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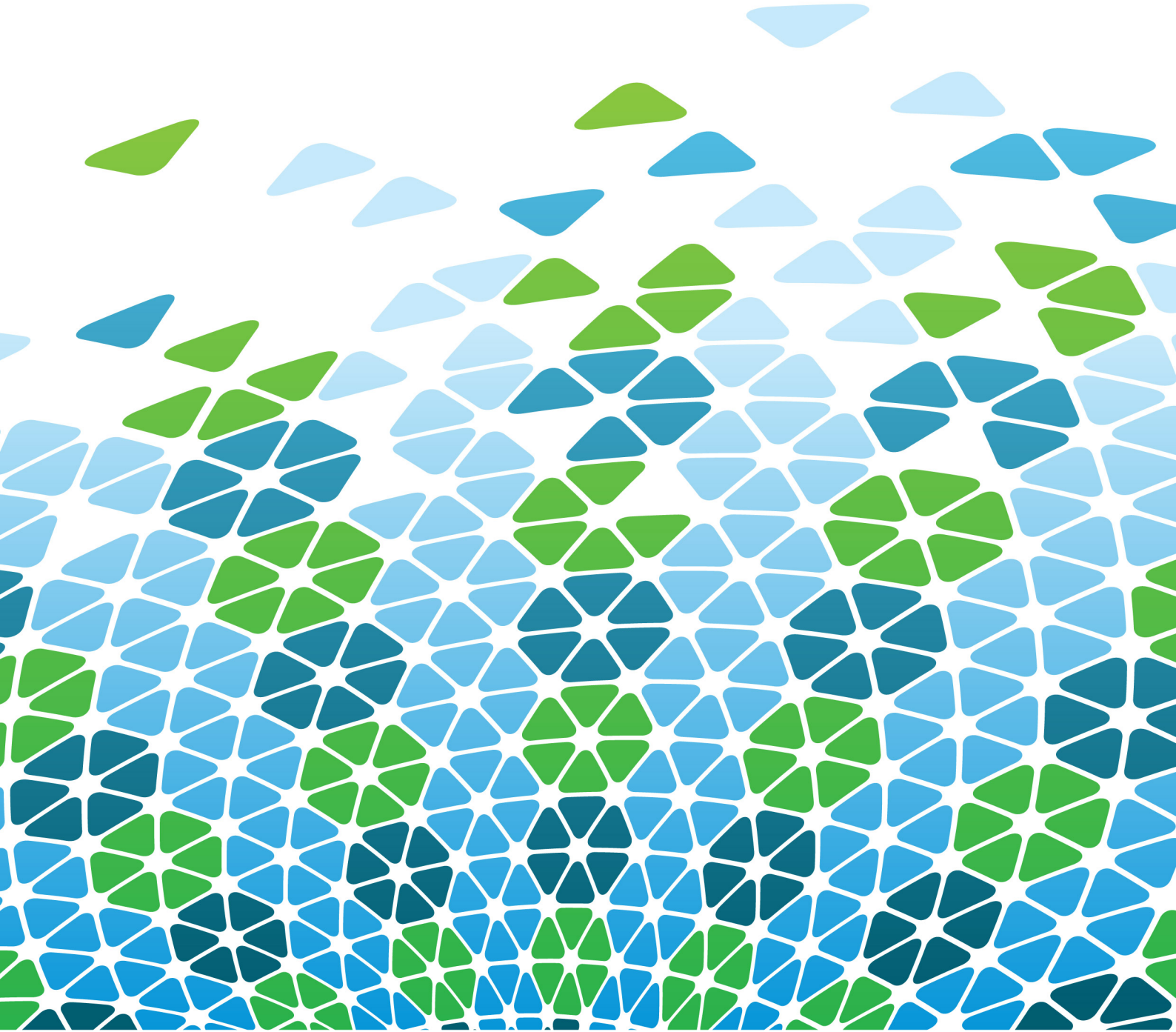
ENVIRONMENTAL REMEDIATION OF DIOXIN CONTAMINATED HOTSPOTS IN VIET NAM

REPORT ON THE COMMUNICATION COMPONENT

July 2014



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Abbreviations

BD	Binh Dinh
BH	Bien Hoa
CC	Communication component
DEP	Dioxin exposure prevention
IEC	Information, education and communication
M&E	Monitoring and evaluation

I. EXECUTIVE SUMMARY

1.1. Brief introduction to the project's communication component

1. The "Environmental Remediation of Dioxin Contaminated Hotspots in Viet Nam" project was carried out in Bien Hoa (BH), Binh Dinh (BD) and Da Nang from 2010. The communication component of the project aimed to disseminate knowledge on dioxin and dioxin exposure prevention (DEP) measures to residents of local communities and was carried out in parallel with other dioxin remediation activities. This knowledge dissemination was initially done via national and international workshops in all three locations. The information presented in these workshops was targeted at both high-level government officials and international attendees.[1] The information was largely confined to technical information about dioxin remediation, rather than information about DEP.[2] Therefore, a communication component (CC) for communities in the hotspots was conducted by Office 33[3] in four wards near the BH airbase from November 2013. This endline survey will focus on evaluating the CC, including a comparison between results achieved in BD and an initial baseline survey.

2. A baseline survey was conducted in 2008-2009, surveying 154 officials in ministries, agencies and organizations, and 270 people living in and near dioxin contaminated areas in Da Nang, BH and BD. The information collected included personal information, as well as knowledge and understanding of dioxin, exposure routes to dioxin and related policies. The results of the analysis formed the basis for project interventions in the three contaminated hotspots in Da Nang, BH and BD. BH was chosen as the location to conduct the CC for two reasons. First, in Da Nang dioxin remediation was led by USAID, and second, in BD dioxin had been contained and it was no longer considered a hotspot. The CC was implemented in BH at the airbase and in four wards, including Quang Vinh, Tan Phong, Buu Long and Trung Dung, from November 2013. At the time of this evaluation, the CC activities have been in operation for six months.

3. Although the CC was carried out in BH only, the baseline survey results, which cover all three locations, can still be used to measure and compare against the final results. The report focuses on officers and residents living in and near the airbase (dioxin is contained in the airbase, which has been isolated from residential areas). The evaluation methodology is described in detail in Section III.

[1] According to the Mid-term Review from May 2013
[2] Information from qualitative interviews
[3] Office 33, the technical arm of "Committee 33", was established by the Vietnamese Government to address the issues of PCDD (dioxins) generated by the USA-Viet Nam war.

1.2. Brief results of the evaluation

1.2.1. Strengths, weaknesses, opportunities and threats

Strengths	Weaknesses
The CC meets the needs of communities and complements the remediation activities. There was thorough preparation by communication experts and project officers for the CC, including conducting a baseline survey, detailed project design, identification of target groups and intermediaries, and specific indicators. The communication channels are diverse and appropriate to the specific target groups. The communication materials are simple, understandable and relevant to the specific target groups. The CC has had a positive impact on the understanding and awareness of local communities and officers on dioxin and prevention of dioxin exposure. There was successful coordination with local sectoral departments and authorities for the implementation of the CC. There was budget for the CC.	A limited time frame to implement the communication activities, resulting in a lack of continuity in messages communicated. M&E is limited. Proper M&E will help to strengthen each communication channel or to adjust communication channels to be more appropriate to each target group, while ensuring continuity and sustainability. The coordination plan with local sectoral agencies to mainstream communication content into local activities is still limited to the short term after the CC has been completed. Local management of fish poaching and the insufficient supply of safe water limits the support to communication activities in the communities. Some workshop programmes need to be adjusted to better reach a specific target group. The communication capacity of community intermediaries is limited as dioxin is a sensitive and complicated topic.
Opportunities	**Threats**
There is a need for local residents to better understand the issue and replicate the communication activities in other communities. There are diverse communication channels. Fear of dioxin by local residents is no longer a problem. Residents are ready and willing to receive communication on dioxin and dioxin prevention. Communication can be integrated in other sectoral activities (education, health and environment) at different levels. Willingness and commitment of local authorities and sectoral agencies to coordinate communication activities.	The awareness of some individuals is limited, which results in unchanged behaviour in dioxin prevention efforts, and this in turn affects other residents in the communities. Budget is a crucial factor for local communication in communities. Limited coordination and collaboration of sectoral agencies. Difficulty in the management and support of local authorities on communication about dioxin and DEP in communities.

1.2.2. Major results of the CC in BH

4. The CC has largely achieved the goal of improved knowledge of dioxin and DEP of residents in and around the areas of the BH airbase.

Objectives	Indicators	Baseline value	Targets	Final evaluation
To minimize disruption of ecosystem and health risks for people from environmental release of TCDD (dioxin) in contaminated hotspots (The objective)	Percentage of people in local communities who know government actions to address dioxin issues in hotspots	44% of local people in or near areas affected by dioxin do not know any agency undertaking treatment activities in the hotspots or surrounding area	Significant percentage improvement in surveyed population who can name at least one specific action by the Government to address dioxin issues in hotspots	Achieved, with 66.4% of residents in BH area 1 knowing about the communication activity of the project
Public environmental awareness information and education programmes implemented (Result 2.3)	Percentage of local residents with knowledge of dioxin	4.4% do not know about dioxin; 38% receive information through multiple sources Publications on dioxin issued by Office 33 General public awareness initiatives undertaken locally	The percentage of adults in the hotspots and surrounding areas who do not know about dioxin is negligible, while the percentage who receives information from multiple sources is over 60%	Well achieved (see specific results in the analysis section)
National regulations and institutional capacities strengthened (Outcome 3)	(1) Percentage of relevant government officials at national and provincial levels who acquired basic knowledge on dioxin issues	38% of officials in relevant government agencies have not received training or awareness raising on dioxin, while 29% do not have access to information on policies and laws related to dioxin	The majority of officials in relevant government agencies have received training or awareness raising on dioxin, and the number of officials who are unable to access information on policies and laws related to dioxin	Achieved Only measured qualitatively. Local officials have a good understanding of dioxin and DEP

			is negligible	
	(2) Percentage of local communities who know national and provincial agencies responsible for dioxin issues	Over 50% of respondents are unable to name agencies responsible for the management of contaminated areas	Most respondents are able to name agencies responsible for management of contaminated areas	Achieved, with 57.5% of residents in the BH1 area knowing these agencies

5. There is a positive difference in results between the baseline and endline period of the project, including (i) between the intervention area with greater communication efforts (BH1) and the intervention area with less communication (BH2), and (ii) between BH in general (the area with communication interventions) and BD (which had no communication interventions). The results demonstrate that residents in the intervention area with greater communication gained more knowledge of dioxin and DEP; the agencies responsible for dioxin issues; and the policies for dioxin victims, compared to other areas. This demonstrates the positive impact of communication activities.
6. The channels used to distribute information were diverse and tailored to different target groups. The project used local people as intermediaries, including representatives of local associations who connected with local authorities, teachers and secondary pupils in the four wards close to the BH airbase.
7. The project had a positive impact on people's behaviour in the communities. For example, there was some restriction of fish poaching in the dioxin contaminated lakes, and some caution being taken by local residents in buying products of unknown origin or from the airbase, as food is easily exposed to dioxin.
8. Representatives of local sectoral agencies and local authorities received training provided by Office 33. The regulations regarding government policies on dioxin/Agent Orange victims were summarized in a book, “50 Questions and Answers on Dioxin Issues,” provided by Office 33.
9. However, the CC would be more effective if there is active support from local authorities, such as access to safe water supply, or strict management by local authorities over those people who poach fish from the lakes or sell food of unknown origin.
10. The CC would be more effective if communication intermediaries, including representatives of heads of communal groups, were trained in larger quantity. At the same time higher quality training should be made available, with more diverse forms of media and more communication materials. However, the intermediaries will only have a greater impact on the community if all these activities are implemented in an integrated fashion and monitored in close coordination with local sectoral agencies.

11. The evaluation finds that the CC has achieved the indicators set by the project. Of these, the most important indicator is the "*percentage of local residents having dioxin related knowledge*" with the specific target, *"the percentage of local adults in surrounding hotspots who do not know about dioxin is negligible, while the percentage who receives information from multiple sources is over 60% (2013)*". The remaining indicators are challenging to evaluate, as they do not have specific targets, for example "*a significant percentage improvement of surveyed population can at least name one specific action by the Government to address dioxin issues in hotspots in 2013*" and "*most respondents are able to name agencies responsible for management of contaminated areas (2013)*." However, the endline evaluation, when compared against data from the baseline survey, shows that these targets have also been achieved.

II. EVALUATION OBJECTIVES AND SCOPE

2.1. Overall objective

12. The overall aim of this assignment is to objectively evaluate the impact of the communication component (CC) of the "*Environmental Remediation of Dioxin Contaminated Hotspots in Viet Nam*" project on the target beneficiaries, based on the specific indicators set out in the project log frame.

