

**WP1d - Social Impact and Policy Recommendation**

## **YEARLY REPORT**

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## Social Analysis

### Introduction

Following the initial consultation occasioned by the expert meeting during the project's kick-off conference the choice of methodology outputted the direct interview with the selected respondents supported by a questionnaire. The selected categories of relevant stakeholders having in view the potential impact of the implementation of the project were: the citizens, the municipalities and the institutional partners identified by the public institutions in the field of Public Health Services. The first two categories were addressed by a personalized questionnaire having in view the nature of the respondents, a. individual persons reflecting their answers on the scale of their households and b. institutional structures (the municipalities) reflecting the answers on the scale of the community. The choice of approaching the rest of the stakeholders as national, regional or sectorial structures mainly in the field of Public Health Services imposed as a more appropriate form as a structured guided interview. The initial draft of the questionnaires, respectively the guidelines for the structured interviews were both circulated among the experts involved in the project for comments, suggestions and further improvements. Within the planned time period for this stage the questionnaires were amended and improved with particular attention to the separate and coded manner of collecting the personal data.

The core conception of the questionnaires was centered on the following relevant directions:

- knowledge and perception about the current regulatory framework;
- past and present actions in mosquitos control and their impact in terms of quality assessment, efficiency and efficacy;
- the impact over the tourism sector, the economy and the public health of the mosquitos and the mosquito borne diseases;
- current expenditure and the readiness to contribute by supporting a national monitoring and control system;
- the perception about the supporting pillars of the above mentioned system and their share of contribution.

Regarding the expenditure and the readiness and willingness to contribute and support the upcoming national monitoring and control system for mosquitos and MDBs (shall I use VBDs instead?) in the case of the citizens, the questionnaire was aiming to collect particularly the past and present expenditure at the level of the household while in the case of the municipalities the corresponding expenditure and contributions were reflecting the impact on the scale of the entire community.

The institutional interview guidelines were aiming to capture the views and the perception about:

- the readiness and the current institutional fast-response capacity for crisis situations in case of MDB outbreaks and the place/position of a monitoring and control system linked to the past and present strategic relevant initiatives;
- the overall impact of MDBs on medium and long term over tourism, economy and public health;
- the type of partnership required to support a monitoring and control system;
- priority ranking of the eventual structural adjustments to participate in the system;
- a general assessment of the system's impact and benefits in terms of visibility, public expenditure for public health and systems' efficiency and efficacy.

The preparatory stage was completed by the questionnaire testing as a final fine tune step in adjustments.

Parallel to the implementation's preparation of the questionnaires and interviews the review of relevant data regarding the national regulatory framework was successfully accomplished. The relevant aspects of surveying the legal framework indicate that the mosquito control is compulsory and controlled by the Law on Protection of citizens against Infectious Diseases (article 12, Item 4) and transposed by the Sanitary Inspection and Health Care Inspection as institutional actors responsible to supervise the implementation. Further the mosquito control is enforced by Decisions of the local municipality governments and supported by annual budgeting exercises. The transpositions are implemented contract-based by the Institute for Public Health in the presence of a Senior Advisor from the Secretariat (as verified in the case of City of Podgorica). The enforcement was strengthened in 2014 by Decisions of Inspection issued by the Sanitary Inspection and Health Care Inspection to all municipalities in the Republic of Montenegro. Apparently the decisions and the course of actions were induced by the West Nile Virus identification in 2013.

The implementation of the questionnaires and interviews started as initially planned in the projects' schedule and completed timely in order to be succeeded by the data cleaning and processing. The analysis of the collected data by both instruments mentioned above is presented by categories in the following paragraphs.

## **Municipalities**

The quasi majority of the municipalities were aware of the regulative framework stipulating the interventions and the responsibilities of the public bodies in mosquito control. Moreover, the need to further and more precise defining was indicated with one exception by all respondents.

While certain municipalities indicate multiple ways used in mosquito control such as car held devices producing smoke or fog together with treatments against larvae, more than 1/3 of the municipalities indicated no interventions in mosquito control at all. The dominant identified and stated methods were in order: actions against both adults and larvae (over 50% of the municipalities) followed by car held devices producing smoke or fog (30% of the municipalities). The actions against the larvae was mentioned only once conjugated with the treatments against the adults in one single municipality.

The effectiveness and the efficacy of the treatments seems to be controlled in 70% of the municipalities.

With one exceptions, all municipalities identified the mosquito control as necessary. Even that municipality would definitely change opinion in case of mosquito carried diseases and consider the control actions as a must.

All municipalities without any exception would support the early warning system. With the same complete majority all municipalities indicated that an independent and objective control service to check the quality and the effectiveness and efficacy of the interventions in mosquito control is necessary.

Over 60% of the municipalities would not support financially a monitoring and control system while the rest of 40% advanced no figure or pointed to amounts from 300 to 5000 Euro. One interesting aspect is represented by the fact that municipalities indicating no interest in mosquito control to earlier questions are expressing willingness to financially support the monitoring and control system.

Although there is no doubt that tourists would be annoyed or chased away by mosquitos as observed from the complete majority of the provided answers, yet the link with the 60% of municipalities not willing to financially participate in supporting the monitoring and control system indicates an interest totally opposite to the one mentioned by the citizens from these municipalities.

### **Institutional interview**

The institutional interview aims to identify strategic elements potentially needed for the future setting of the mosquito monitoring and control system by an enquiry of the current readiness of the system and the priority improvements as initial steps for development.

Our observation to the answers provided to the first question is that it reflects rather the current reaction capacity of the system than the readiness of the system in terms of improving framework (regulative included). The positions of the respondents indicate a fairly moderate position, most ratings being around the average 5/10 (4,9 calculated). Little over 25% of the respondents granted estimations under the calculated average while 15% were rating using superior marks (8/10, or even 10). The overall picture illustrated by these answers indicates sufficient room for improvement and particular attention from the setting of the system's framework.

A significant higher rating is given to the place and the importance of an effective system in monitoring and controlling the mosquitos and the diseases they carry. The general average of the respondents is of 6,5/10 points with over 25% of the respondents granting the maximum of importance.

Half of the respondent institutions can identify a clear concern of the governmental instructions for the impact of the diseases spread by mosquitoes. However, regardless the perception and the visibility of the central institutions' actions and initiatives with regard to the mosquito borne diseases the large majority can identify an important and significant impact of these diseases over the income from tourism and the increase of the public expenditure for public health. The impact over the national economy is slightly less visible although all components are tightly linked together and interconnected.

With regard to the type of system including the stakeholders, the financing and the management, 75% of the answers indicate the orientation towards a completely public system, organized, financed and controlled by the state. The rest of the respondent institutions opted for a public-private partnership controlled by the state. No answer at all for the third option: a completely private system financed and organized from community financial sources or from citizens.

The specific measures to be undertaken within the frame of the Ministry/Agency/Institution in preparation for an effective monitoring and control system for mosquitos indicate: technical procedures, knowledge upgrade for the staff, specific communication means and links with the media, securing the materials required in interventions, increase of the budget (with the meaning of harmonization with the new requirements and needs), organizational and institutional harmonization. At the level of the entire public system: continuous monitoring and communication, active involvement of all relevant actors, information materials, education programs and inserts into existing programs, a higher role of the public services at community level.

The most important adjustments as seen by the respondent institutions indicate the highest ratings for:

1. The overall (institutional) capacity development;
2. Institutional adjustments/change;
3. Defining and securing the core conditions for the system’s operability;
4. Structural changes/adjustments, and
5. Adjustments of the regulative framework.

The institutional benefits are highly positive in the returned answers and ratings. Although most respondents (85%) considered highly significant the gain of public image and recognition in health care services, an effective and successful protection and the reduction of public expenditure for healthcare and especially for risk situations, there were 15% of the institutional respondents rating these potential advantages as mostly average or low.

**Citizens**

The total number of respondents on the collected questionnaires within the category Citizens amounts 1032 persons with a proportional distribution to the residence types (urban, semi-urban and rural), profession (DR-PhD, MR-MSc., NKV-No qualification, SSS-Secondary education and VSS-BSc) and age categories.

Table 1 Citizen respondents by age, profession and residence

Age 10-20	79	DR	4	Urban	489
Age 20-40	465	MR	9	Semi-urban	221
Age 40-60	363	NKV	173	Rural	322
Age 60+	125	SSS	599		
		VSS	247		

Figure 1 Residence environment of the respondents

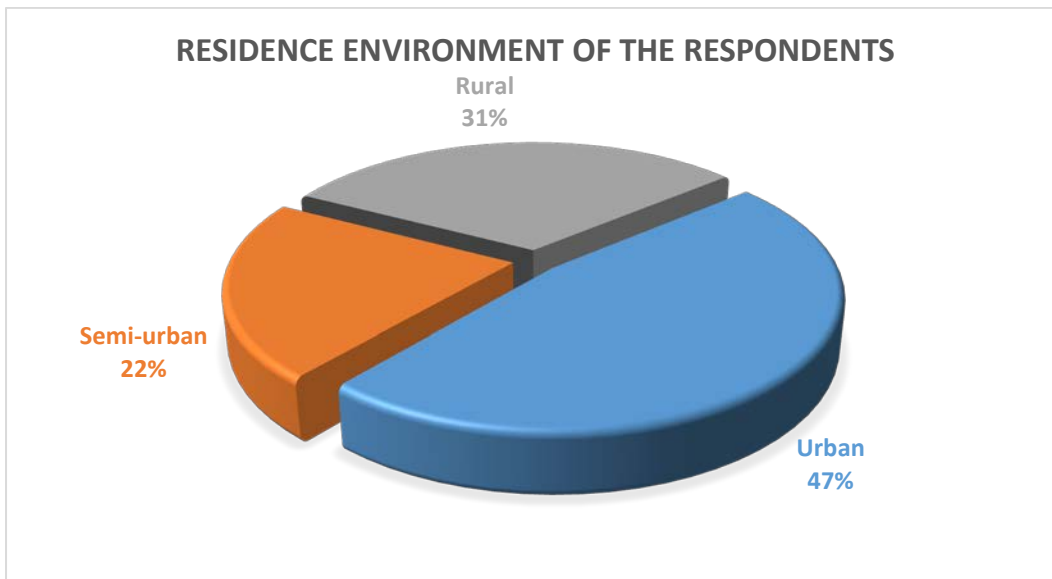


Figure 2 Professional profile of the respondents due to the office limitations I cannot add decimals to the labels; next to the figure is one with values instead of percentage; fully agree the zero is not zero! still I can't make it visible in a different way at this point unless I try to do it manually; for the time being I did the modification manually in the first figure.

