒΑΛΑΣ</p> <p>Δήμο Τρικκαίων</p> <p>ΔΗΜΟΣ ΡΟΔΟΥ, ΝΟΜΟΣ ΔΩΔΕΚΑΝΗΣΟΥ</p> <p>ΑΝΑΤΟΛΙΚΗΣ ΣΑΜΟΥ , ΝΟΜΟΥ ΣΑΜΟΥ</p> <p>ΗΡΑΚΛΕΙΑΣ ΣΕΡΡΩΝ</p>
<p>ΔΗΜΟΣ ΓΟΡΤΥΝΙΑΣ , ΝΟΜΟΣ ΑΡΚΑΔΙΑΣ</p> <p>ΔΗΜΟΣ ΜΕΓΑΡΕΩΝ ΝΟΜΟΥ ΑΤΤΙΚΗΣ</p> <p>ΔΗΜΟΣ ΠΥΛΗΣ ΝΟΜΟΣ ΤΡΙΚΑΛΩΝ</p> <p>ΔΗΜΟΥ ΠΑΡΑΝΕΣΤΙΟΥ ΝΟΜΟΥ ΔΡΑΜΑΣ</p> <p>ΔΗΜΟΣ ΜΥΤΙΛΗΝΗΣ ΝΟΜΟΥ ΛΕΣΒΟΥ</p> <p>ΔΗΜΟΣ ΑΡΤΑΙΩΝ</p> <p>ΝΕΑΠΟΛΗΣ-ΣΥΚΕΩΝ</p> <p>ΔΗΜΟΣ ΠΛΑΑΝΙΑ</p> <p>ΚΑΣΣΑΝΔΡΑΣ ΧΑΛΚΙΔΙΚΗΣ</p>	<p>Δήμος Χαλανδρίου, Νομός Αττικής</p> <p>ΔΗΜΟΣ ΡΟΔΟΥ</p> <p>Δοξάτο Δράμας</p> <p>Ίλιον</p> <p>ΙΛΙΟΝ ΑΤΤΙΚΗΣ</p> <p>Δήμο Αργινίου, Ν. Αιτωλ-νίας</p> <p>Δήμος Χερσονήσου Νομού Ηρακλείου</p> <p>Σητείας</p> <p>ΔΗΜΟΣ ΔΩΔΩΝΗΣ, ΝΟΜΟΥ ΙΩΑΝΝΙΝΩΝ</p>	<p>Δόμος Αργοστολίου, Νομός Κεφακινιάς</p> <p>ΔΗΜΟΣ ΝΕΣΤΟΡΙΟΥ - ΝΟΜΟΥ ΚΑΣΤΟΡΙΑΣ</p> <p>Δήμο Ζωγράφου</p> <p>ΔΗΜΟΣ ΒΡΙΑΗΣΣΙΩΝ ΝΟΜΟΥ ΑΤΤΙΚΗΣ</p> <p>ΧΙΟΥ, ΧΙΟΥ</p> <p>Νομός Φθιώτιδας-Δήμος Λαμιέων</p> <p>ΛΗΜΝΟΥ</p> <p>ΠΟΛΥΓΥΡΟΥ ΧΑΛΚΗΣ</p>

Challenges & recommendations for improvements

ΔΗΜΟΣ ΛΟΥΤΡΑΚΙΟΥ-ΠΕΡΑΧΩΡΑΣ-ΑΓΙΩΝΘΕΩΔΩΡΩΝ, Π.Ε. ΚΟΡΙΝΘΙΑΣ Δήμος Διονύσου Δήμος Καστοριάς, Νομός Καστοριάς Δήμος Ερυμάνθου, Νομός Αχαΐας, Περιφέρεια Δυτικής Ελλάδας ΜΙΝΩΑ ΠΕΔΙΑΔΑΣ Αγία Παρασκευή, Νομού Αττικής ΡΕΘΥΜΝΟ ΔΗΜΟΣ ΑΙΓΙΑΛΕΙΑΣ ΔΗΜΟΣ ΝΑΞΟΥ ΚΑΙ ΜΙΚΡΩΝ ΚΥΚΛΑΔΩΝ,ΚΥΚΛΑΔΕΣ	ΑΛΙΜΟΥ ΝΟΜΟΥ ΑΤΤΙΚΗΣ ΔΗΜΟΣ ΔΕΛΦΩΝ , ΝΟΜΟΥ ΦΩΚΙΔΑΣ Δήμος Ευρώτα ΔΙΔΥΜΟΤΕΙΧΟ ΕΒΡΟΥ Δήμος Ρήγα Φεραίου, Νομού Μαγνησίας ΤΡΙΚΚΑΙΩΝ ΚΙΛΕΛΕΡ Δήμος Γαλατσίου, Νομός Αττικής ΣΤΥΛΙΔΑΣ	Βύρωνα-Αττική ΔΗΜΟΣ ΕΛΛΗΝΙΚΟΥ-ΑΡΓΥΡΟΥΠΟΛΗΣ Ν.ΑΤΤΙΚΗΣ Δήμος Μεσσήνης, Νομός Μεσσηνίας ΔΗΜΟΣ ΚΑΡΔΙΤΣΑΣ ΔΗΜΟΣ ΓΡΕΒΕΝΩΝ Κορυδαλλού ΦΙΛΟΘΕΗΣ-ΨΥΧΙΚΟΥ Βελβεντο
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Figure_30_A1:Municipalities_of the_employees'_answering_before_excluding_the_fake_one

Author's Statement

I hereby expressly declare that, according to the article 8 of Law 1559/1986, this dissertation is solely the product of my personal work, does not infringe any intellectual property, personal and personal data rights of third parties, does not contain works/contributions from third parties for which the permission of the authors/beneficiaries is required, is not the product of partial or total plagiarism, and that the sources used are limited to the literature references alone and meet the rules of scientific citations.