2.2. Specific objectives

The indicators required to be met by the project are as follows:[4]

13. Percentage of people in local communities who are aware of government actions to address dioxin issues in hotspots. Specifically, **a significant percentage improvement of the surveyed population can at least name one specific action by the Government** to address dioxin issues in hotspots in 2013. This indicator is developed based on data from the baseline evaluation, which found that 44%of local people in or near areas affected by dioxin do not know any agency undertaking treatment activities in the hotspots and surrounding area (the Objective).
14. Public environmental awareness information and education programmes are implemented. Accordingly, the target is that **over 60% of adults in the hotspot areas receive dioxin information from multiple sources and that those who do not know about dioxin are negligible.** For this indicator**,** data from the baseline survey showed that 4.4% did not know anything about dioxin, 38% received information about dioxin through multiple sources, and general public awareness initiatives were undertaken locally (Activity 2.3).
15. National regulations and institutional capacities are strengthened. Accordingly, a **majority of officials in relevant government agencies have received training or awareness raising** on dioxin and the number of officials who are unable to access information on policies and laws related to dioxin are negligible (2013). This indicator is based on the baseline survey result that 38% of officials in relevant government agencies have not received training or awareness raising on dioxin, while 29% do not have access to information on policies and laws related to dioxin. The second indicator is that **most respondents are able to name agencies responsible for management of the contaminated areas (2013)**. The baseline survey results indicated that over 50% of respondents are unable to name agencies responsible for the management of contaminated areas (Outcome 3).

2.3. Scope of assessment

16. The assessment of the communication activities is implemented in accordance with the TOR as follows:
    a) Reviewing the past survey and project documents;
    b) Conducting surveys on the awareness and knowledge of beneficiaries in the project areas;

[4] As detailed in the logical framework in the Inception Report

c) Preparing the analytical report on people's perceptions, which will include the relationship between valid variables which show a connection, causes and results; the correlation between demographic factors and perceptions; the estimated effect of project interventions on beneficiaries; and if possible, a comparison of the intervention effectiveness between this project and others as well as a number of illustrative quotations; and

d) Assessing project communication documentation relating to message content and effectiveness of communication design.

17. The baseline survey analysed two groups: (i) relevant government managerial officials in central and local agencies and associations, and (ii) residents in the three dioxin hotspots in Da Nang, BH and BD. For this evaluation, a survey of local residents and the project's beneficiaries in BH was done, and compared with residents in BD (where the CC was not conducted). Central government officials were not surveyed, as it was not requested under the TOR. Instead, in-depth interviews were conducted with local officials to support the findings in regards to residents. As such, indicator (i) of outcome 3, the "*majority of officials in relevant government agencies have received training or awareness raising on dioxin and officials who are unable to access information on policies and laws related to dioxin are negligible (2013),*" is not quantitatively assessed in this report.

III. EVALUATION METHODOLOGY

3.1. Collecting quantitative data

18. Residents' knowledge of dioxin and DEP was compared before and after the CC, i.e. between results of the baseline survey[5] (in Da Nang, BD and BH) and the endline survey in BH and BD. The evaluation also compares the area which had direct intervention and leaflets (BH1) with the area that benefited from loudspeakers and posters on dioxin in public places, i.e. non-direct intervention (BH2).

19. The endline evaluation of communication activities was implemented in BD and BH. Communication activities were only carried out in BH. Based on a rapid needs assessment conducted in May 2013, communication activities in BH were prioritized in areas near the airbase (which are referred to as BH1). The remaining areas (which are referred to as BH2) are further from the airbase, and were influenced by indirect communication. In BD, remediation was completed and this location is no longer a hotspot. However, the endline evaluation was still conducted in BD. The overall purpose was to compare:

    (i) The current situation in BH with the original situation of the baseline survey (to see the difference before and after the communication intervention);

    (ii) The difference between BH, where there was communication intervention, and BD, the area without communication intervention; and

    (iii) The difference between BH1 (with direct intervention) and BH2 (with non-direct intervention).

20. It was originally intended that the endline evaluation should reuse the same sample size and sample list as the baseline survey, which consisted of 90 households per location. However, to ensure that the sample size was representative, it was decided that at least 300 household surveys would be needed. In order to attain this, the evaluation team planned to collect surveys from 450 households, as follows:

    BD: 90 households + (90 x 50%) = 135 households

    BH: 210 households + (210 x 50%) = 315 households

    In other words, in order to get the planned 300 questionnaires of good quality, the research team distributed an extra 150 questionnaires.

21. Since the baseline survey report from2009did not provide the sampling method and addresses of respondents, the evaluation team was not able to survey the same respondents. Instead, households from the previously surveyed districts/communes were randomly selected.

22. Subsequently, in BH a multi-staged random sampling method was used by creating a list of the sub-wards that received either direct or indirect communication on dioxin within the four wards (Tan Phong, Trung Dung, Buu Long and Quang Vinh). In each ward, two sub-wards, one that received direct and one that received indirect communication

[5] The baseline survey in 2008 (report published in 2009) on people's understanding of dioxin and its impact on human health and the environment was carried out in 270 households living in or near the area of dioxin hotspots in Da Nang, BD and BD, with 90 households per province.

intervention, were selected. Based on the list of the eight sub-wards, 10 communal clusters were then randomly selected. In each communal cluster, a maximum of 35 households were randomly selected from the list of all households provided by a sub-ward head or head from a Commune People's Committee.

23. The *sampling method* in BD was similar to that for BH. The evaluation team targeted two wards – Nhon Thanh and Cat Tan – where the baseline survey was done. Subsequently, two sub-wards were randomly selected from each ward and then four communal groups from these were selected for the survey. In each communal group, a maximum of 35 households were randomly selected to participate in the survey. The list of households was provided by heads of wards/sub-wards.

24. *Survey implementation*: In order to ensure the objectivity of the evaluation, instead of using the communication intermediaries of the project, the research team used the head of each residential cluster to distribute the surveys. These heads handed out the questionnaires to the selected households and collected them after they had been completed. The questionnaire design was straightforward and used multiple choice questions to make it easier for the respondent to answer. Out of 450 questionnaires, 428 were returned.

25. *Quality control process*: Each head of a residential cluster/group went through training by the research team on how to distribute and collect the questionnaire. They were also thoroughly guided on the need for integrity and credibility of the survey results. When the distribution process was underway, random checks were conducted by the evaluation team at some households in BH to ensure the credibility of the distribution. After all questionnaires were collected, the evaluation team checked the information by making phone calls to random households in the surveyed sample across all 14 communal clusters. Not all collected questionnaires were accepted. In order to ensure quality, the research team randomly checked 30% of the total. If any problems with the answers emerged, all questionnaires distributed by that particular sub-ward head were checked and any 'not up to standard' questionnaires were eliminated.

26. After the quality check process, 105 surveys were eliminated as they did not meet the research requirements, leaving a total of 323 survey responses for analysis and evaluation. Of the questionnaires collected, some were blank and these questionnaires were rejected. During the process of data entering and cleaning, the team found some questionnaires that seemed to have similar answers. The team randomly checked all communal groups (both their heads and residents) and rejected questionnaires which were biased. Questionnaires with some missing answers were analyzed if they still had statistical value.

Table 1: Sample size

Questionnaires	**Quantity**	**Note**
Handed out to heads of communal groups	450	22 were not returned
Collected	428	
Not up to standard	105	Eliminated
Total eligible questionnaires (two provinces):	323	

Questionnaires	Quantity	Note
BH	259	113 with direct intervention, 146 with indirect intervention
BD	64	

3.2. Qualitative information

27. Key informant interviews were conducted with a majority of those who participated in communication activities as part of the CC. Representatives from BH (35 people) and BD (16 people) were interviewed, including staff from provincial sectoral offices (who took part in a communication workshop), local authorities, associations, teachers, students, airport officers, soldiers, soldiers' families and other residents. These individuals have been classified as both beneficiaries and intermediaries of the CC (see Annex 1 for the full list of interviewees). Four consultations were also done at the central level with consultants and project staff.

3.3. Challenges in the data collection process

28. Advantages: The research team received timely and active support from Office 33 in connecting with local authorities to obtain lists of households and in the survey implementation.

29. Difficulties: As mentioned earlier, because of missing information from the baseline survey on respondents' full names and addresses, the evaluation team was not able to reuse the same samples as the baseline survey.

30. Risks with the survey method:

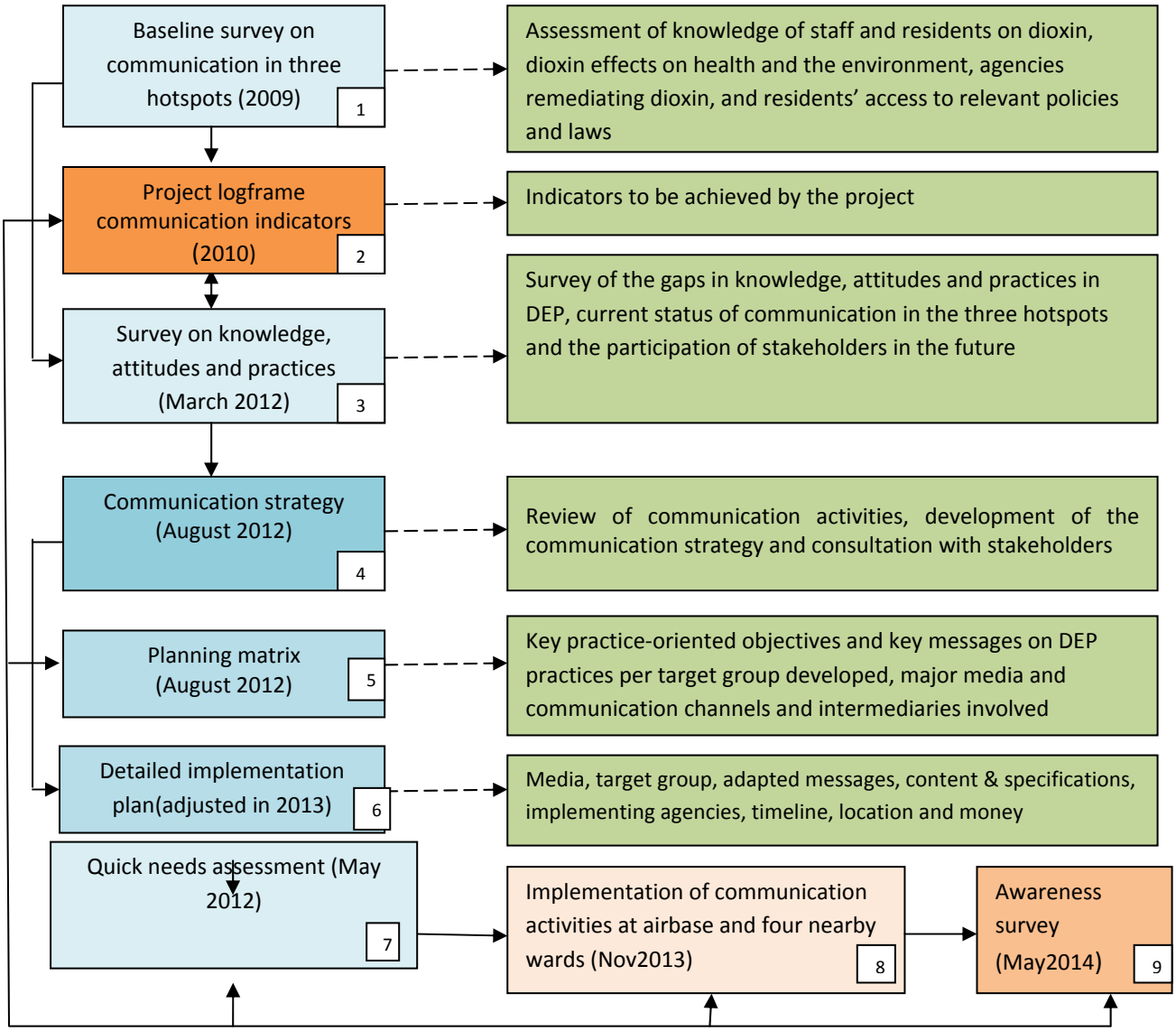
(i) Questionnaire distribution: Handing out questionnaires to respondents through the head of each sub-ward posed some risks. Although each head went through training on the requirements and need for credibility of the survey, there was the potential for results to be biased by distributors assisting respondents with their answers. This risk was mitigated through the simple survey design and random checks at households during the distribution stage. Raw data cleaning was also thoroughly done to take into account responses that may have been manipulated. For this a random check by telephone was done to respondents in all 14 communal groups.

(ii) Self-assessment by respondents: Surveys were left with respondents for them to fill in by themselves, which had the risk that answers were not fully completed, questions were left blank or questions were not answered properly. This was mitigated by increasing the number of households surveyed to 450 in the two hotspots (BH and BD), versus 270 households in the three hotspots (BH, BD and Da Nang) in the baseline survey. Once surveys were collected, phone calls were also placed to households who did not give full or clear answers to verify data. Overall, 105 questionnaires which were not up to standard were eliminated from the survey. In the end, the total number of valid questionnaires was sufficient for the purposes of this evaluation, as initially planned in the methodology.