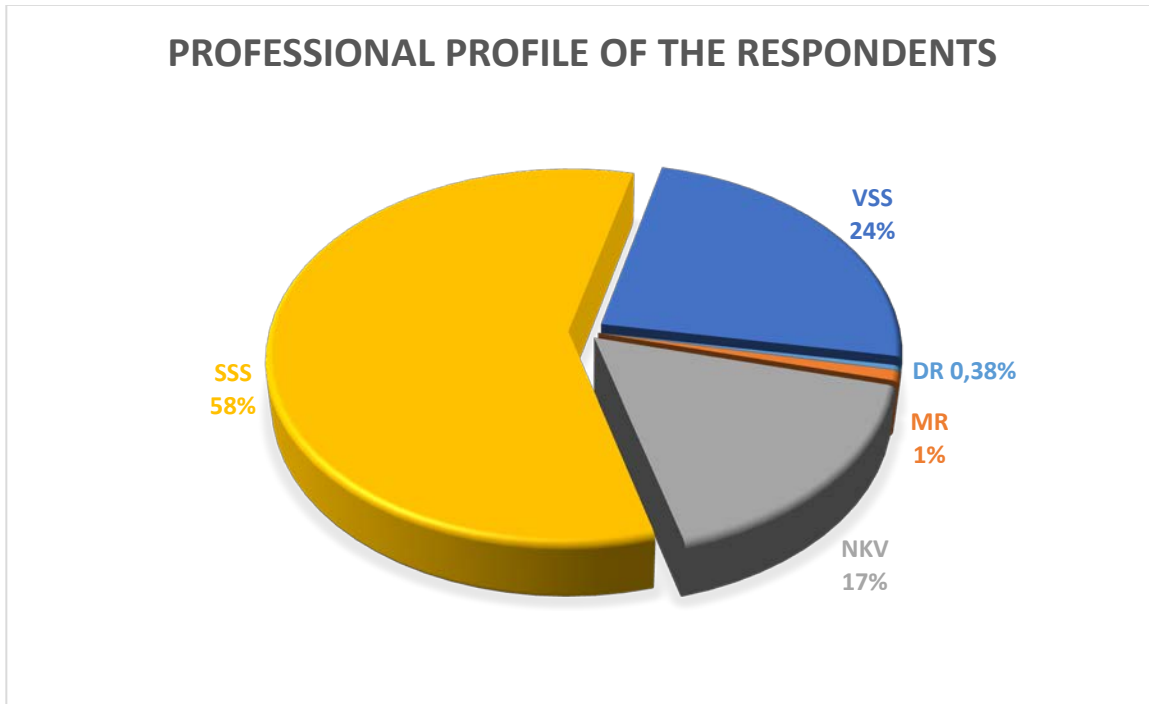
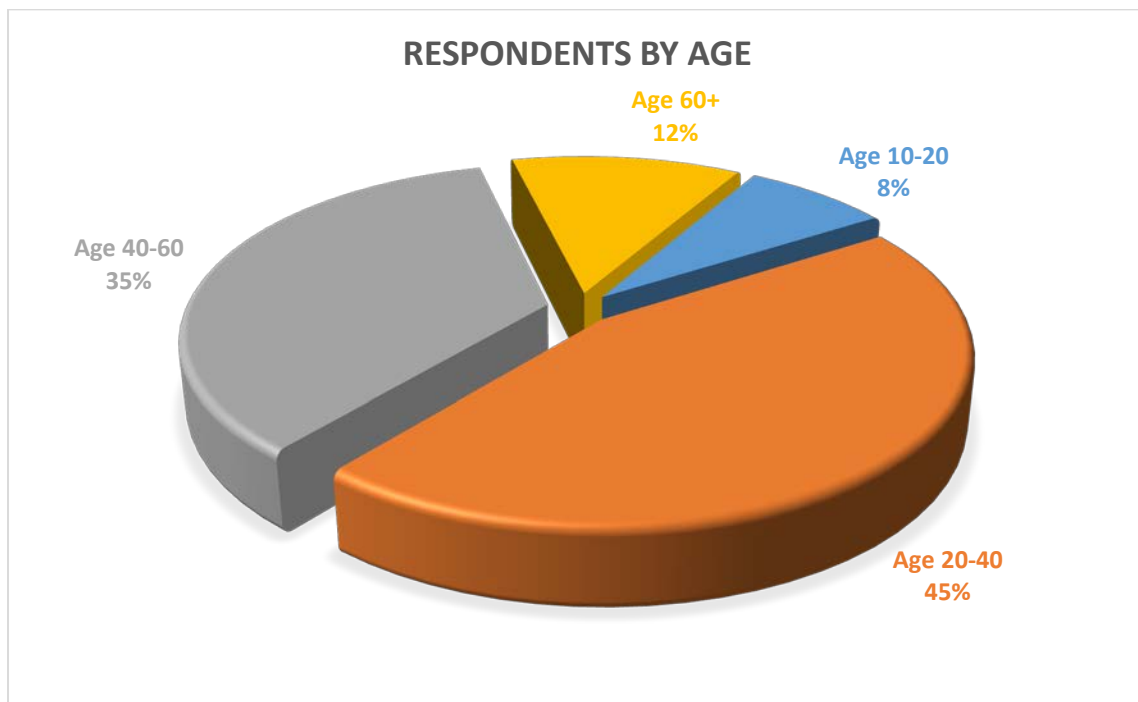


Figure 3 Respondents by age



Almost half of the respondents have residences in urban municipalities (a total of 489 persons) followed by the rural residents with almost one third of total (322 persons) while the intermediary type of residence environment respectively the semi-urbans are nearing one quarter (221 persons). This distribution reflects the population trends by type of residence in the Republic of Montenegro and given the critical importance in terms of relevance of the present study, the shares follow closely the general pattern.

The same sampling procedure was respected in terms of age categories where the largest share of respondents have 20-40 years of age (over 45%) followed by the respondents with 40-60 years of age (35%) while the remaining one fifth is distributed between the elderly persons of 60 years of age or more (12%) and youngsters of 20 years of age or less (8%).

For obvious reasons and also economic and dynamic relevance the largest category of respondents is represented by urban residents with 20 to 40 years of age. The proportionality of different age categories is slightly modified along the different types of residences in order to reflect the reality and maintain the relevance of the share for that specific environment. In this respect, the share of elderly people is by 50% higher among the rural residents as compared to the urban, while the youngsters exceed the average on the level of the total sample in the urban environment for the same stated reasons.

Table 2 Distribution of respondents by residence and age

	Urban	Semi-urban	Rural	TOTAL
<b>Age 10-20</b>	47	13	19	<b>79</b>
<b>Age 20-40</b>	230	99	136	<b>465</b>
<b>Age 40-60</b>	168	75	120	<b>363</b>
<b>Age 60+</b>	44	34	47	<b>125</b>
<b>TOTAL</b>	<b>489</b>	<b>221</b>	<b>322</b>	<b>1032</b>

With regard to the profession of the respondents the same effort of maintaining the representative shares for the specific residence environment was ensured. At the level of the total sample 60% were SSS, 20% VSS, 18% NKV while less than 15% were MR and DR. The largest share of respondents were SSS from urban nearing one third of total and two thirds from urban. As expected, the VSS and DR in urban and semi-urban totalize systematically less than the urban shares.

Table 3 Distribution of respondents by residence and profession

	Urban	Semi-urban	Rural	TOTAL
<b>DR</b>	3	0	1	<b>4</b>
<b>MR</b>	4	1	4	<b>9</b>
<b>NKV</b>	59	36	78	<b>173</b>
<b>SSS</b>	285	124	190	<b>599</b>
<b>VSS</b>	138	60	49	<b>247</b>
<b>TOTAL</b>	<b>489</b>	<b>221</b>	<b>322</b>	<b>1032</b>

As analyzed by residence environment the age of the urban, semi-urban and rural respondents is represented graphically bellow. As indicated earlier, the largest shares are represented by the age category 20 to 40 years of age with 47% in urban, 45% in semi-urban and 42% in rural, followed by the next upper category 40 to 60 years of age with 34% in urban, 34% in semi-urban and 37% in rural. The extreme age categories of less than 20 years of age and 60 years of age and above are near one fifth (20%) in all residence environments.

Figure 4 Age of the urban respondents

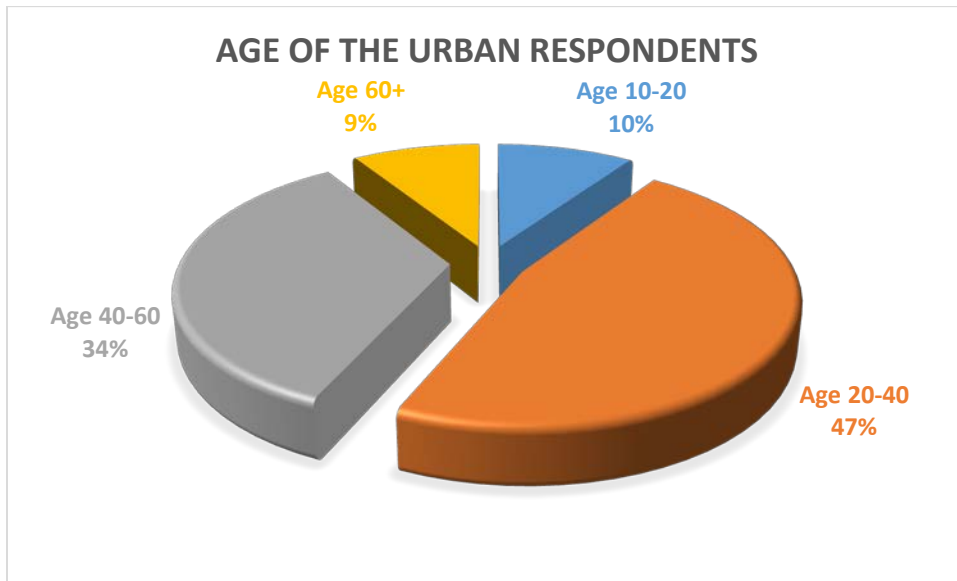


Figure 5 Age of the semi-urban respondents

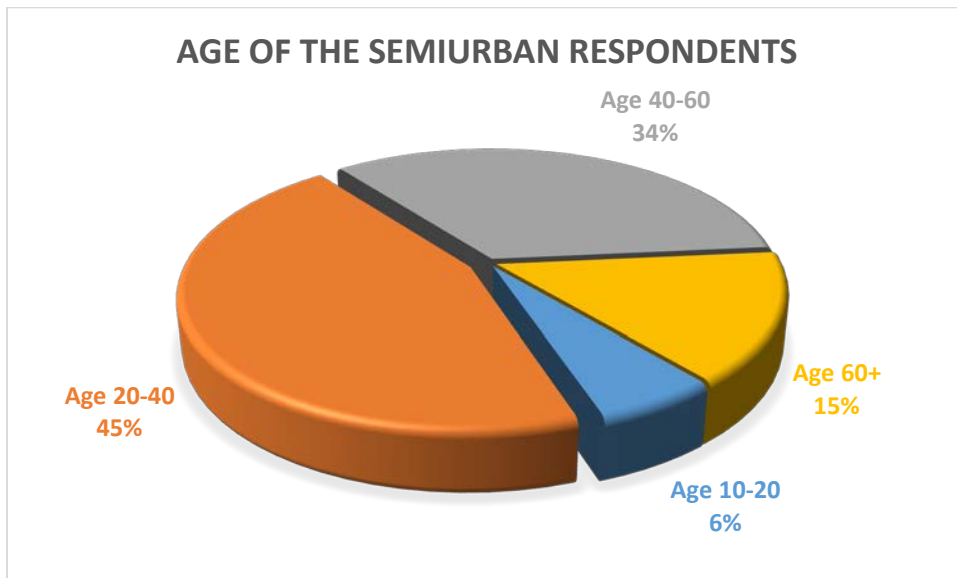
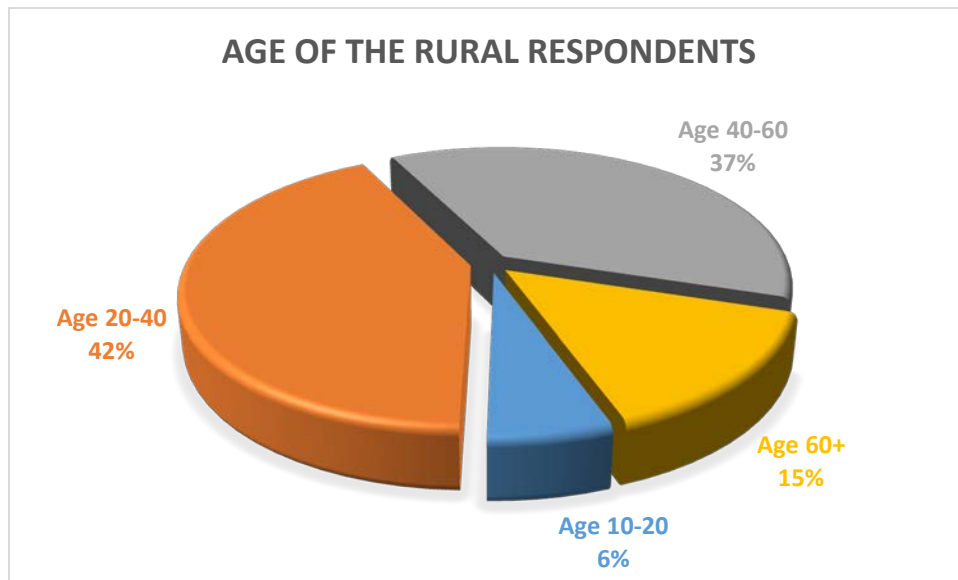




Figure 6 Age of the rural respondents



The profession of the respondents, also of high relevance for the sample and for the provided answers within the frame of the questionnaires is graphically represented in the figures bellow. As presented in the earlier paragraphs the largest share of respondents were SSS in all residence environments, respectively 58% in urban, 56% in semi-urban and 59% in rural. While in the urban and semi-urban areas the second important share is attributed to the VSS with 28% in urban and 27% in semi-urban, while the NKV has 12% in urban, respectively 16% in semi-urban areas, in the case of rural areas the importance is reversed with 24% for NKV and 15% for VSS. The educational profile of the residents is responsible for the change in representative and proportional shares by residence.

Figure 7 Profession of the urban respondents

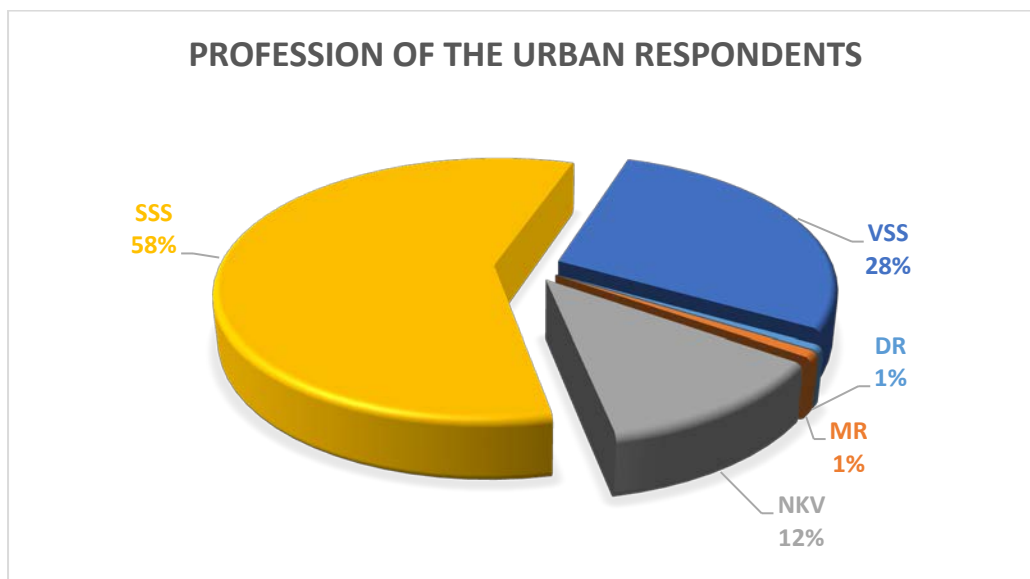


Figure 8 Profession of the semi-urban respondents

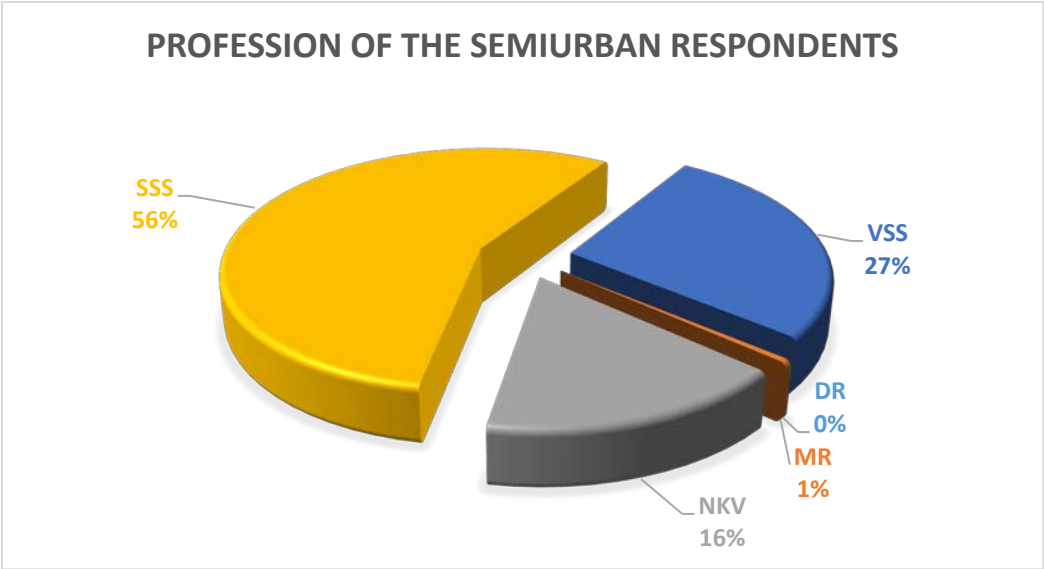
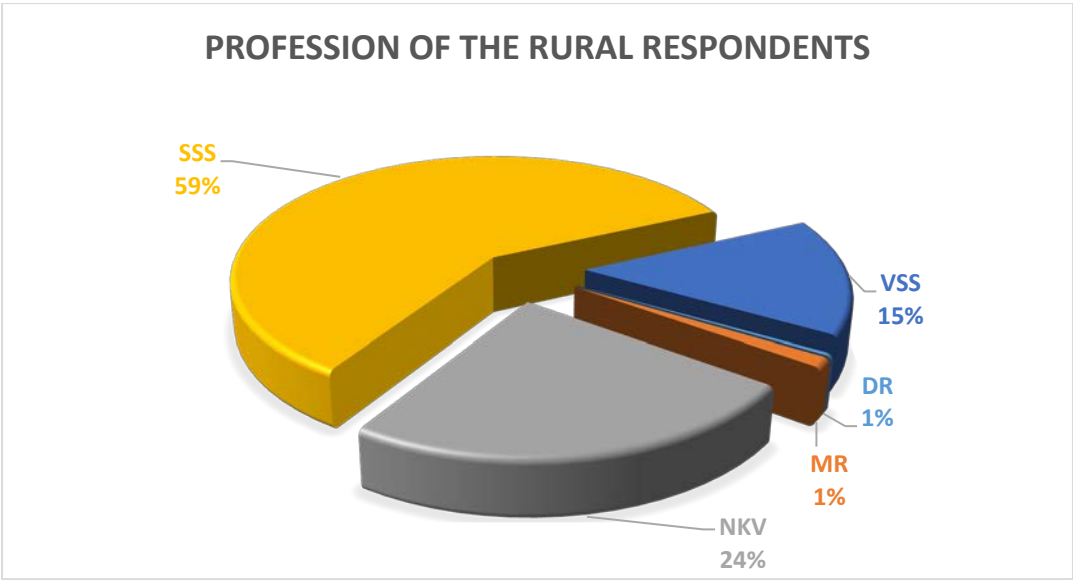
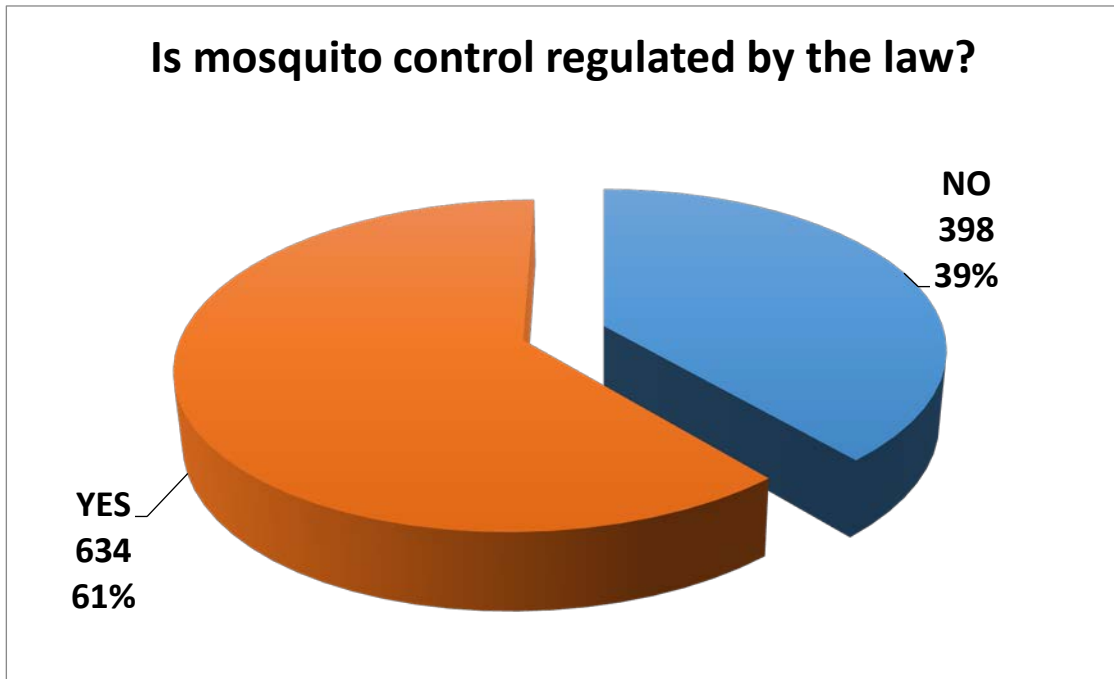