IV. LITERATURE REVIEW

31. The project "*Environmental Remediation of Dioxin Contaminated Hotspots in Viet Nam*" is hosted by Office 33 and funded by the Global Environment Facility (GEF) through the United Nations Development Programme (UNDP). Along with dioxin remediating activities, the project design included communication activities aimed at "*minimize[ing] disruption of ecosystems and health risks for people from environmental releases of TCDD (dioxin) in contaminated hotspots*". These activities were conducted to achieve specific indicators, as detailed earlier.

Figure 1: Preparation steps for the implementation of the CC



Source: Desk review

32. Figure 1 show how the CC was set up by identifying the need for communication, identifying target groups and then selecting appropriate communication approaches.

33. In general, project documents relating to the CC bring out the following issues:

(i) High need for communication on dioxin. Dioxin is a chemical existing since the war between Viet Nam and the USA. Information about dioxin and its influence on the environment and human health has been communicated but the information has been limited to people living in dioxin exposed areas.

(ii) The percentage of residents and local officials with an understanding of dioxin and DEP, and with access to policies related to dioxin, is low. The percentage of people who do not know about the origin of food is high.

(iii) The community needs access to information about dioxin, its influence on human health and the environment, DEP measures and related policies for dioxin victims.

(iv) Messages and communication channels tailored for specific target groups (including beneficiaries and intermediaries) in each area have been discussed and designed, including sectoral provincial officials, military commanders and officers, teachers and secondary pupils, associations, local authorities and residents.

(v) Communication activities in BH and BD are hindered by lack of government support, such as access to safe water and the existence of farming in the contaminated areas.

34. The report on the implementation of the CC (the Report) at BH showed that the CC used diverse methods of communication, suitable for different audiences. The objectives of the CC included: (i) to raise awareness of local management agencies, media agencies and communities about the harmful effects of dioxin and DEP in the airbase area and neighbouring residential areas; (ii) to facilitate behaviour changes to minimize the risk of dioxin exposure in communities living in dioxin contaminated areas; and (iii) to enhance communication skills for project intermediaries. The communication activities conducted are summarized in Table 2.

Table 2: Communication activities in BH, November 2013

	Communication activities	**No of participants**
1	A workshop with representatives of management agencies and organizations at all levels	46
2	A training workshop for communication intermediaries and household representatives	20 intermediaries
3	A communication demonstration (one time), and distribution of leaflets and tape recorders in local language and accent (the quantity provided was requested by the communities)	50
4	A training workshop for a group of teachers	33 in total from three secondary schools
5	A Q&A talk show on dioxin and DEP mainstreamed in an art performance at the Hung Vuong secondary school; and distribution of leaflets, booklets and	300 pupils

	Communication activities	No of participants
	posters at three schools	
6	20 types of communication products	See Annex 5: Project's IEC materials

Source: Report on communication implementation, November 2013

35. The Report shows that there is a need for direct communication to residents in the areas around the airbase. Specific information was disseminated to people in the area in various forms, in combination with information, education and communication (IEC) materials.

36. The Report for BH did not clearly set out (i) the advantages and disadvantages during implementation of the CC;(ii) the criteria used to select target groups; (iii) assumptions that could positively or negatively affect the project outcomes; (iv) the extent of the area covered (what area received direct communication and what area received indirect communication); and (v) an approach/method to conduct monitoring and evaluation (M&E)of the current and ongoing CC in the communities (although the Report indicated that the project management unit and intermediaries have agreed on a work plan and M&E plan).

37. Some of the communication activities listed in the Report need to be described in greater detail. For example, in the section on method of communication (included in Annex 1 of the Report) there should be information describing the criteria used to select beneficiaries, the number of leaflets in total and for each target group, and areas for direct and indirect communication. The number of households in the four wards in BH seems to be estimated rather than actual numbers. To ensure the aims of the CC are achieved amongst the intended number of beneficiaries, there needs to be good M&E during and after the project implementation.

38. The communication strategy and detailed communication plan had ambitious objectives. Office 33 provided comments on this. As a result, another detailed plan was made (see Annex 5), based on the allowed budget and time. As such, the initial strategy and plan were not used for implementation of the CC. This strategy is more likely to be applicable with a larger budget and a longer timeframe. In order to implement the CC in BH, a quick needs assessment survey was carried out before the implementation at the site in November 2013.

V. FINDINGS FROM THE ENDLINE EVALUATION

5.1. General information on communication activities in BH

39. Residents living in dioxin contaminated hotspots have been familiar with the word 'dioxin' for many years. In war time, Agent Orange was propagated as an insecticide. People lived in dioxin exposed environments but were completely unaware of it and its harmful effects. It has been observed that the number of people who have cancer and goiter has increased over time. Most people believe that these diseases are related to dioxin exposure.

40. Previously, information on dioxin was limited to only a certain number of people, such as government leaders and military commanders, as dioxin-related issues were deemed sensitive. In the last 10 years, information about dioxin has become more widespread, mainly through stories told about the fate of victims of dioxin exposure. Plans, projects and schemes on dioxin remediation were hardly known until the CC was carried out by Office 33. Through Office 33, accurate information about dioxin has been widely distributed through mass media since 2010, aiming to promote a clearer understanding about dioxin, its consequences and measures for DEP.

41. The CC was carried out relatively late in comparison to the other activities of the project. In BD, there was no communication intervention as this location is no longer a dioxin hotspot. In BH, the CC started in November 2013, only six months before this assessment.

42. The CC was conducted in BH by Office 33 in order to directly provide knowledge of dioxin and DEP to local people and dioxin-related government policies to victims of dioxin. In preparation for the CC, other communication activities were conducted, such as surveys, workshops on the communication strategy and a rapid assessment of communication needs (see Figure 1).

43. The rapid needs assessment carried out by the project's communication team aimed to find out the real needs of communities on dioxin-related knowledge and DEP, the target groups, appropriate communication channels and needed IEC materials for each target group. This step was important because communication on dioxin is a difficult issue, requiring much simplification when disseminating information to communities. The rapid assessment provided valuable information to the communication team, allowing for the preparation of materials for the CC. Local representatives were also consulted in the preparation of the communication toolkits, to ensure the quality of communication messages.

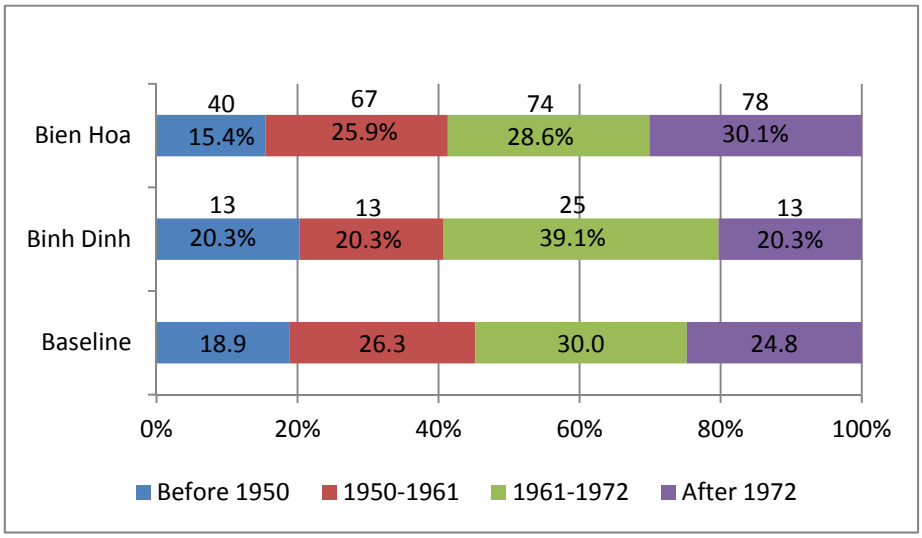
44. In BH, the communication team implementing the CC faced several difficulties. Firstly, the communication activities, IEC materials, and programmes on dioxin were new, with no existing materials to test their content against. Secondly, dioxin is a complicated and technical issue, which needs to be appropriately simplified for ease of understanding by local residents. Thirdly, the content needs to be sufficient and appropriate to ensure that the local communities do not take away messages that are incorrect or messages that create fear or which have negative consequences.

45. Observations of the situation at the time of the evaluation in the two surveyed locations showed that residents in BH pay more attention to the existence of dioxin and DEP than in BD. The quantitative results also show the same picture – awareness of dioxin and its harm is higher in BH than in BD.

5.2. Information about respondents

46. **Demographic information**: Out of 259 respondents in BH,130 were men (50.2%) and 128 were women (49.4%).[6] Out of 64 respondents in BD, 43 were men and 21 women, representing 67.2% and 32.8% respectively. The respondents can be grouped into four age groups, following the same groups as the baseline survey, as per Figure 2.

Figure 2: Respondents' age groups



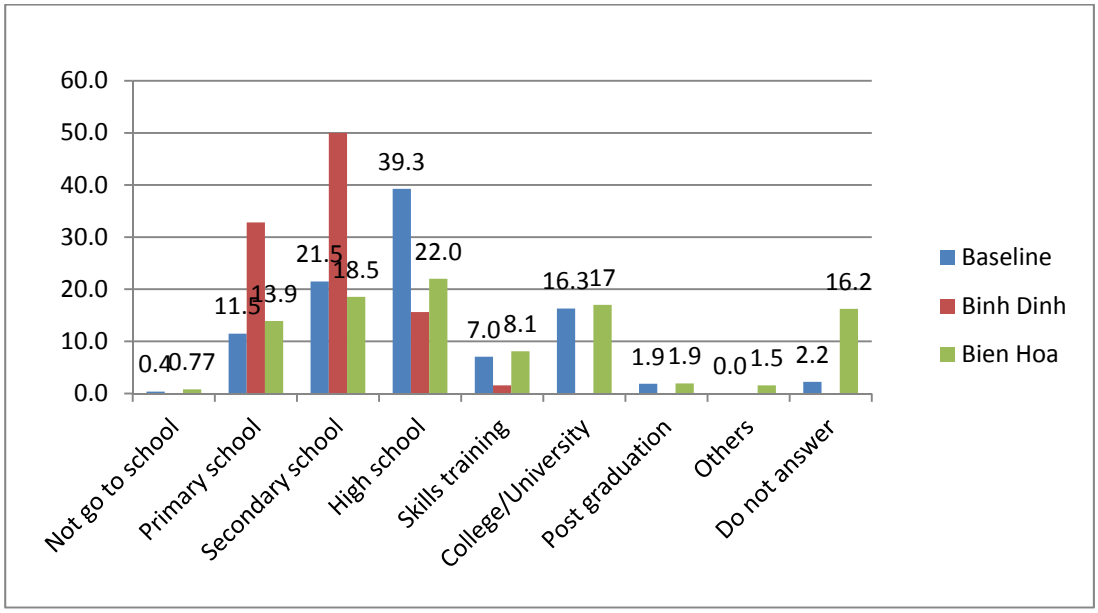
Source: Survey results

47. **Occupation**: The respondents have relatively varied occupations. Respondents who stay at home, including those occupied by housework or retirees, account for 25.5% in BH, 14.1% in BD and 27.8% in the baseline survey. Respondents engaged in agriculture were only found in the baseline survey and BD, representing 17% and 18.8% respectively. There was a significant number of respondents who did business and trade, with 15.5% in BH and 23.5% in BD, although only12.2% in the baseline survey.

48. **Level of education** (Figure 3): In the baseline survey and in BH, the majority of respondents reportedly completed high school, accounting for 39.3% and 22%. In BD, however, secondary school graduates represent the highest group at 50%, with those who only completed primary school also high at 32.8%. The percentage of respondents who have completed college/university in the baseline survey and in BH accounted for 16.3% and 17% respectively. In BD no one was at this level.

[6] One respondent (0.4%) did not provide information about their gender.

Figure 3: Education levels



Source: Survey results

49. Out of those surveyed, the majority have lived for 20 years or more at their current location – 60% in BH, 89.1% in BD and 54% in the baseline survey.

5.3. Knowledge of dioxin

5.3.1. Dioxin and its effect on human health and the environment

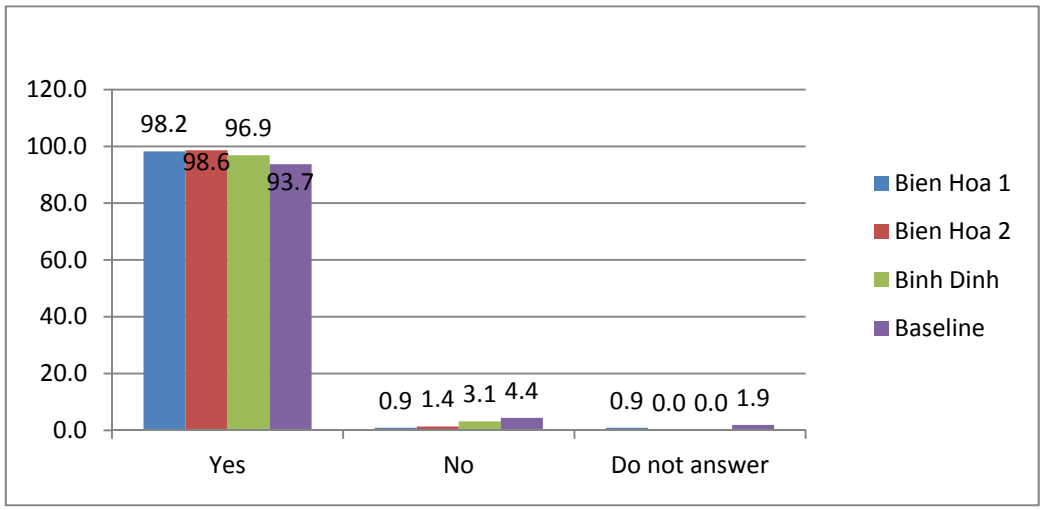
Knowledge of dioxin

50. Qualitative information shows that respondents in BH have a more obvious interest and engagement in dioxin and DEP when compared to BD. There was no specific communication intervention in BD, besides mass media to the public. The CC was only carried out in BH, along with a "Committee for Remediation"[7], which provided assistance with activities such as filling wells or organizing meetings with local people to talk about dioxin.