Figure 9 Profession of the rural respondents



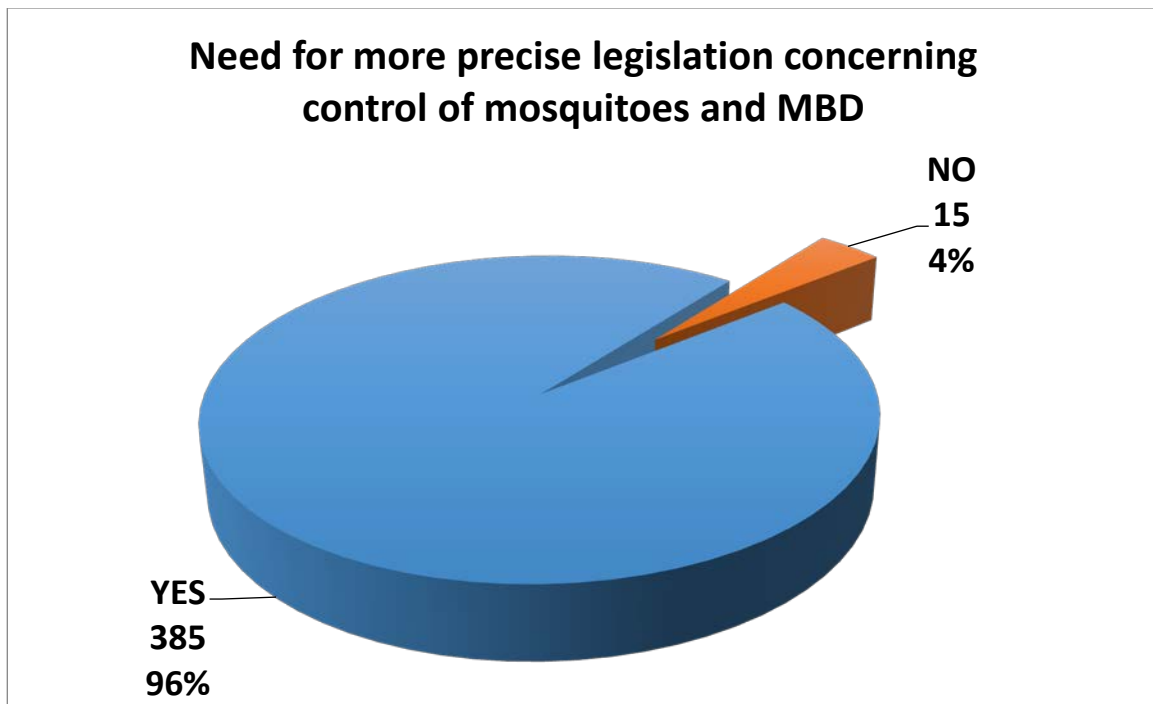
With regard to the specific questions the large majority of the respondents, almost 2/3 of total, 634 people indicated no knowledge about the mosquitos control as being regulated by the legal framework.

Figure 10 Is mosquito control regulated by the law?



The two fifths (39%) of the respondents acknowledging the regulative framework in mosquitos control further indicated the need for a more precise regulation in relation with the health risks with a large majority exceeding 90%.

Figure 11 The need for more precise legislation concerning control of mosquitoes and MBD (preparation of detailed National strategy/plan of action in case of risk and/or outbreaks of MBD)



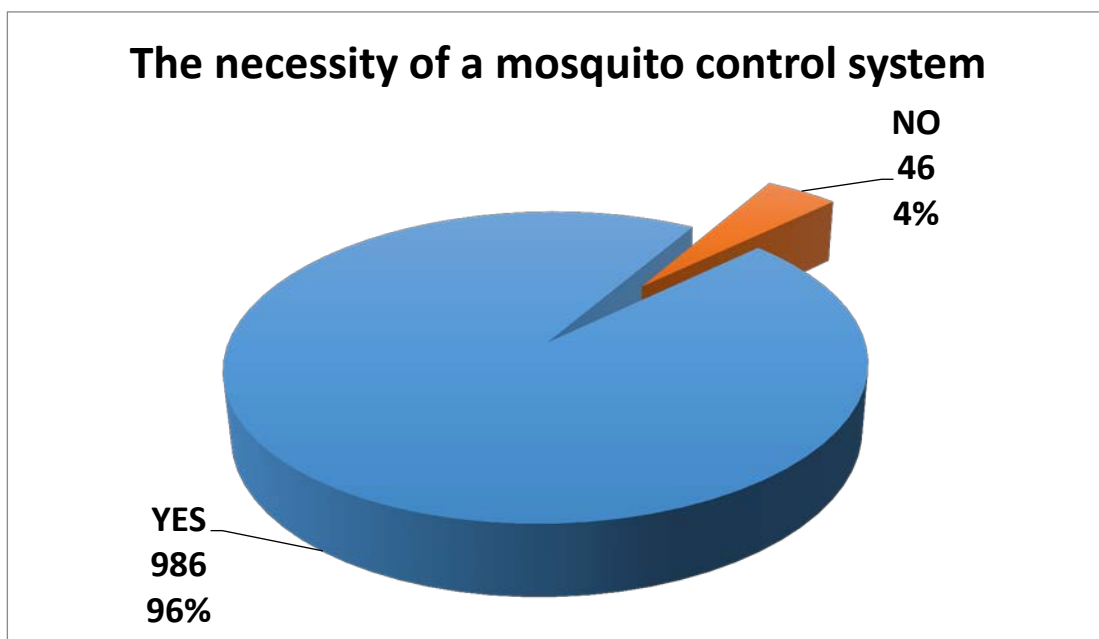
The answers to the third question (Is there mosquito control in your municipality and how it is performed?) are indicating a relatively large share of people (over 1/5) having no knowledge at all about the mosquitos control in place while over 2/5 declare that there is no such system functioning or there is no mosquito control system in use. However, 1/3 of the respondents answer that the adult mosquitos are killed with car-held spraying devices (smoke, fog). Less than 2% indicates other mosquito control systems used and recognized as acting at larvae level or both larvae and adults. Less than 5% of the respondents with knowledge about active mosquitos control systems are considering irrelevant the control of the effects of the systems used while the large majority (over 95%) indicate the necessity of verifying the effectiveness of these actions.

Table 4 Is there mosquito control in your municipality and how it is performed?)

Yes, adults	Yes, larvae	Yes, larvae and adults	No	I don't know
357	8	7	440	221

Less than 5% of the respondents consider the mosquitos' control (killing) as not being necessary. There is no dominant characteristic among the respondents concerning their place of residence as they are practically divided between urban and rural. With regard to their educational pattern over 50% have SSS and 25% NKV, followed by about 15% VSS. As age profile, 50% have an age between 20 and 40 years, about 20% have 10 to 20 years, another 20% have 40 to 60 years and 10% have 60 years or more. More than 10% of these respondents (6 persons) would not change their mind regarding the necessity of the control system even in the case of a dangerous disease spread by mosquitos. However the overwhelming majority (86%, or 40 persons) of the initially negative respondents will change their perspective given the potential danger.

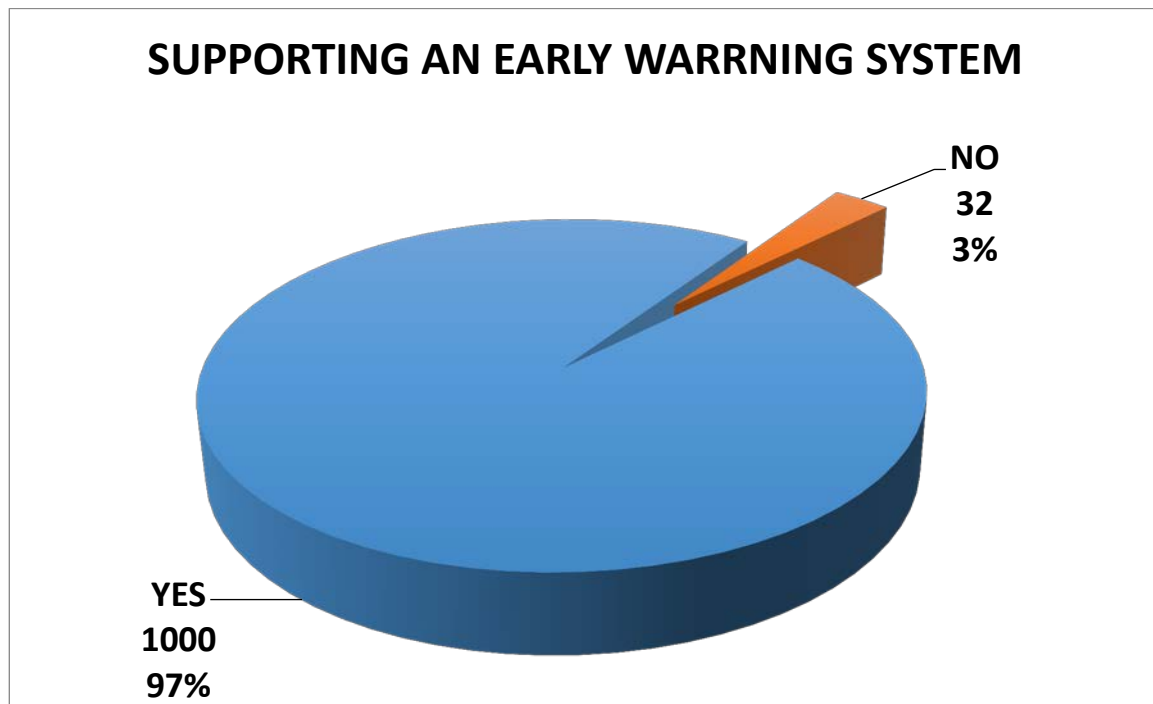
Figure 12 The necessity of a mosquito control system



These figures try to give a better understanding with an updated background for those considering the mosquito control as unnecessary while **96% of the respondents** regardless their background in terms of education, residence or age **are very much in favor of a control system**.

**The vast majority** of respondents (97%, or 1000 persons) would **support the initiative of an early warning system** for the vector transmitted diseases with a very limited number of opponents (3%, or 32 persons).

Figure 13 Supporting an early warning system



A similar share distribution is observed with **96% in favor** and only 4% opposing with regard to the possibility of **implementing an independent control** check for the effectiveness and efficacy of the mosquito control system and undertaken actions, with the possibility of redoing the preventive actions on contractor expenses in case of unsatisfactory results of first actions.

When asked about the amount spent yearly in mosquito control at the level of their household half of the respondents acknowledging this expenditure placed below 50 Euro. At the level of the citizens' spending money for extra control at the household level the shares were about 10% spending up to 5 Euro, another 10% spending up to 10 Euro, 35% up to 20 Euro while little over 25% spend 20-50 Euro and 5-6% spend amounts between 50-100 Euro. Beyond the presence of this expenditure adding to the need of private intervention at residence scale beside the public measures (where applicable) the distribution is relatively normal. These figures are graphically represented bellow together with the different expenditure classes regrouped.

Figure 14 Necessity of an independent control check just like in the previously replaced ones, office plays smart sometimes...

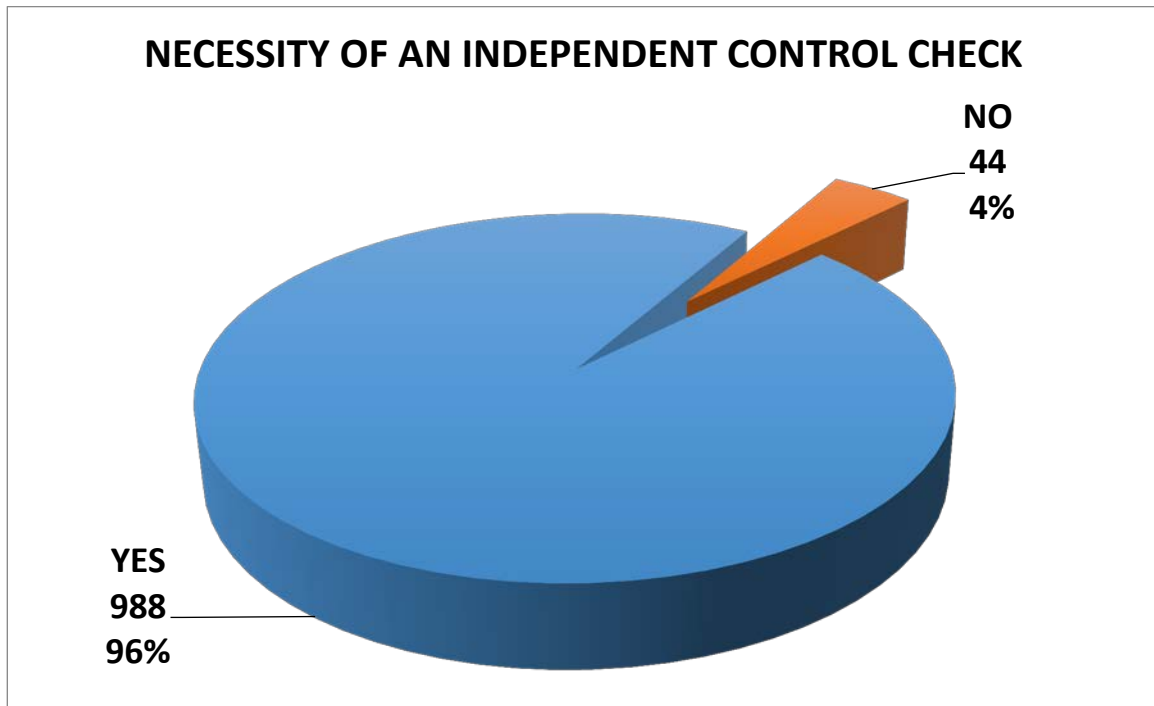


Figure 15 Distribution of number of respondents by amount spent yearly (in Euro) for mosquito control

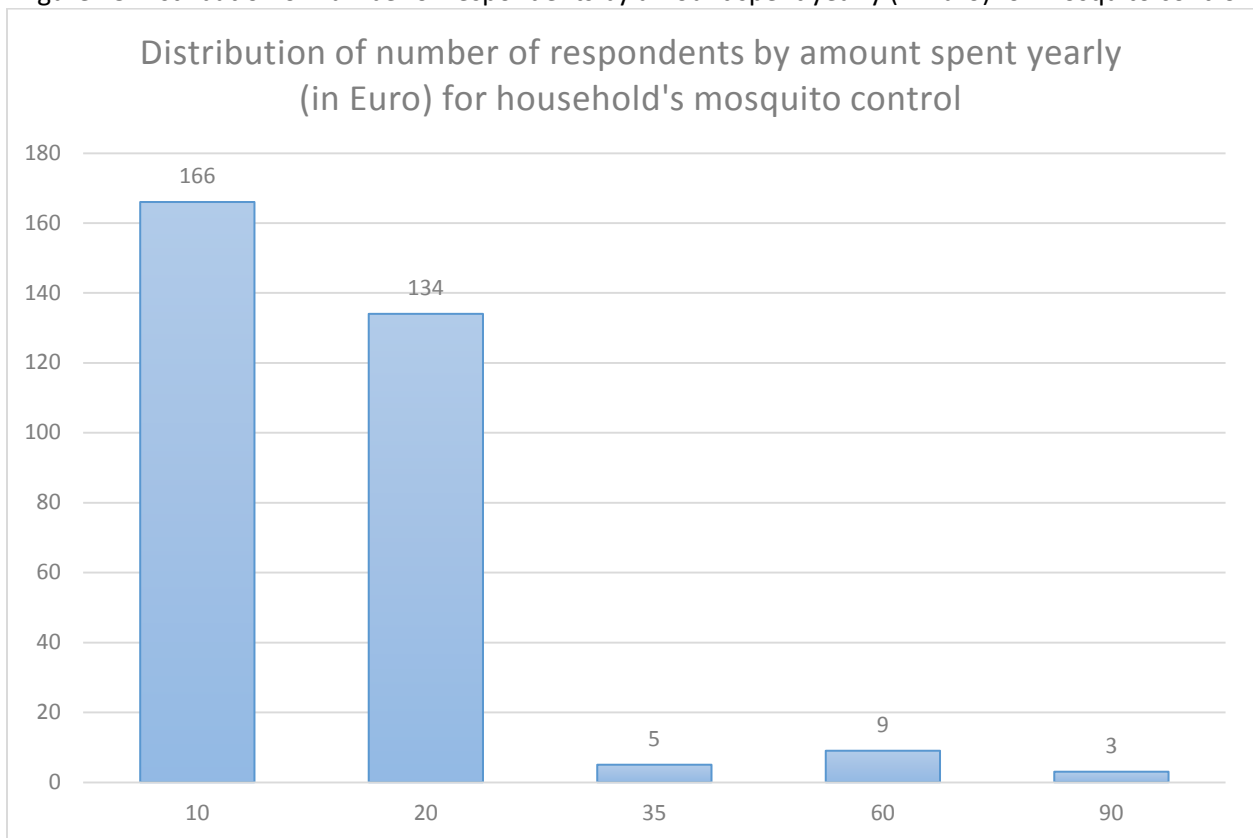


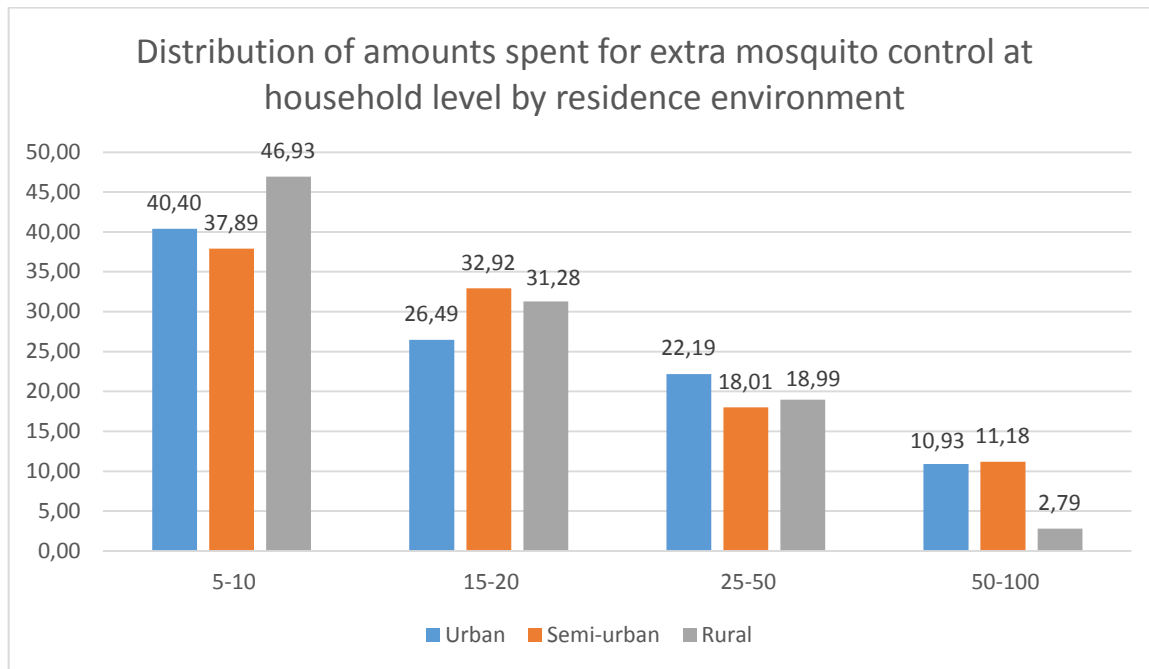
Table 5 Own yearly expenditure in household mosquito control

Amount in Euro	1-5	1-10	10-20	20-50	50-100
Number of respondents	99	102	355	264	57

The distribution of the amounts shows not only readiness for intervention but **the need for supplementary action** although the concentration of the expenditure goes for almost half of the sample (468 respondents) bellow 25 Euro/year. Worth mentioning that at the level of the total sample, almost 40% of the respondents do not spend extra-money for mosquito control, 2/3 of them living in rural residences, with a 4 professional background (for 50% of them) or 3 for more than 30% while 2/3 of them have ages between 20-60 years, relatively equally distributed for the classes 20-40 and 40-60.

With regard to the distribution of expenditure by residence environment and amounts spent, the figure bellow displays the different amount classes for the different environments of the respondents. I have moderated the figures as percentage of total respondents from that specific environment; the figures express the percentage of the respondents willing to spend and not the total number of interviewed people from those environments! ex. it calculates reporting to 302 in urban, 161 in semi-urban and 179 in rural; do you want me to refer to the total including those not willing to spend anything? that also can be done

Figure 16 Distribution of amounts spent for extra mosquito control at household level by residence environment



The distribution shows the same polarity for the lower expenditure classes regardless the residence environment of the respondents with a considerable lower number of respondents spending more than 50 Euro/year in rural areas which is explained by the level of the expenditure as being relatively high and the level of comfort and health security associated to the rural areas, generally considered and expected to be lower when compared to urban areas.

The distribution of different committed expenditures by age classes in urban, semi-urban and rural areas is presented in the figures below. The general pattern indicates a concentration towards lower amounts spent with slightly lesser differences for the urban residents. Not surprisingly the urban and semi-urban residents show the same availability in expenditure when addressing the upper amounts spent (50-100 Euro). To a certain level unexpected is the comparability of the youngsters' and elderly groups' expenditure in both urban and rural for amounts under 20 Euro/year that look very much mirrored.