51. Almost all respondents in BH and BD have heard about dioxin (at 98.2% in BH1, 98.6% in BH2 and 96.9% in BD). This rate was higher than the 93% in the baseline survey (see Figure 4).

[7] This is what local people called a unit supporting them to fill wells.

Figure 4: **Percentage of respondents who have heard about dioxin**



Source: Survey results

52. In the baseline survey it was found that most respondents (96.6%) understood that dioxin is toxic to human beings. In the endline survey this remained high, at 98.5% in BH and 98.4% in BD, and there were no respondents who considered it harmless to human health. However, 6.9% of respondents in BH and 17.5%[8] in BD think that dioxin is non-toxic to organisms. This rate in the baseline survey was only 0.4%.[9]

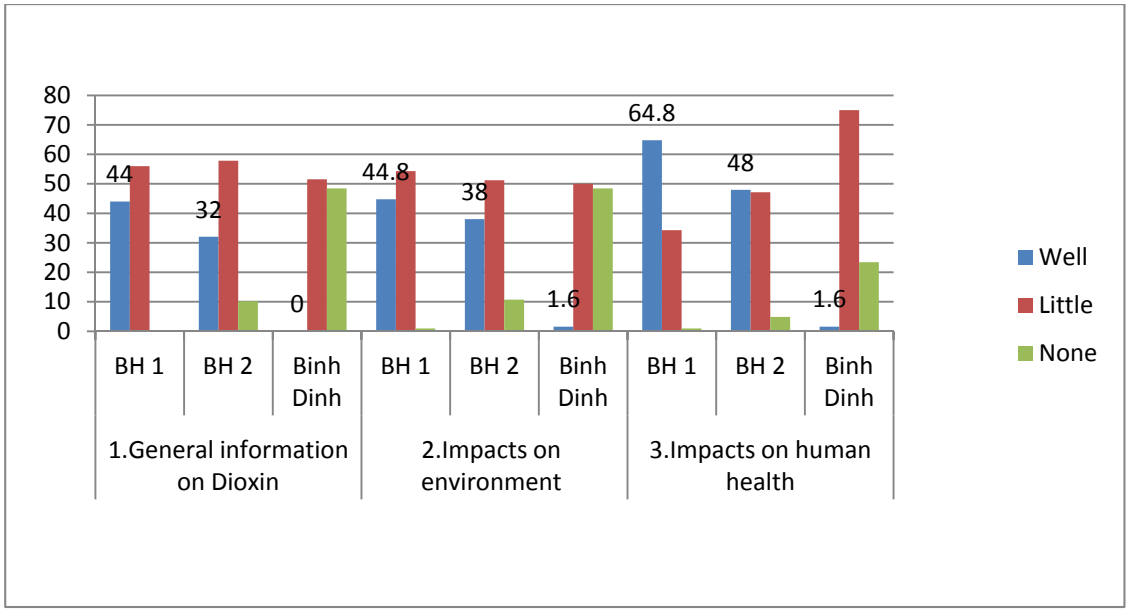
53. There is a difference between BH and BD in how respondents self-assess their understanding of dioxin (see Figure 5). The percentage of respondents who said that they know a lot about dioxin is significantly higher in BH than BD, and the percentages in BH1 were also higher than in BH2. The statistical tests at a 5% level of confidence provided similar results.[10] The percentage of respondents in BD who answered "do not know" about dioxin was always higher than in BH1 and BH2. However, generally respondents' knowledge of dioxin, DEP, related policies and agencies/organizations responsible for remediating dioxin in all three groups is quite low, especially in BD.

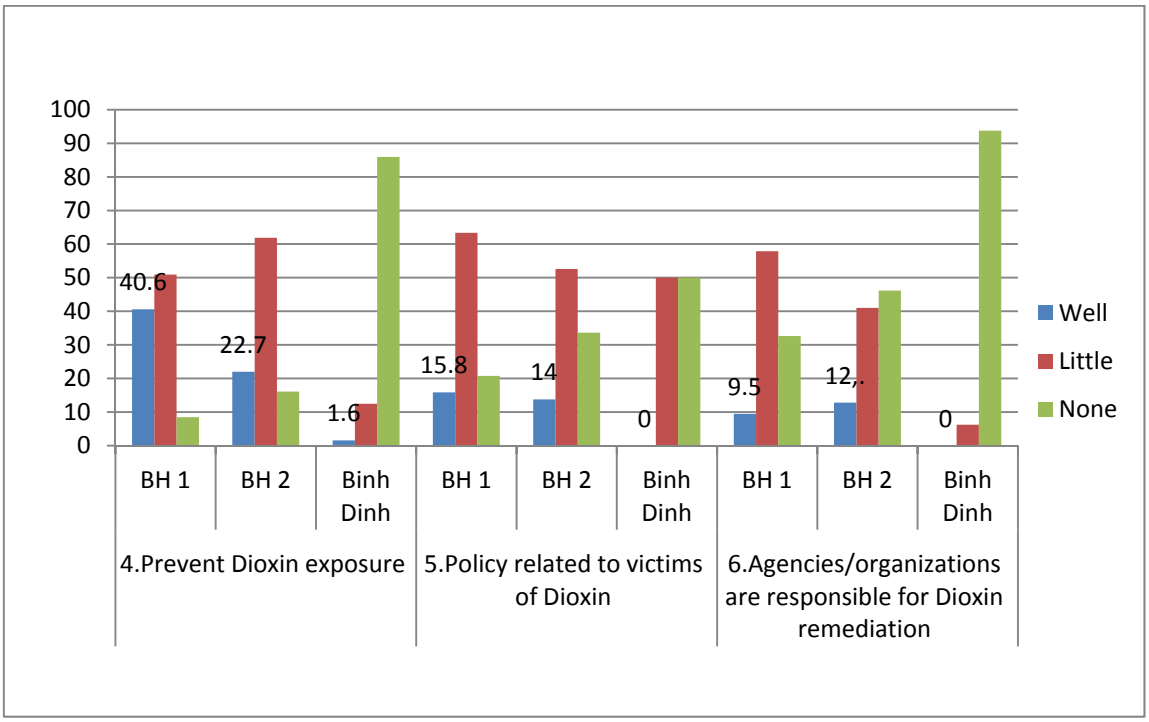
[8] Due to the large number of missing values, the percentage of people who answered the question "impact of dioxin to the organism" is analyzed based on the total number of respondents who answered questions, to ensure the accuracy of the assessment.

[9] This analysis was done based on the number of respondents who answered and did not answer the questionnaires in the baseline survey.

[10] For more information, see Annex 3

Figure 5: Self-assessment, Answer rate to Questions on dioxin knowledge



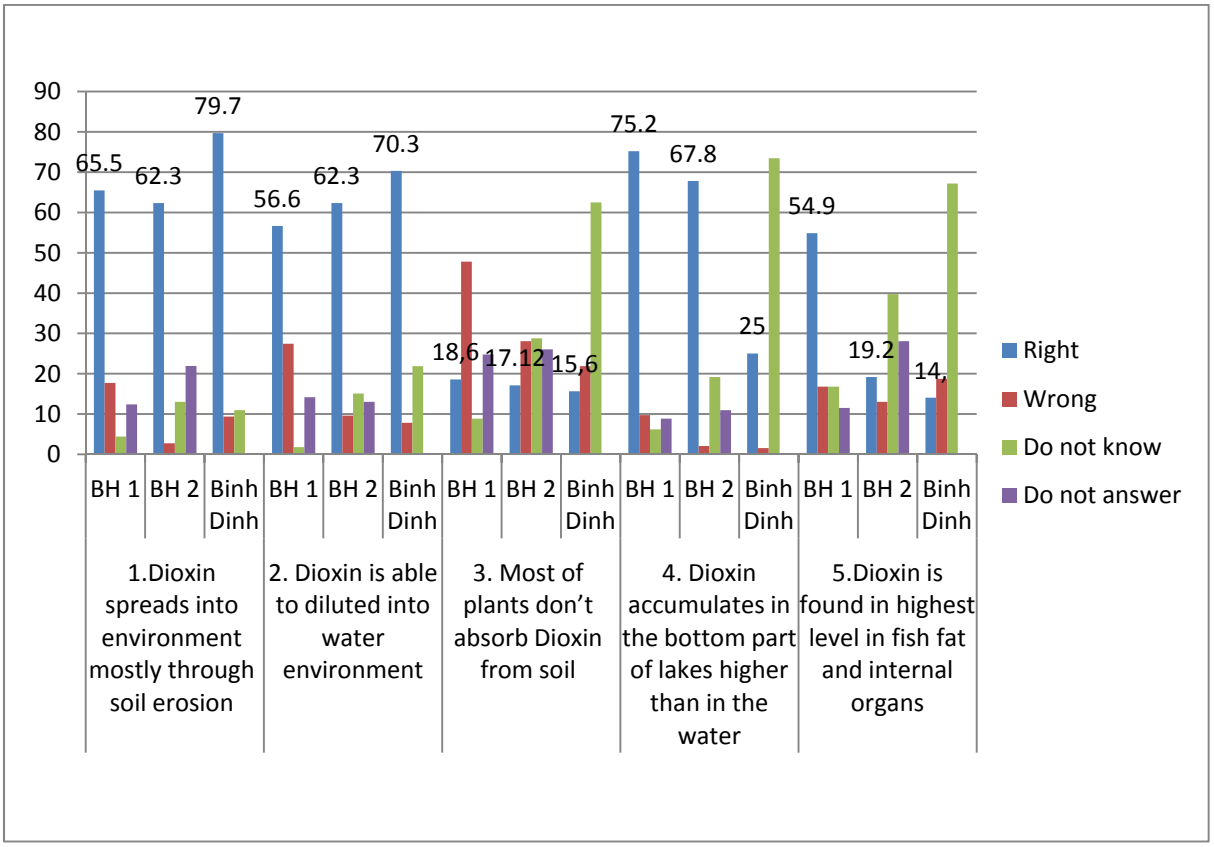


Source: Survey results

54. Figure 6 below shows the difference in knowledge between BD and BH. The question of "*Dioxin spreads into the environment mostly through soil erosion*" received the highest positive response rate in BH1, BH2 and BD (64.5%, 62.3% and 79.7% respectively), showing that respondents are somewhat aware of how dioxin is transmitted. However, respondents also had a high positive response rate to the false statement *"Dioxin is able to be diluted into water"*. Of particular note, the positive response rate to this question seems to follow the level of CC activity, with BH1 (direct intervention) having the lowest score (56.6%) and BD

(no intervention) having the highest (70.3%). This is also demonstrated by the response rate to "*Most plants do not absorb dioxin from soil*," another false statement. BH1 has the highest negative response rate (in other words is able to identify that the statement is false). In BH2 there was an almost equal amount who responded to the question in the negative or 'do not know', and in BD the vast majority selected 'do not know'. Similarly, for the two last questions in Figure 6, BH1 has the highest positive response rate. This demonstrates that the area with the greater CC, BH1, is able to demonstrate more accurate knowledge of dioxin. The area with lesser CC intervention, BH2, seems to have a more variable understanding of dioxin. The area with no intervention (BD) performs the worst.

Figure 6: **Answer rate to Questions on Dioxin Knowledge**



Source: Survey results

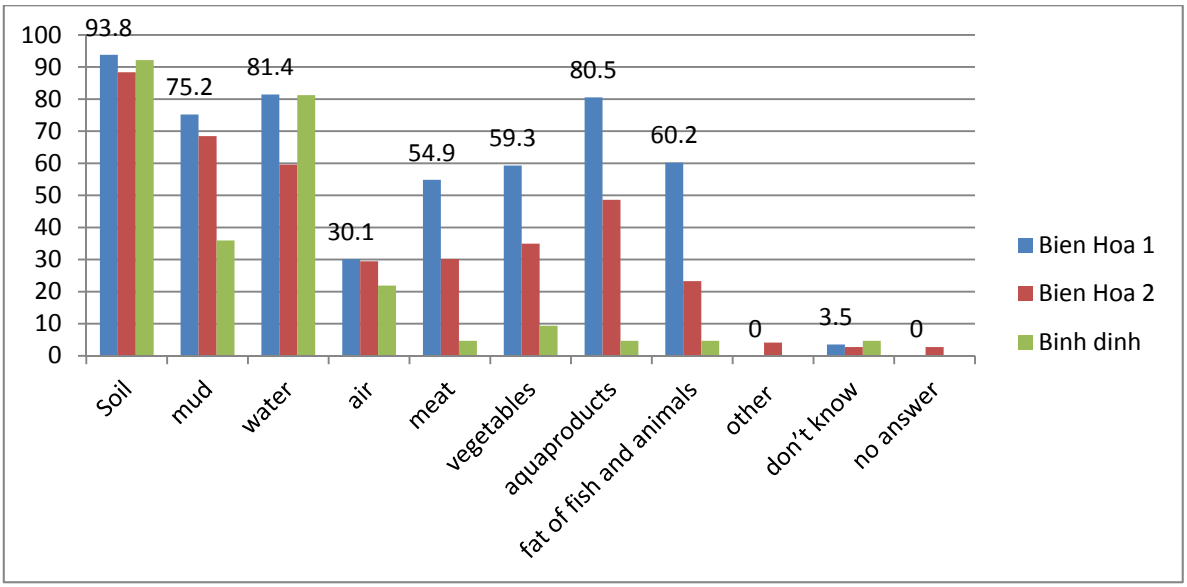
55. Most people in the survey, especially in BH, expressed fear of dioxin exposure. The rate in BH1 is 97.3%, which is higher than in BH2 (78.2%) and in BD (42.2%).[11] This does not conflict with the influence and impact of the CC because people in BH want to know more about dioxin so they can effectively prevent it. The qualitative information also revealed that people in BH want to be more aware of DEP (See section 5.7: The impact of the CC).

[11] This question is evaluated by including respondents who selected "don't know" or who did not answer the question. If these respondents are not included, the results would show that there is not much difference between the three locations in response to this question, with 98.2% in BH1, 96.5% in BH2 and 100% in BD.

"Previously people were scared of dioxin and people are still scared of it. But the current fear is different from previously. Many people think that only soldiers who got dioxin in the war need to fear, not residents. They don't know that dioxin was sprayed around. Before, not many women went for health checks-up and reproductive health consultations. Now many of them go. People don't want to spread dioxin, so they don't grow vegetables, and don't rear chicken and fish. Before, they did not dare to buy a piece of land due to fear of dioxin. Now, an area next to the airbase is full of new houses."
From an interview with a Women's Union representative

56. **Understanding the accumulation of dioxin** (Figure 7): In the baseline survey, only 1.5% of respondents believed that dioxin is accumulated in the air, 1% in water and 17.4% in soil. The rest (68%) selected other places and it is unclear what these other places are. The endline survey shows that the majority of respondents in BH and BD think that soil, mud and water are the main places that dioxin is stored.[12] Respondents in BH1 had the highest correct response rate for questions on specific knowledge provided by the CC, for example that dioxin is stored in fish fat, animal fat or in some vegetables. Thus, the survey results again show that in areas with a greater CC respondents have more in-depth knowledge of dioxin. Overall, the impact of the CC is demonstrated by the more detailed responses in the endline survey compared to the baseline survey.

Figure 7: Knowledge of where dioxin is accumulated



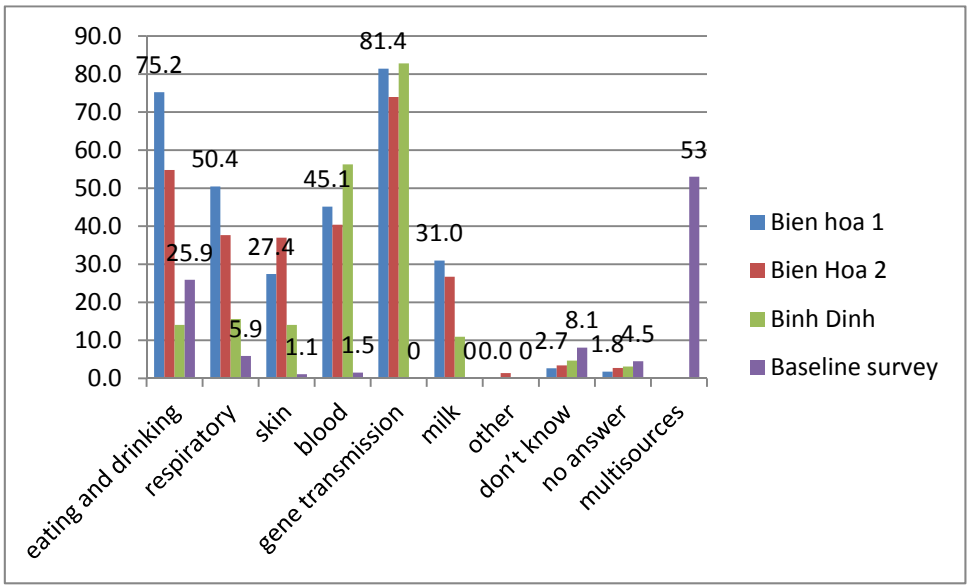
Source: Survey result

[12] This question asked "where", not "how much" dioxin is stored. Regarding how much dioxin is stored, the answer to question no. 17 was that the level of dioxin in water is insignificant, the same for air (answer to question no. 47).

Understanding of dioxin exposure routes

57. A majority of respondents in BD and BH believe that dioxin is exposed through gene transmission.[13] BH1 has the highest rate of respondents (75.2%) who know that dioxin is transmitted through eating and drinking, followed by 54.5% of respondents in BH2 and 14.1% in BD. Dioxin exposure through blood is correctly answered by 56.3% of respondents in BD, which is higher than in BH. Regarding other dioxin exposure routes, the rate of answers to options that are true is higher in BH1 than BH2 and BD, except knowledge of exposure through skin, with BH2 (37%) responding at a higher positive rate than BH1 (27.4%) and BD (14.1%). The baseline survey results show that the rate of respondents who thought that exposure is through eating was only 25.9%, through blood 1.5%, through respiratory organs 5.9% and through skin 1.1%. Thus, the understanding of dioxin exposure of respondents in BH1 is better than in BH2 and much higher than in BD. Generally, though, all locations saw an improvement when compared to the baseline survey. BH1 also generally performed better than BH2 (see Figure 8).

Figure 8: Answer rate to Questions on Routes of dioxin exposure



Source: Survey result

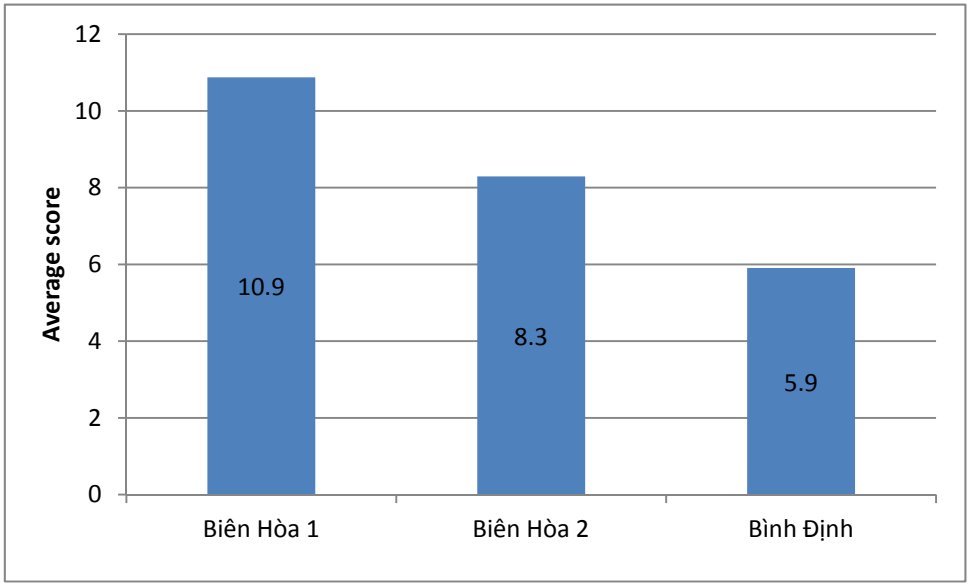
58. In scoring[14] respondents on their understanding of dioxin, its existence and accumulation, as well as exposure routes, the results demonstrate the efficiency of the CC, given the difference between the groups. BH1 is the area with a lot of project communication. As a result, its average score on understanding is higher

[13] People may be exposed to dioxin through many ways, but mainly from food (95%), i.e. through eating certain animals, vegetables and drinking milk. The risk of being exposed through air (through skin and respiratory organs), soil (through skin), and water is very little. Dioxin is also inherited and transmitted through blood (answers to question no 27, 28 and 29).

[14] The survey team did not run the small correlations for each question of the survey, but rather summarized all questions A3, A4 and A5 into general points in two parts: general knowledge and knowledge about DEP. Each correct answer in the question above would score 1 point out of 19 questions. The highest score that each citizen could receive in the survey in this section was 19 points. For more on the questionnaire survey, see Annex 2.

than in BH2 (the area with less communication intervention), and almost double that of BD, at respectively 10.8 points, 8.3 points and 5.9 points (Figure 9). According to the statistical tests, with a 5% level of confidence, the average score of BH1 on dioxin is higher than BH2 (p=0.000) and higher than in BD (p=0.000).[15]

Figure 9: Assessment of knowledge of dioxin



Source: Survey results

59. The survey results show that there is not much difference in scores between men and women in the BH groups (the average score for men is 9.5 points and for women 9.3 points). Those who are born before 1950 gained the lowest score. The scores also differ by education level and occupation. College/university graduates gained 11.3 points, which is higher than graduates of high school and vocational training (10.3 points), and much higher than those with a secondary school level of education (7 points). Office workers got the highest score (12 points), while the rest ranged from 8 to 9.3 points. Traders scored 9.3 points, while workers or freelancers gained the lowest points at 8.

60. The above figures show that there is a clear link between respondents' education, occupation and age and their knowledge of dioxin. Based on this information, communication activities may have to be adjusted appropriately to each target group for greater efficiency of the project.

Rate of illness

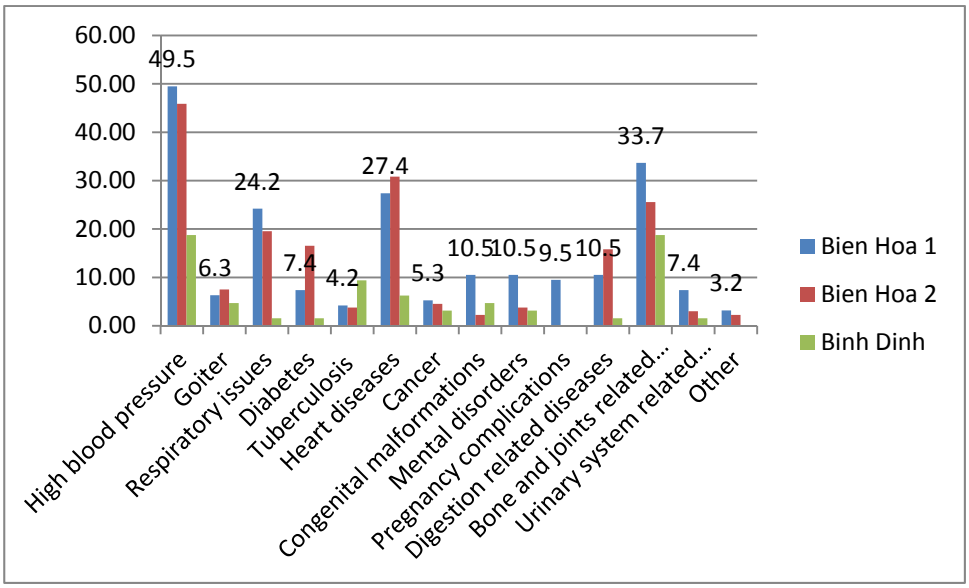
61. Information on the incidence of disease was surveyed as the baseline survey mentioned that "chronic diseases are more likely related to the effects of dioxins". This result highlights the need for further research on the effects of dioxins on human health in the surveyed area, in order to have appropriate policies for people with dioxin-related diseases.[16] A survey of people's health was conducted by the research team. However, this result is not comparable with the

[15] See Annex 11 for more details
[16] According to the baseline report

results of the baseline survey for the following reasons: (i) a few questions in the baseline survey were general, for example one of the answer options is 'suffer from many diseases'; (ii) a high non-response rate in the baseline survey (119 respondents accounting for 45%); and (iii) respondents in the two surveys were different. In the baseline survey respondents were only asked about the influence of dioxin on them, while in the endline survey both respondents and their family members are asked as dioxin can affect any generation in the family. The purpose of the endline survey is therefore to provide information about the current health status of residents.