Figure 17 Distribution of amounts spent for extra mosquito control at household level in urban by age classes same thing here: percentage of respondents reported to the total of that age category for all three coming graphs

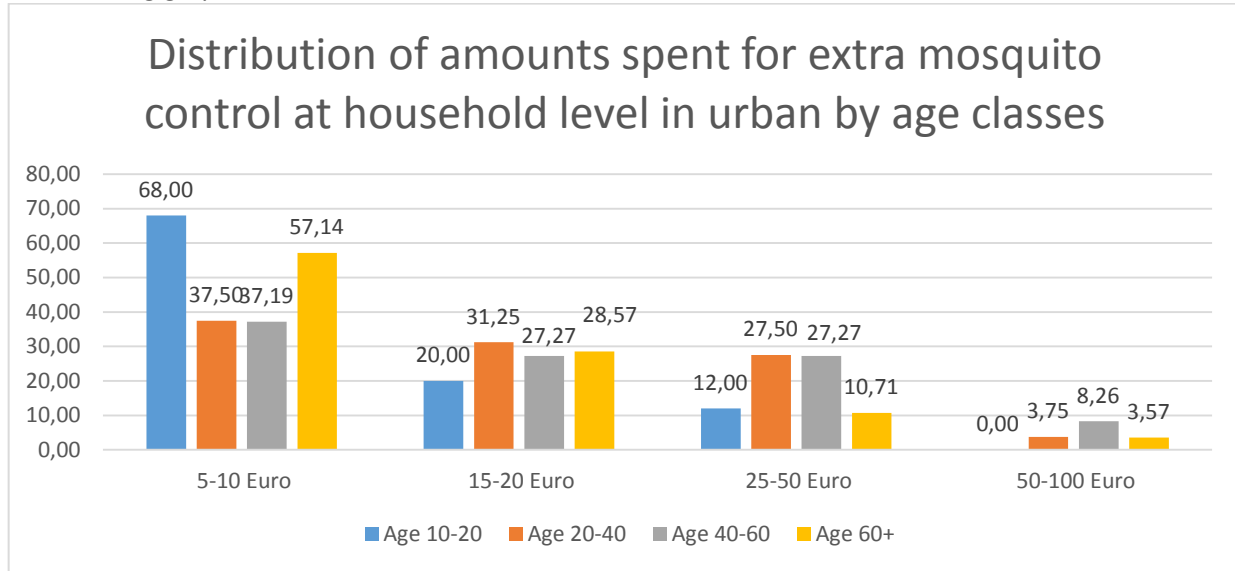


Figure 18 Distribution of amounts spent for extra mosquito control at household level in semi-urban by age classes

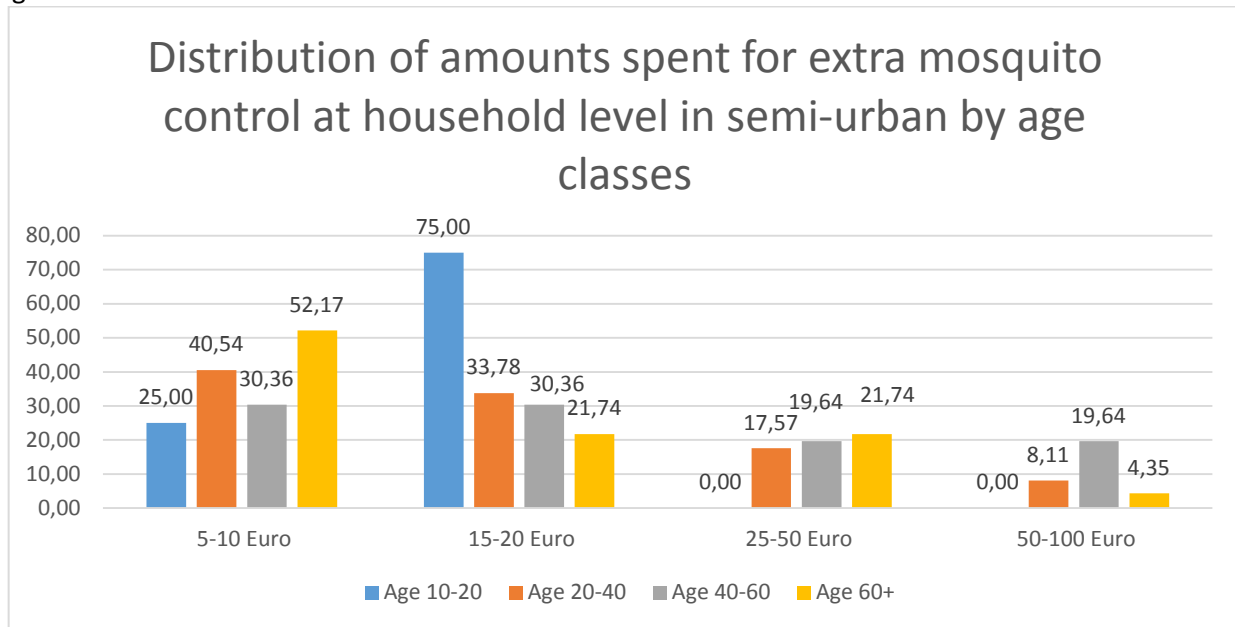
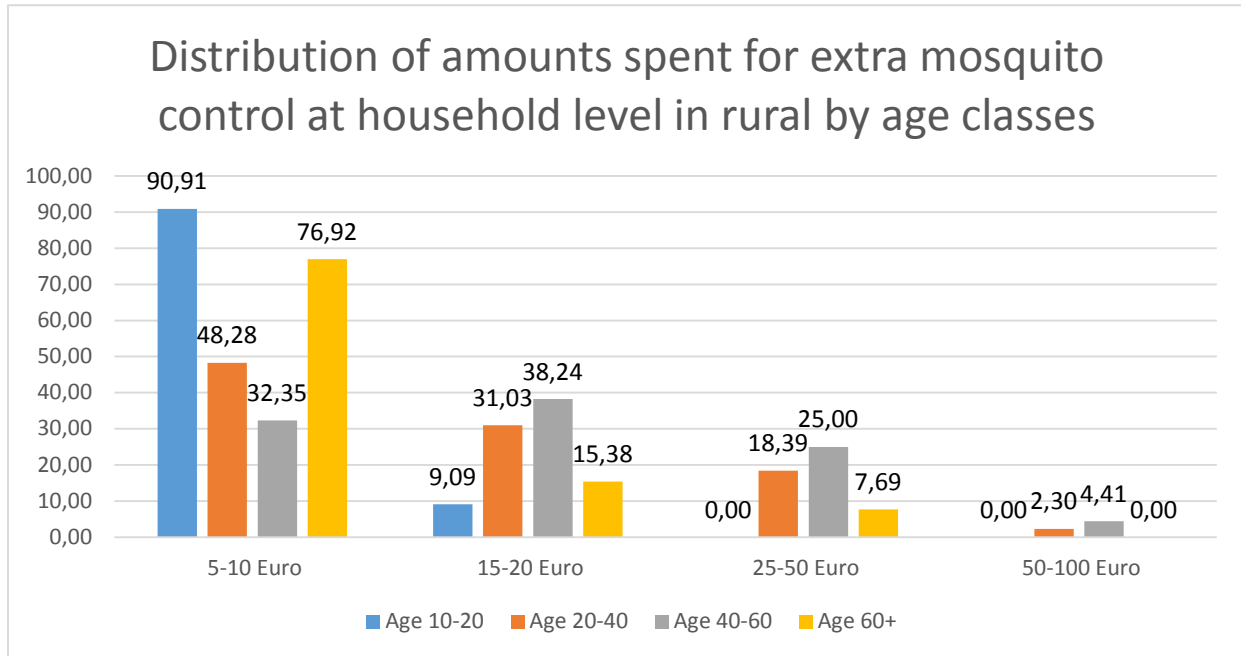


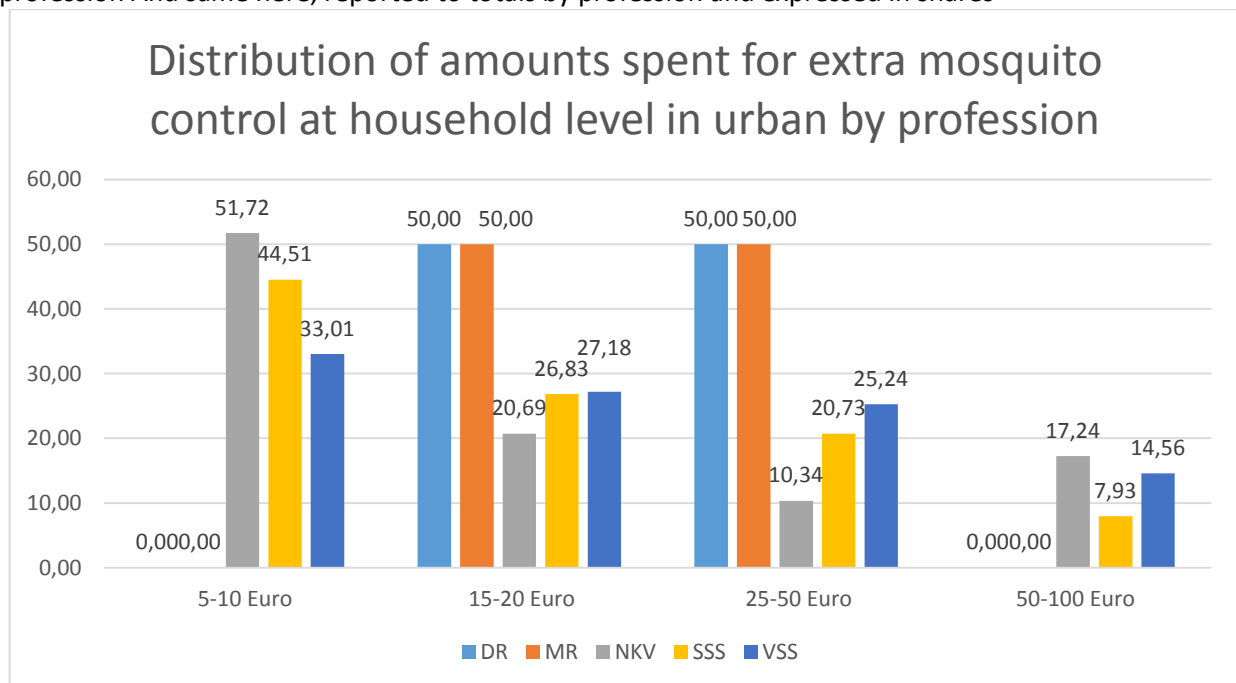


Figure 19 Distribution of amounts spent for extra mosquito control at household level in rural by age classes