62. For the rate of chronic disease (those that have been diagnosed by a doctor and that have lasted for more than three months[17]) Figure 10 shows that the top three types are high blood pressure, cardiovascular problems and arthritis. In addition, BH1 has a higher rate of respondents who selected respiratory diseases, cancer, pregnancy complications, reproductive problems and urinary issues. In contrast, in BH2 there is a higher number of respondents with diseases such as cardiovascular problems, gastrointestinal issues and diabetes. At the 5% level of confidence, the statistical tests show that it is impossible to conclude that the average number of diseases suffered by family members in BH1 is higher than in BH2 (p=0.175). However, at the 5% level of confidence, the rate in BH is higher than in BD (p=0.000).[18] The results show that the incidence of cancer is quite low. However, the qualitative information shows that cancer is of concern to many people surrounding the BH airbase due to cases in the area where people died of cancer. At the time of this evaluation, June 2014, health commune units did not have exact information about those who had health problems related to dioxin. According to the units, people who were more likely to suffer from such diseases would rather go to a hospital rather than to a commune health unit.

Figure 10: Types of diseases

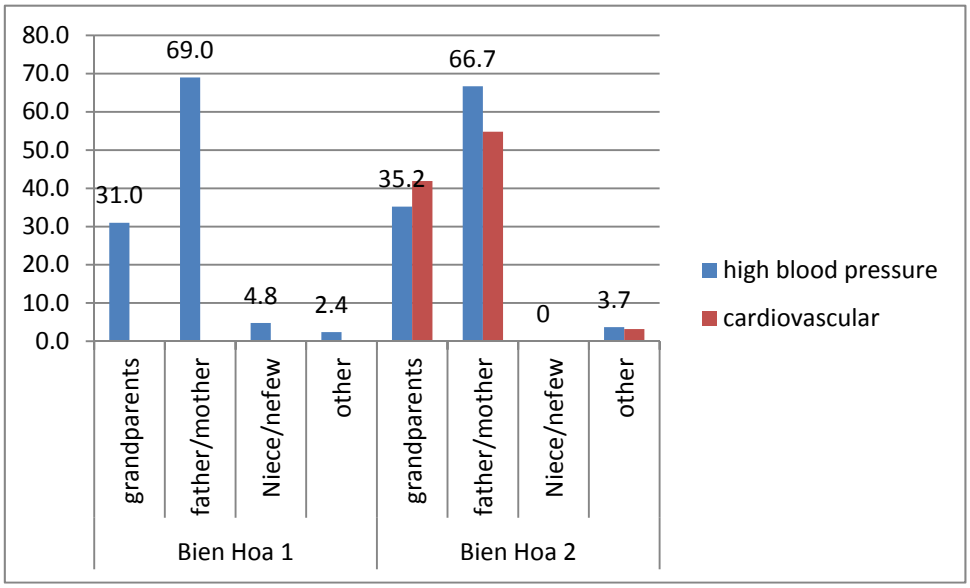


Source: Survey results

[17] As defined in the baseline survey
[18] Refer to Annex 11 for more details

63. Figure 11 shows that the same disease often hits two generations – both grandparents and parents. The parents' generation accounts for a high proportion of blood pressure and cardiovascular problems, at 69% and 66.7% respectively.[19]

Figure 11: Health problems in family relatives



Source: Survey results

64. In summary, the survey results show that there are differences in the perception and understanding of the respondents before and after the implementation of the CC and between the areas with and without communication intervention. These differences are demonstrated in the percentage of respondents with some basic knowledge of dioxin, although a small percentage still has inaccurate knowledge. This requires the CC to be improved so that people in the communities can better capture the correct information. In terms of health, more respondents in BH suffered from diseases than in BD. Some common diseases include hypertension, respiratory, digestive and cardiovascular problems, arthritis and diabetes. The generation of parents claimed to suffer from high blood pressure and cardiovascular problems the most.

5.3.2. Dioxin Exposure Prevention (DEP)

Knowledge of DEP

65. It was recommended by the CC that products from the dioxin contaminated area should not be consumed. The survey results show that respondents in both BH and BD had general knowledge of this issue (Table 3). The highest percentage of respondents in both areas selected meat, fish, crab and snails as food to avoid eating. Comparing BH1 and BH2 showed that the percentage of households knowing which food to avoid was higher in BH1 than in BH2. In relation to other

[19] As the number of households who responded to the question on family members and selected diseases, other than high blood pressure and cardiovascular issues, did not reach 30, there is insufficient statistical value, and those diseases are therefore not included in this analysis.

types of food with low exposure (such as rice) and with high exposure (such as lotus roots, carrots and pumpkin), again the percentage of respondents who know what food to avoid was higher in BH1 than in BH2, and much higher than in BD. The percentage of households in BH1 who correctly answered that pumpkin, lotus roots and carrots from the dioxin contaminated areas should not to be eaten was more than 40% for each food, while in BH2 this was only 23.7%, 34.5% and 28.8% respectively. Meanwhile, the percentage of respondents in BD who answered that pumpkins from dioxin contaminated areas should not be consumed was 12.5%, and 9.4% of households answered that lotus roots and carrots from dioxin contaminated areas should not be consumed.

Table 3: Knowledge of DEP through food

	BH1 in %	BH2 in %	BD in %
Meat	59.1	59	73.4
Egg	31.4	26.6	18.8
Milk	31.4	18	10.9
Fish	89.5	82	85.9
Crab	83.8	60.4	68.8
Snail	86.7	62.6	62.5
Pumpkin	47.6	23.7	12.5
Lotus root	49.5	34.5	9.4
Carrot	42.9	28.8	9.4
Rice	26.7	23	28.1
Don't know	6.7	12.2	3.1

Source: Survey results

66. **DEP measures**: Overall, questions on general knowledge were correctly answered by a higher percentage of respondents in BH than in BD (Figure 12). On specific knowledge that required input from the CC, such as the fact that dioxin is accumulated in the fat layer of animals and a prevention measure is thus to remove the fat if products are of unknown origin, the percentage of respondents in BH1 with this knowledge was much higher than in BH2 and BD (86.1% compared to 57.3% and 29.7%). BD has quite a high incidence (48.4%) of respondents who did not know this, while in BH1 this was only about 2%. Similarly, the percentages of people in BH1 and BH2 who know that it is necessary to wear a face mask when entering or exiting dioxin contaminated areas to limit dioxin exposure were quite high in comparison with those in BD. Although households in all three locations thought that washing meat/fish with water before cooking can help prevent dioxin exposure (this is a false answer to a multiple choice question), it was rated as false by a much higher percentage of respondents in BH1 than in the other two locations (35.8% compared with 15.6% and 10.9%). This result demonstrates that while the CC has improved respondents' knowledge of dioxin and DEP in the areas of greater intervention, the information still needs to be reinforced. This could be done through more frequent communication. In addition, strengthening the capacity of intermediaries is important to ensure that there is ongoing information flow in the project areas.

Figure 12: Knowledge of DEP measures (1)

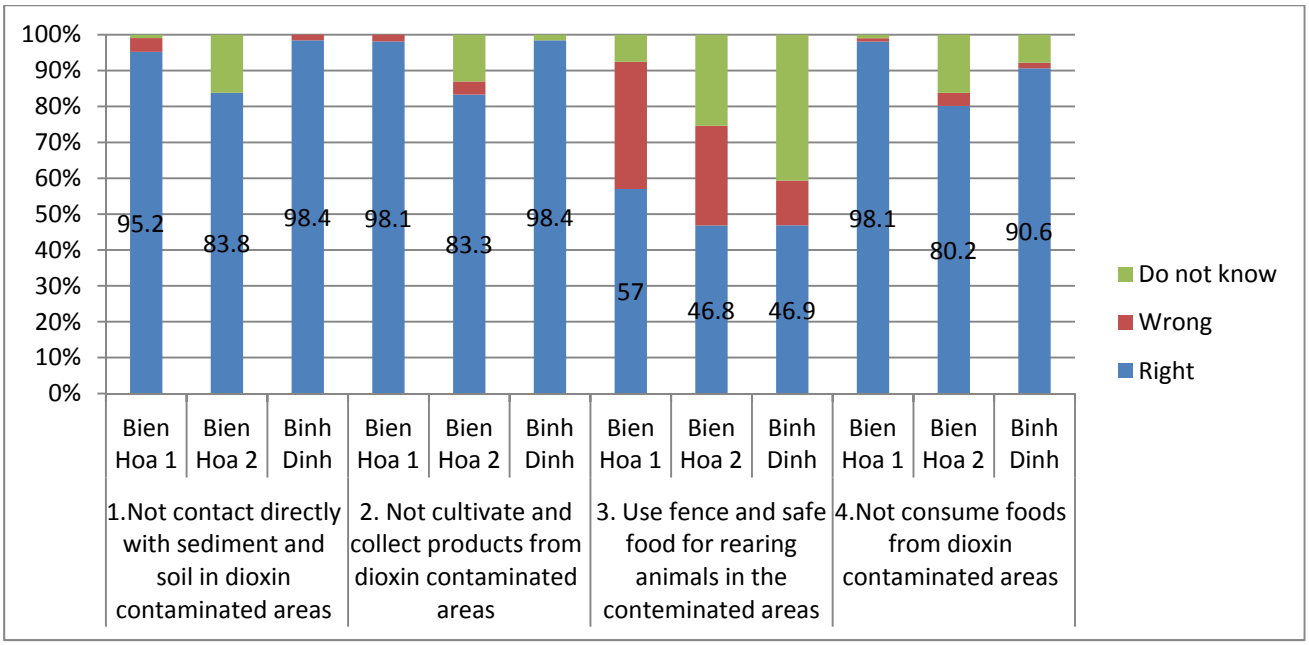
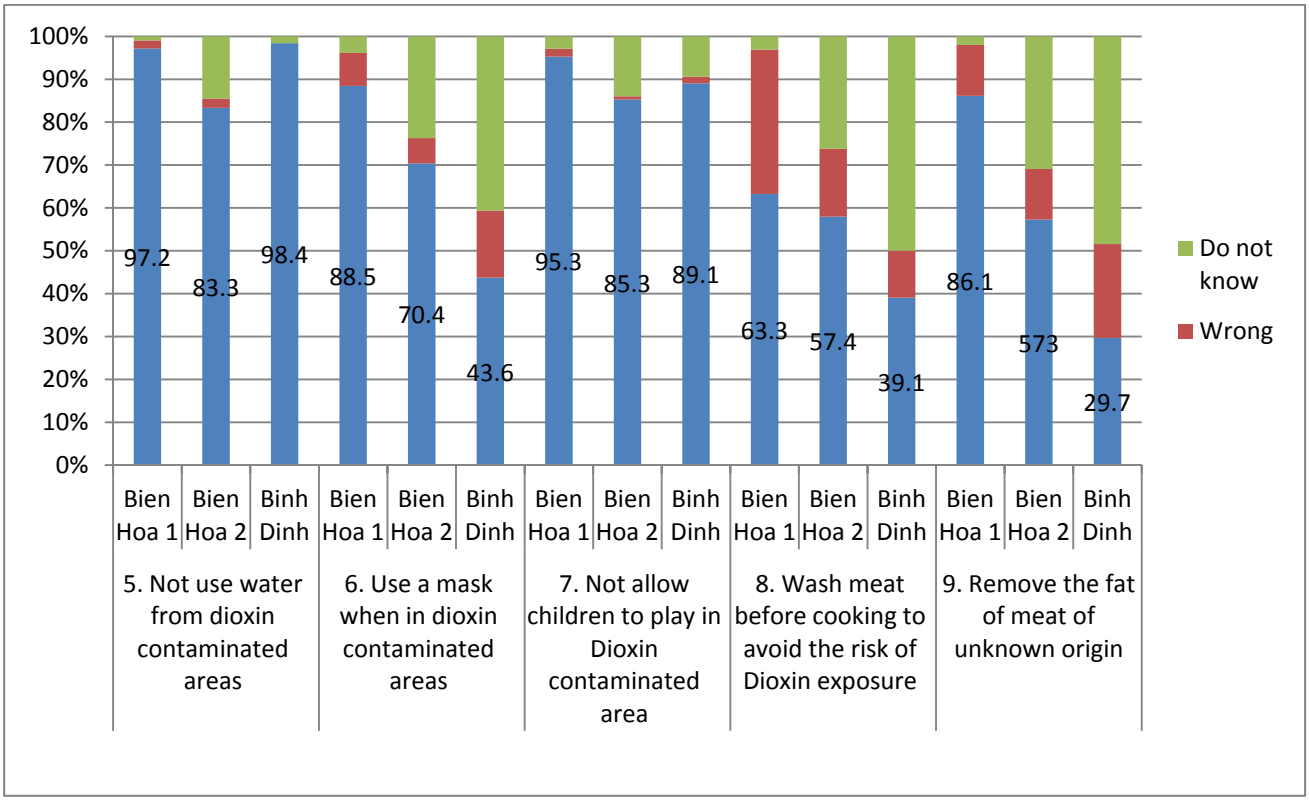


Figure 13: Knowledge of DEP measures (2)



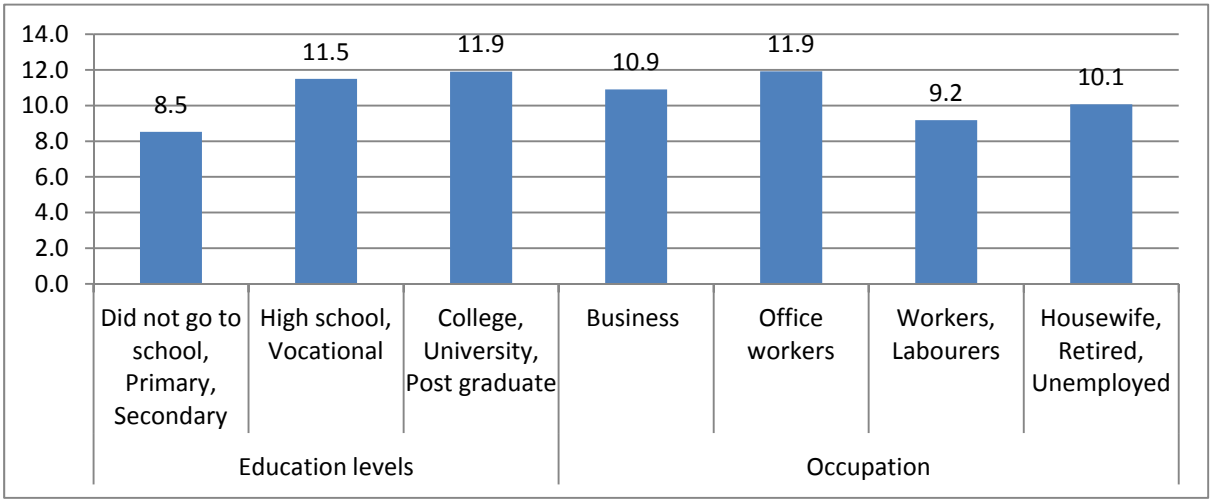
Source: Survey results

67. Using the same scoring method for correlation as in section 5.3.1, the average scores of the survey groups on knowledge of DEP also differed.[20] BH1 has the highest points at

[20] Similar to the assessment on *"knowledge about dioxin and its impact on human health and environment"* based on scoring to B1 and B2 in the questionnaire. The maximum score is 19.

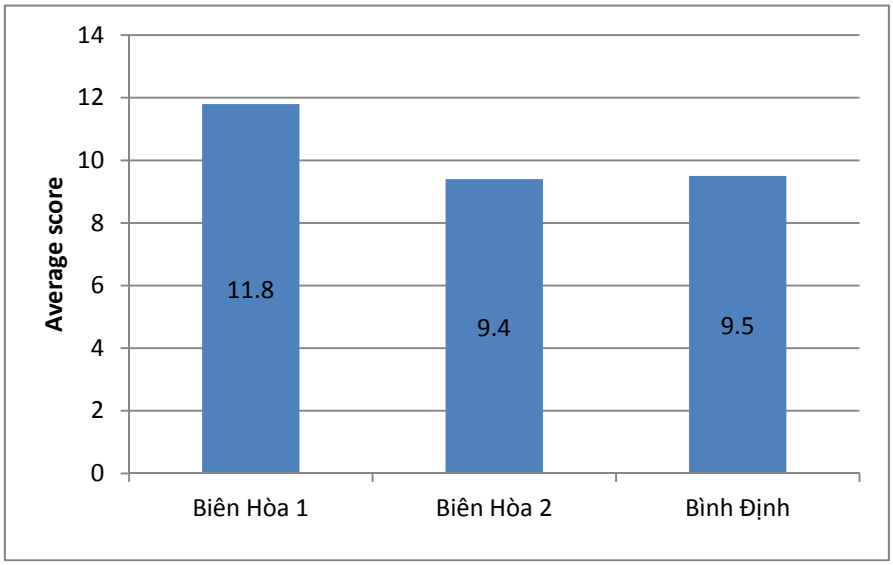
11.8. The remaining groups have relatively similar points, with BH2 at 9.4 and BD at 9.5 (Figure 14b). Similarly, the statistical tests at the 5% level of confidence show that the average score on respondents' knowledge of dioxin in BH1 is higher than in BH2 (p=0.000) and in BH it is higher than in BD (p=0.0126).[21] This score demonstrates that respondents' knowledge of DEP is better (and therefore there is less difference in scores between locations) than general knowledge of dioxin. Figure 14ashows the average score achieved by the groups, categorized by education level and occupation. Overall, the results show the differences between the groups and a similar trend of general knowledge about dioxin as mentioned in section 5.3.1, with respondents in BH1 having a better understanding of DEP.

Figure 14 (a): Knowledge of DEP by education and occupation



Source: Survey results

Figure 15 (b): **Understanding (or awareness) of dioxin by location**



[21] See Annex 11 for more information

Source: Survey results

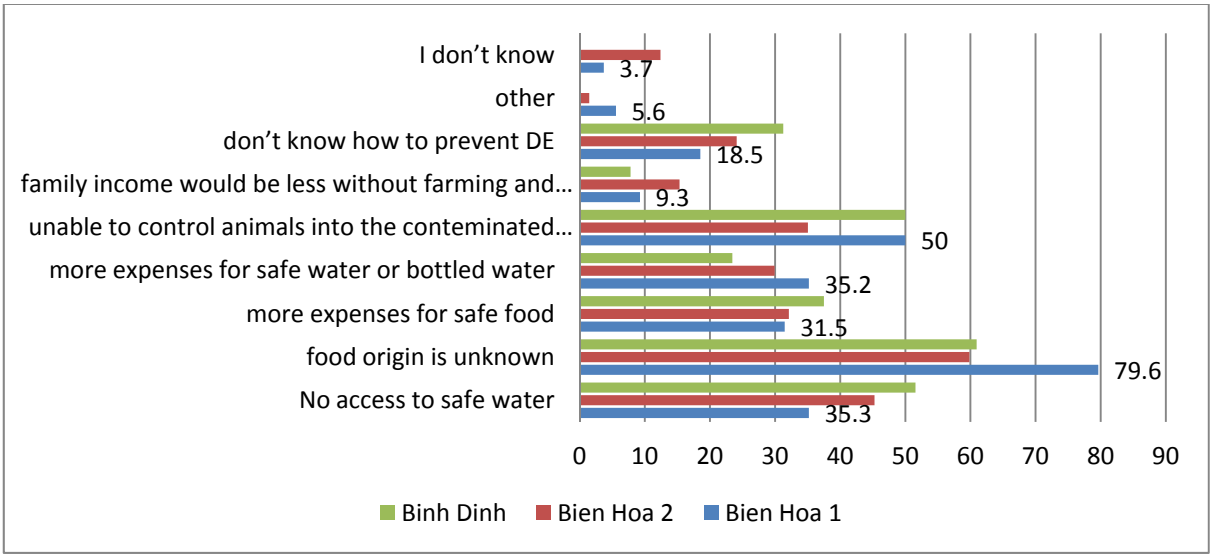
Difficulties in applying DEP measures

68. The CC aims to provide people with knowledge of DEP. However, the application of knowledge depends significantly on the actual situation. Figure 15 shows that the difficulties faced by the community are due to the unknown origin of food and the cost of access to safe water, particularly for the community in BH1 (79.6% of households). Moreover, lots of households also had to deal with difficulties related to the inability to control cattle and poultry entering dioxin contaminated areas. Qualitative survey results showed that BH is still facing a safe water issue. Many households do not have tap water and still use well water.

> *"Safe water is not available in my house; we still use well water; safe water has not come to the houses in the hamlet; a water connection has high costs to connect to the central water pipe for some households. It may cost some tens of millions of Viet Nam dong but there are people willing to pay for it."*
> From focus group discussion

69. Other difficulties involved increased expenses for households for use of safe water and purchase of food products of guaranteed origin. Moreover, the survey results revealed that there were still people who did not know how to prevent dioxin exposure, with the lowest percentage inBH1 (18.5%) compared to BH2 and BD. This demonstrates that even in the area with greater communication intervention respondents were unable to fully capture the DEP information provided by the CC.

Figure 16: Difficulties in DEP application



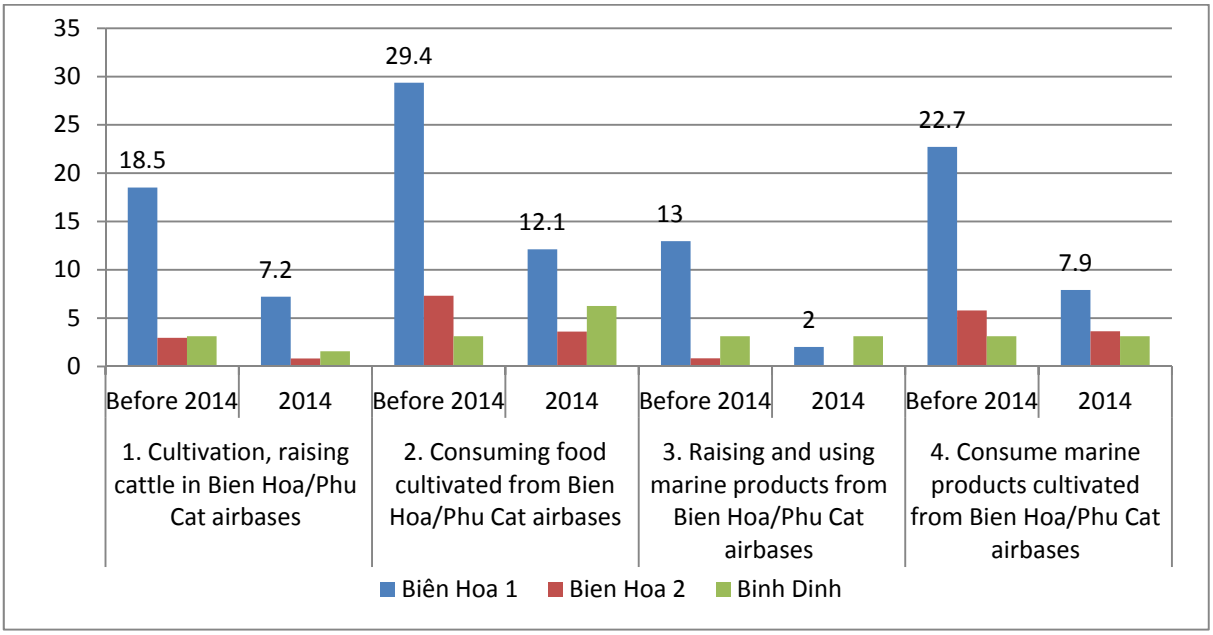
Source: Survey results

Awareness of the application of DEP in practice

70. The survey results (Figure 16) indicate that in 2014 the percentage of households with farming, breeding or fishing activities or who consumed food from BH and BD airbase decreased significantly, in comparison with the period of time before 2013. The qualitative information shows that there is a change in the behaviour

of residents as a result of the close management by Military Division 935 and local authorities, as well as increased awareness of local residents (see section 5.7 for more details). The ratio of households with activities in the dioxin contaminated areas of BH1 declined substantially more than in BH2 and BD. There was a reduction from 18.5% to 7.2% of households with farming and breeding activities in the BH and BD airbase areas, while there was also a decline from 29.4% to 12.1% in the percentage of people consuming food from such areas.

Figure 17: Percentage of respondents with activities inside the airbase[22]

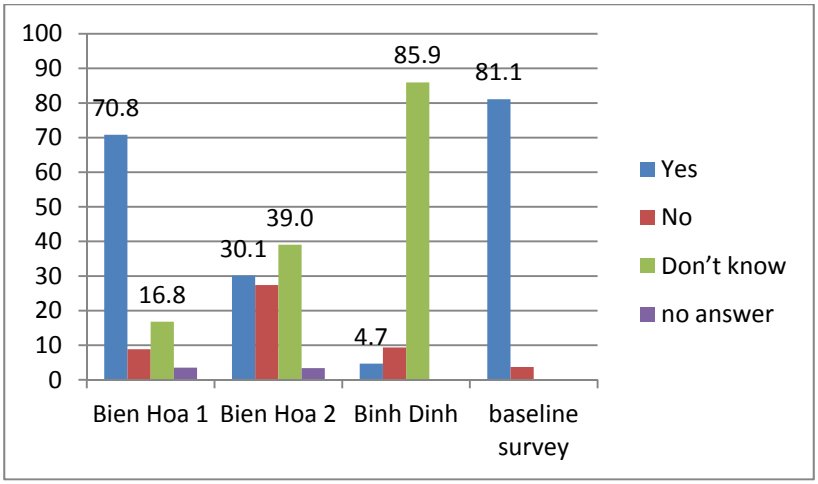


Source: Survey results

71. With communication intervention, including the CC in recent years, local residents have gained a better understanding of dioxin remediation at the BH airbase. Figure 17 shows that the majority of surveyed households in both the baseline survey (81.1%) and post CC in BH1 (70.8%) and BH2 (30.1%) said that they knew about the surrounding dioxin contaminated areas. According to the qualitative data, some years ago at the time of the baseline survey, residents knew that BH was affected in general. After the CC was conducted, local people learnt more details (although they were not officially provided with these), for example that not all the surrounding areas are affected. This could explain why the rate of respondents who know about the surrounding affected areas is higher in the baseline survey than in the endline survey. In BD, 85.9% of respondents did not know of these areas.