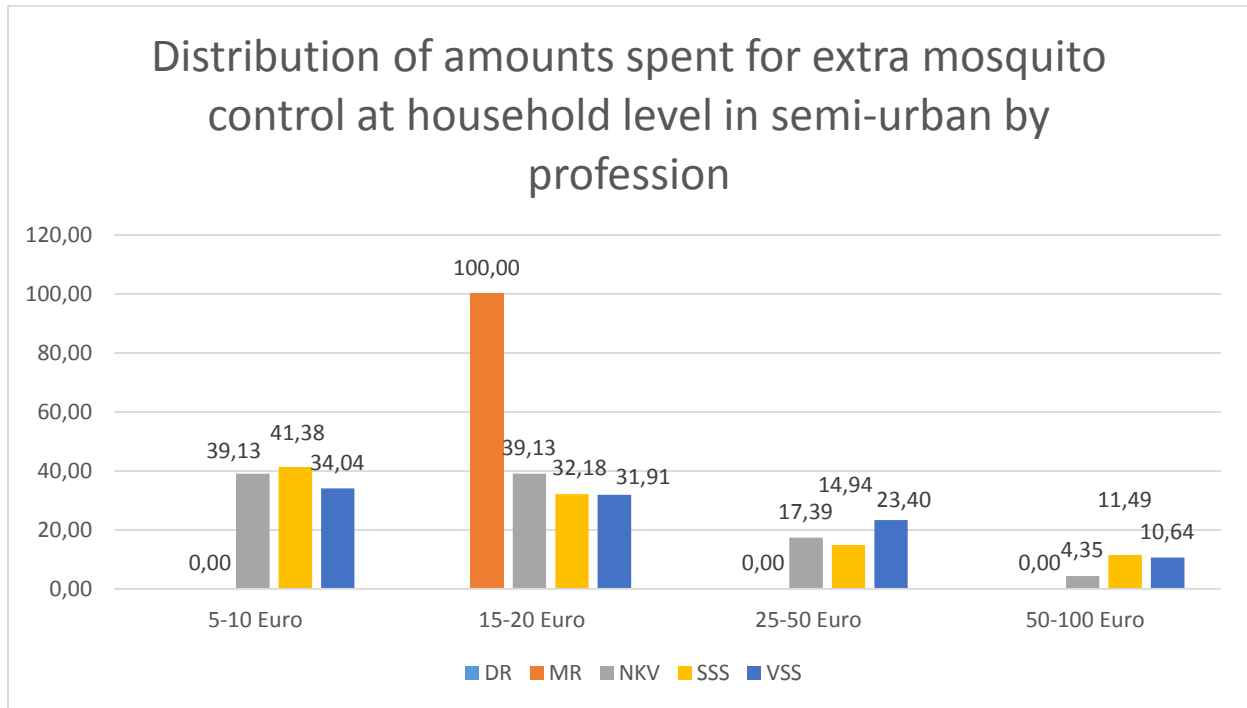
With regard to the professional background of the respondents crossed with their residence environment and the extra yearly expenditure for mosquito control at the level of their households, the graphical presentation of the findings is presented in the figures bellow.

Figure 20 Distribution of amounts spent for extra mosquito control at household level in urban by profession And same here, reported to totals by profession and expressed in shares



As a general observation, the lowest and the highest spenders in all three residence environments are the SSS and VSS respondents while we observe practically no DR and MR spenders in any amount for any of the residence environments. The NKV background respondents although no significant in number are rather visible in semi-urban and rural residences and considerably less in urban. There are proportionally more SSS low-spenders (bellow 20 Euro/year) and the gap between different shares of expenditures and professional background maintains in all three residence types with only notable change for the urban residents with VSS spending more than 50 Euro/year overpassing the all other types of professions in all environments and expenditure shares. The NKV expenditure pattern and shares has practically no differences between semi-urban and rural types of residents.

Figure 21 Distribution of amounts spent for extra mosquito control at household level in semi-urban by profession



The **general average** for the entire sample including only the positive respondents with annual expenditure in any amount for private mosquito control at their household level **amounts 21,09 Euro/year**. It is important to mention that regardless the professional background or the residence environment and even the age category **although most respondents place in the first expenditure category (5-10 Euro/year) the general average exceeds two times this level!**

Figure 21 Distribution of amounts spent for extra mosquito control at household level in rural by profession

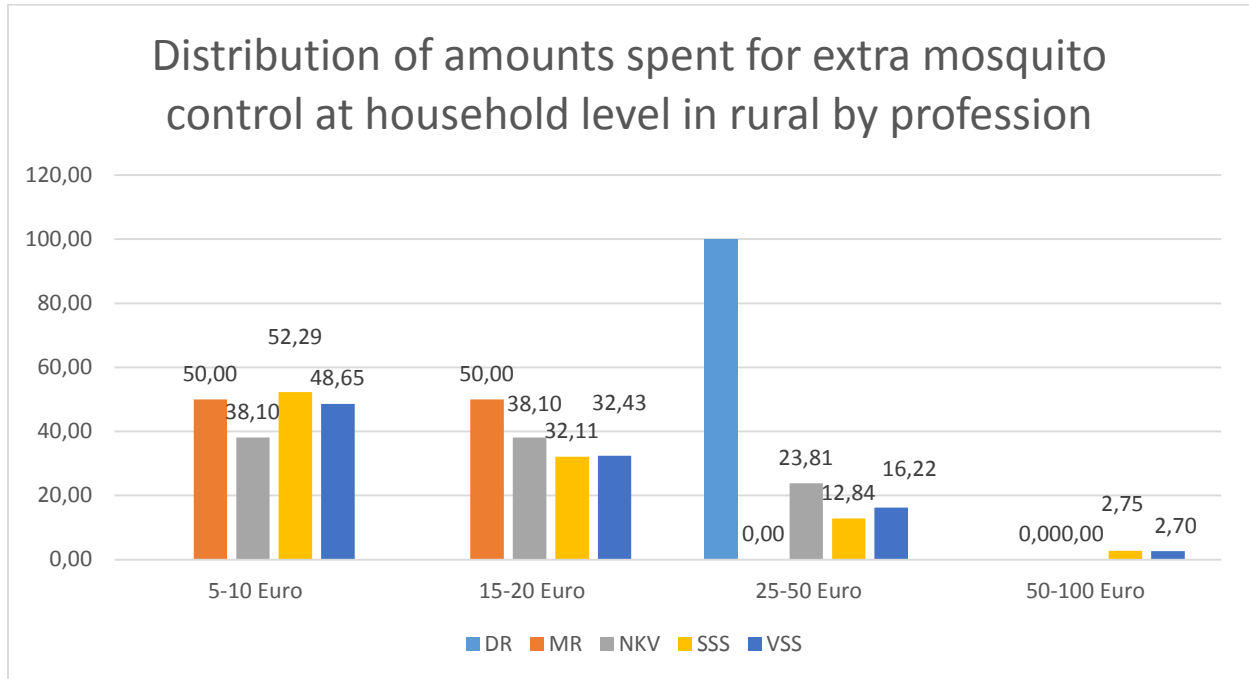
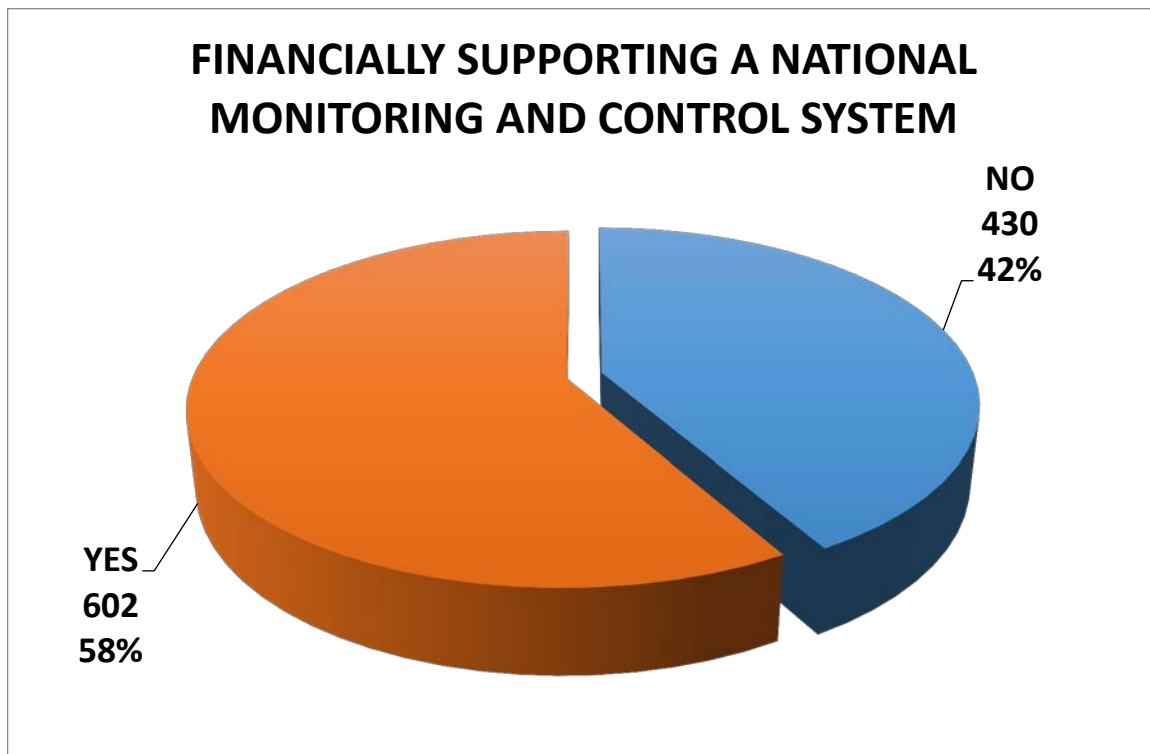
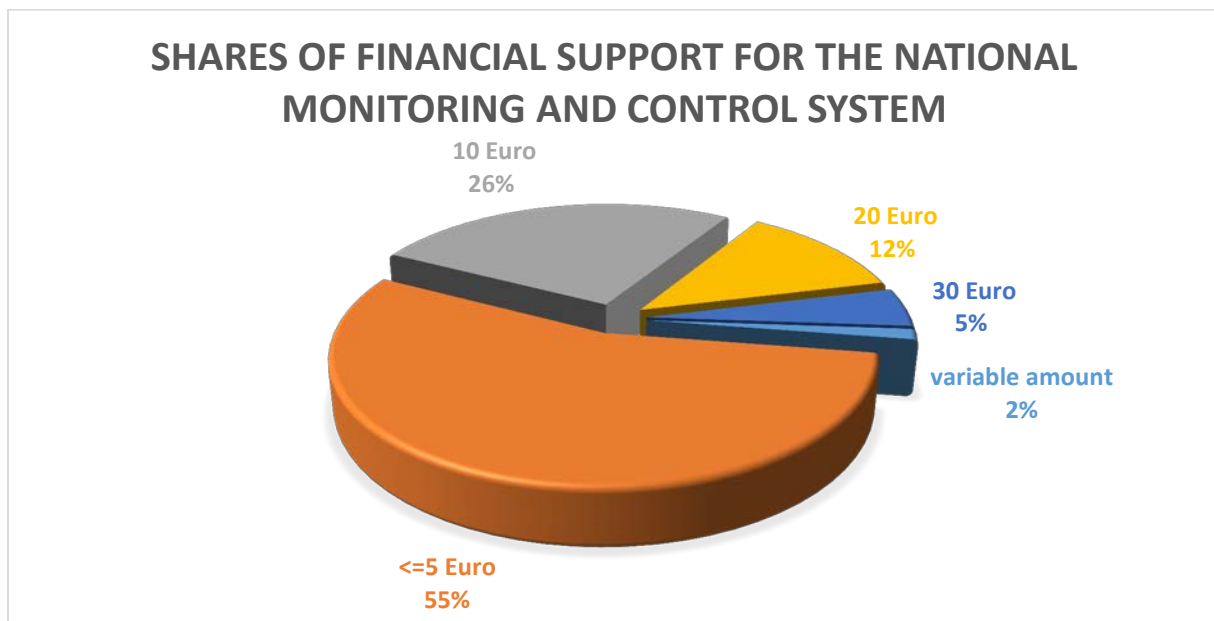


Figure 22 Financially supporting a national monitoring and control system



With regard to the possibility of financially supporting a national monitoring and control system the answers the options of the respondents are presented in the figure 22. The largest share (it is only the largest share as type of response; I have split the yes/no shares and the second one contains only the shares of contributors) of respondents (58%) choose to support financially such an initiative supplementing a task that is generally accomplished by public or public-private effort. More than half of the respondents (55%) are willing to contribute by amounts up to 5 Euro, followed by contributions of 10 Euro (26%) while 17% of the respondents are advancing larger amounts 20, respectively 30 Euro. A small number of respondents (2%) choose to define their contribution and although not being too many to go for this option it is worth mentioning that 5/8 respondents choose a 50 Euro contribution and we even recorded one answer indicating 100 Euro!

The large majority of the respondents (over 96%) believe that tourists might be annoyed or chased away by the presence of the mosquitos or worse by the diseases they might carry. This share of answers indicate a high awareness of the respondents of both the danger as well as the importance of the sector for the national economy as an important income generator.



The analysis of the different shares a monitoring and control system could be supported indicates that the three main categories the citizens, the communities and the state could and should contribute by different parts to the system. Most respondents place the share attributed to the citizens under 30% while the community part goes from mainly from 10-50%. The state contribution to the system however is constantly present and accounting from 10-100%. The citizens' share between 10-25% is indicated by 1/3 of the respondents, while the other **2/3 of the respondents consider that citizens should not contribute to the system**. Their profile is depicted by the figures in the table below with an age between 20-60 years, and SSS professional background and living mainly in urban areas.

The profile of the respondents identifying the community contribution as placed between 20-50% indicate a fairly urban respondent with mainly SSS background and the age between 20-40 years. The ration between those advancing a zero contribution for the citizens and the consistent share that indicates 1-20% is of 1,28/1.

Table 6 Profile of the respondents indicating zero contribution for the citizens in supporting the monitoring and control system

	people	DR	MR	NKV	SSS	VSS	urban	semi-urban	rural
Age 10-20	38	0	0	20	18	0	22	5	11
Age 20-40	<b>221</b>	1	2	16	<b>160</b>	42	<b>112</b>	36	73
Age 40-60	<b>210</b>	1	2	43	<b>108</b>	56	<b>99</b>	44	67
Age 60+	91	0	0	33	50	8	33	24	34

The respondents pointing to a state contribution of at least 50% have a mixed profile, with an age between 20-40 years the same dominant SSS professional background while the residence environment is rather non-urban (semi-urban and rural).

The **dominant pattern points to a 0-20% citizens, 30-50% community and 50% state which seems to be a responsible fairness distribution.**

Figure 23 Sharing the contributions of citizens/community/state to support a monitoring and control system

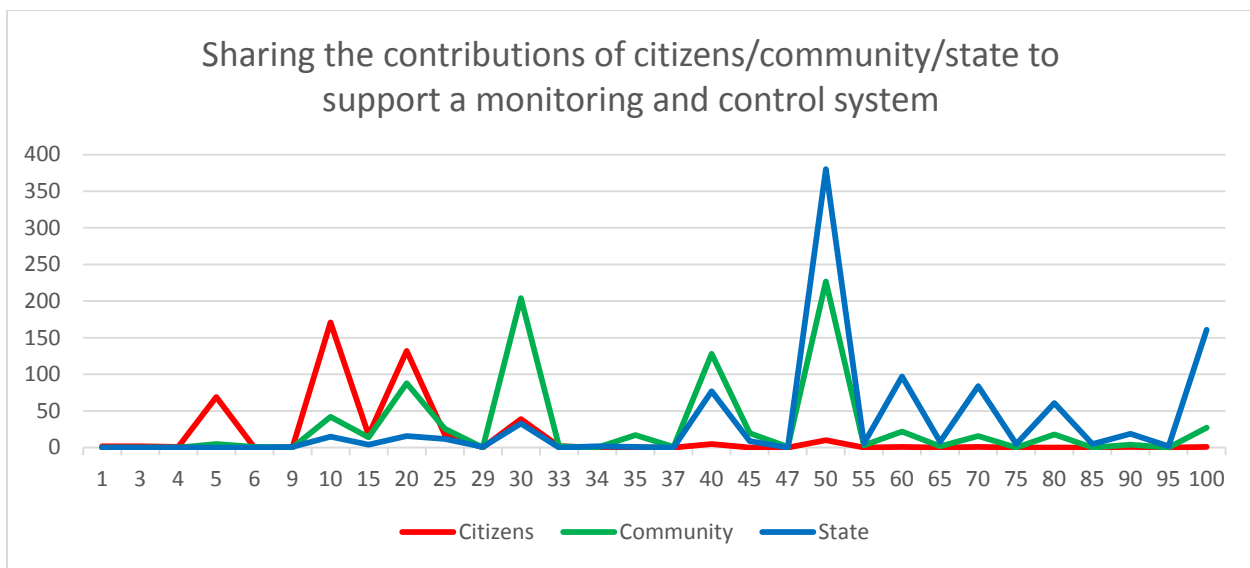


Table 7 Sharing the contributions of citizens/community/state to support a monitoring and control system

Percentage	1-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-100
Citizens	<b>74</b>	<b>188</b>	<b>150</b>	<b>41</b>	5	10	1	1	0	2
Community	6	56	<b>114</b>	<b>224</b>	<b>149</b>	<b>230</b>	24	16	18	31
State	1	<b>19</b>	<b>29</b>	<b>36</b>	<b>86</b>	<b>386</b>	<b>105</b>	<b>89</b>	<b>66</b>	<b>182</b>

## ANNEX 01: A) Questionnaire CITIYENS

A Questionary for citizens
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CODE	
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name and surname:	
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adress:	
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age	10-20.	20-40	40-60	60-
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profession	
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lives in:	urban	semiurban	rural
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For the unique purpose of scientific validation your personal information is recorded on this sheet. No other reason or claim, based on any national or international law, from persons or institutions, can link your personal information to the provided answers. Your personal information is considered and treated as strictly confidential at all time. Subsequently, no person from the project team, associated to the project, direct or indirect beneficiary, institution or other form of association of institutions at all levels national and international can have access to the provided personal information at any time. As a supplementary layer of confidentiality, at no time this sheet is not stored together with the questionnaires during the entire period of the implementation of the project and is safely destroyed when the compulsory storing time frame is exceeded. These assumed tasks related to confidentiality represent the commitment of the project implementation team in full respect with the legal and regulatory framework.

**ANNEX 02: B) Questionnaire CITIYENS**

CODE	
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1. What is your opinion: Is mosquito control regulated by the law?
  - a) yes
  - b) no
2. If the answer to previous question was „yes“, do you consider the need for more precise legislation concerning control of mosquitoes and MBD (preparation of detailed National strategy/plan of action in case of risk and/or outbreaks of MBD)?
  - a) yes
  - b) no
3. Is there mosquito control in your municipality and how it is performed?)
  - a) adult control from the ground (smoke, fog)
  - b) control of larvae that live in water (manholes, septic tanks, ditches, pools)
  - c) both adults and larvae
  - d) no
4. If the answer to previous question was „yes“ (a or b or c), do you think it is necessary to evaluate success of the control action?)
  - a) yes
  - b) no
5. Do you think that mosquito control is necessity?
  - a) yes
  - b) no
6. If the answer to previous question was „no“, would you be ready to change your opinion if you learn that some of dangerous mosquito-borne diseases emerged in Montenegro (WN fever, chikungunya fever, malaria)?
  - a) yes
  - b) no
7. Establishing the National program of surveillance of mosquitoes and MBD could detect virus circulation one month before the first human cases occur and therefore provide enough time for intense mosquito control. Would you support establishing of the National program of surveillance of mosquitoes and MBD?
  - a) yes
  - b) no
8. National surveillance program will provide the capacity for evaluation of the control measures and improved legislation/contracts will be a tool to oblige the mosquito control operator to repeat unsuccessful treatment from its own resources. Do you think that independent and objective evaluation of control measures is needed?
  - a) yes
  - b) no
9. How much you spend on personal mosquito protection (nets, coils, tablets, evaporizers, candles, sprays, repellents, after bite creams) per year?
  - a) I am spending up to \_\_\_ per year
  - b) I do not consume any of them
10. Would you financially support surveillance and control of mosquitoes and MBD?)
  - a) yes, up to 5 € per year
  - b) yes, up to 10 € per year
  - c) yes, up to 20 € per year
  - d) yes, up to 30 € per year
  - e) yes, up to \_\_\_ € per year
  - f) no
11. Do you think that tourists could be repelled from their destinations in Montenegro by mosquito nuisance or outbreak of MBD?
  - a) yes
  - b) no
12. What do you think about cost shering/bearing (in %) costs of MBD monitoring and mosquito control between these three sectors?
  - a. Citizens/ tourist operators
  - b. Municipalities
  - c. Government


### **ANNEX 03: Institutional interview guidelines**

#### ***Guide questions for the institutional expert interviews (ministries, agencies, community-health centers, ...)***

1. How would you assess in terms of institutional/legislative performance the current fast-response capacity for crisis situations if an outbreak of vector/mosquito born diseases arises?
2. How/where would you place the role of an effective public mosquito and mosquito borne diseases (M&MBD) monitoring and control system?
3. Can you identify within the past and the present strategies a clear concern for the public health linked to the vector born diseases?
4. How would you rate the impact of vector/mosquito born diseases on medium and long term over:
  - a. the income from tourism,
  - b. the general national economic performance
  - c. public expenditure on health services/system
5. In your view, the M&MBD monitoring and control system, should be:
  - a. Entirely publicly supported/financed;
  - b. A Public-Private-Partnership with clearly defined shares for partners (please indicate gross estimated shares, if possible);
  - c. Completely privately supported/financed with state/public control
6. Could you identify and eventually describe the specific efforts in your institution and generally within the public system, for the implementation and efficient use of a sustainable M&MBD monitoring and control system?
  - a. Own structure/institution \_\_\_\_\_
  - b. Public system \_\_\_\_\_
7. With regard to the M&MBD monitoring and control system and its implementation with the participation of your institution/structure, could you identify and spot an internal priority order and rank of the following:
  - a. System critical points (read – essential);
  - b. Structural issues – need for change;
  - c. Management issues (at any level, related to effectiveness of implementation);
  - d. Regulatory framework elements;
  - e. Overall capacity building needs
8. Could you assess the positive impact of a M&MBD sustainable monitoring and control system over your structure's participation to the system in terms of:
  - a. Increased public visibility \_\_\_\_\_
  - b. Effectiveness and efficiency of interventions (costs included) \_\_\_\_\_
  - c. Reduced public expenditure for risk situations and public health on medium and long term \_\_\_\_\_

Where assessment is required a scale from 1-10 can be used, or shares of total if appropriate. The advice is to use similar scales over the entire interview for a better understanding of the answers. Leave room for interpretations of the interviewed and take notes if possible. Aspects might become relevant for the analysis when explained in detail.