[22] This rate is calculated by the total number of households who have activities 'often' or 'sometimes'.

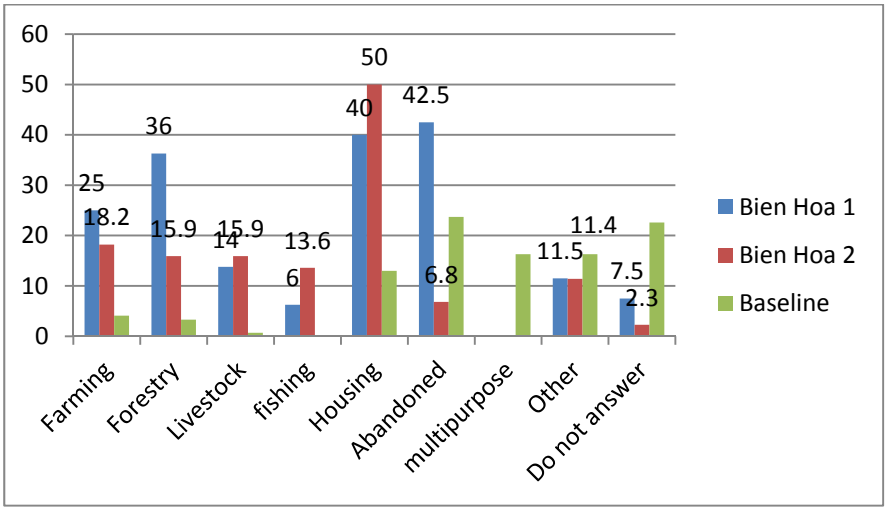
Figure 18: Awareness of dioxin contaminated areas



Source: Survey results

72. The results of the baseline survey on the status of land use in the contaminated areas show that land was used for many purposes and abandoned by 16.3% and 23.7% of respondents respectively. In the endline survey, the majority of respondents said that the contaminated areas were being used (Figure 18). As much as 40% of respondents in BH1 and 50% in BH2 said that the contaminated areas are used for housing. BH1 has a much higher rate of respondents than BH2 (42.5% and 6.82% respectively) who know that areas are abandoned, as well as that land is used for forestry (36% and 15.9%), and farming (25% and 18.2% respectively). However, according to information collected in the in-depth interviews, respondents thought that the dioxin contaminated areas were inside the BH airbase and the affected areas were surrounding the airbase. As the question did not identify whether the contaminated areas are inside or outside the airbase, it is assumed that the areas referred to by respondents are inside the airbase.

Figure 19: Status of land use in the contaminated areas

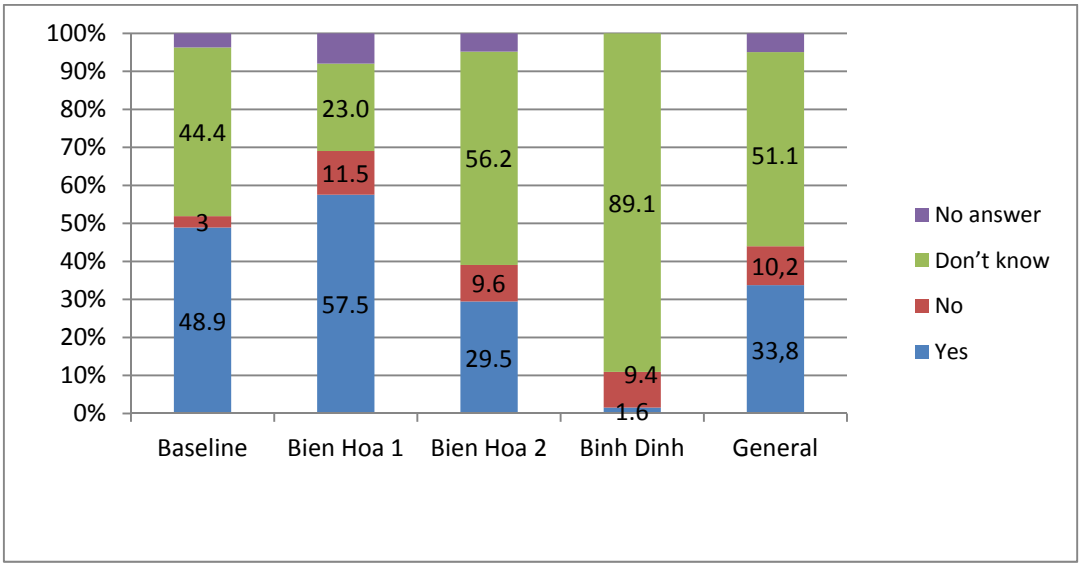


Source: Survey results

Knowledge of agencies responsible for dioxin issues

73. While 57.5% of respondents in BH1 knew the responsible organisations for dioxin issues (higher than in the baseline survey), this fell to 29.5% in BH2 and 1.6% in BD. The statistical tests at the 5% level of confidence show that the rate of respondents who know about organisations remediating dioxin is higher in BH1 than BH2 (p=0.000) and higher in BH than in BD (p=0.000).[23] However, the rate of respondents who "don't know" was high, at 23%, 56.1% and 89.1% for the three groups respectively. These figures display the positive effect of the communication intervention in BH1. The qualitative information also showed that the majority of people interviewed had a general concept about the responsible agency and that the project is funded by an international organisation. There are also three units mentioned by residents – the Ministry of National Defence, Office 33 and the Department of National Resources and Environment. Sub-ward 10, in Tan Phong ward, where there are many office workers from Airbase Division 935, has the most residents who know about Office 33 and the Ministry of Natural Resources and Environment.

Figure 20: Knowledge of agencies responsible for dioxin issues



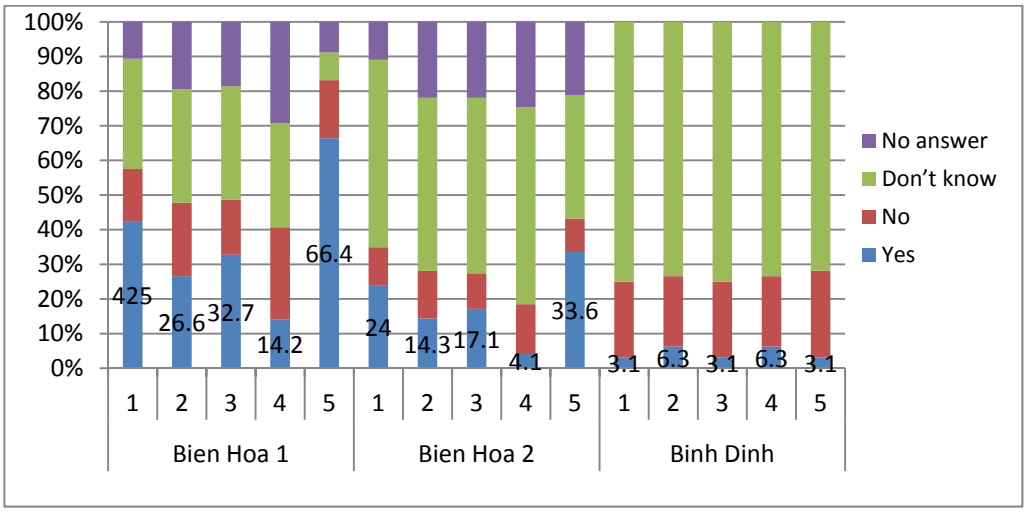
Source: Baseline survey and endline survey

74. There are logos of the dioxin related organisations and agencies included in the distributed leaflets. However, the qualitative information revealed that local people took notice of the content of messages, rather than the logos. It therefore seems that the specific indicator regarding residents' awareness of responsible agencies is not necessarily reflective of how successful the CC has been – particularly given the positive results in regards to improved knowledge, awareness and application of DEP measures.

[23] See Annex 11 for more information

75. In general, activities to remediate dioxin in the local area were not well-known by respondents. The survey results show that the percentage of residents who knew about government action on dioxin remediation was highest in BH1, followed by BH2 and then BD. In regards to the activity 'removing the contaminated soil', the statistical result shows that the rate of respondents in BH1 is higher than in BH2 (p=0.001), but it doesn't come to a conclusion that the rate in BH overall is higher than in BD (p=0.119).[24] Among the government activities, communication and education of DEP were the best known by residents in BH1 (at 66.4%) and BH2 (at 33.6%). In contrast, the respondents in BD accounted for the highest percentage that did not know about these issues.

Figure 21: Knowledge of government action on dioxin issues



Source: Survey results

Note: 1. Demarcate contaminated areas; 2. Remediate dioxin contaminated soil; 3. Contain contaminated materials; 4. Remove contaminated soil; 5. Communication and education about dioxin contamination and exposure prevention measures

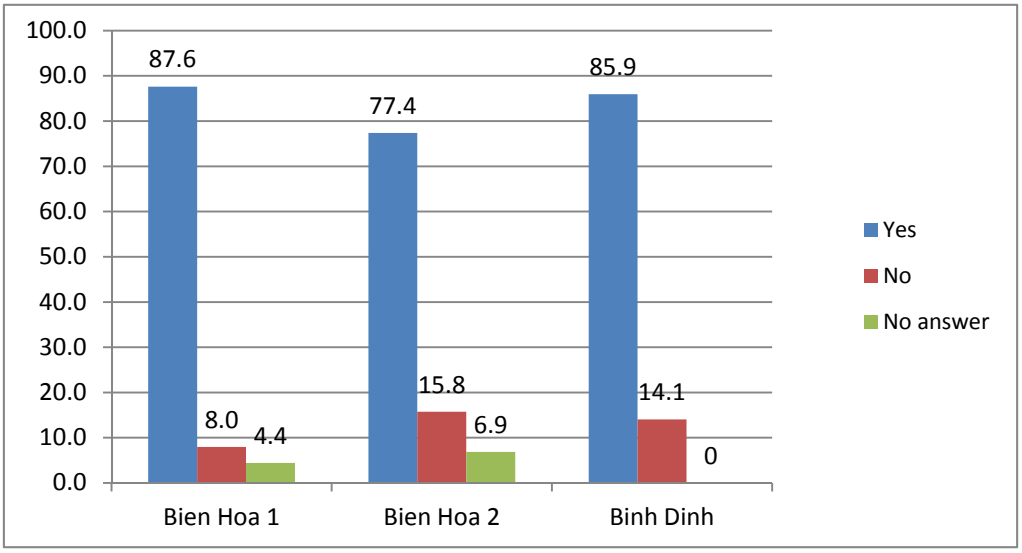
76. In the two provinces, respondents' knowledge of dioxin is relatively good. Respondents in BH1 have a better knowledge than BH2, and significantly better than in BD. Similarly, BH1 has the highest rate of respondents who know about the dioxin remediating agencies, which is higher than in the baseline, while this rate is relatively low in BH2 and significantly lower in BD. The lack of awareness of agencies responsible for dioxin issues was also demonstrated in the qualitative survey. Similarly, the incidence of people who knew of dioxin remediating activities was not high, except communication activities on dioxin and DEP, which were recently carried out. These results show that the number of local people who know about agencies responsible for dioxin issues and government action to address these issues does not fully reflect the effectiveness and success of the dioxin project in general and the CC in particular.

[24] The statistical tests with a 5% level of confidence show the rate of respondents who know about Government action on dioxin issue. See Annex 11 for more information.

5.3.3. Communication on policies related to victims of dioxin

77. According to the qualitative information, policies for victims of dioxin were communicated mainly through local meetings. The quantitative survey results also show that all three surveyed groups have a high percentage of respondents who have heard about the government policy for wartime victims of dioxin. The percentage of respondents who have never heard about the policies was insignificant relative to those who have heard about policies, at 8% in BH1, 15.8% in BH2 and 14.1% in BD (Figure 21). Nonetheless, according to some interviewees, some victims of dioxin still face difficulties in finalizing their claim for government financial support.

Figure 22: Percentage of respondents who have heard about government policies for dioxin victims[25]



Source: Survey results

78. A "50 questions and answers on Agent Orange/dioxin" book provided basic information on dioxin, DEP and the government policies applicable for victims of dioxin. As reflected by some heads of sub-wards and associations, they picked up specific information from the book, including information about policies and legal documents related to dioxin. However, local citizens reported that the government policies benefit just those people who served during the war and not those citizens who are affected by dioxin but who did not serve in the war.

79. To sum up, in addition to mass media, the communication activities of the CC have in part contributed to improving local people's awareness of government policies for dioxin victims. These policies are summarized in the book of 50 questions and answers and in other IEC materials, which were used in meetings by heads of sub-wards and associations. However, these materials are being used just as a tool to facilitate people's understanding of the policies. In practice,

[25] The baseline survey provided information on this issue as follows: 47.4% had never read any document about dioxin, 17.4% had read "a lot", 27% had read "a little" and 8.1% did not answer. Because the question in the endline survey is not completely similar with that in the baseline survey, the information from the baseline survey is for reference only.

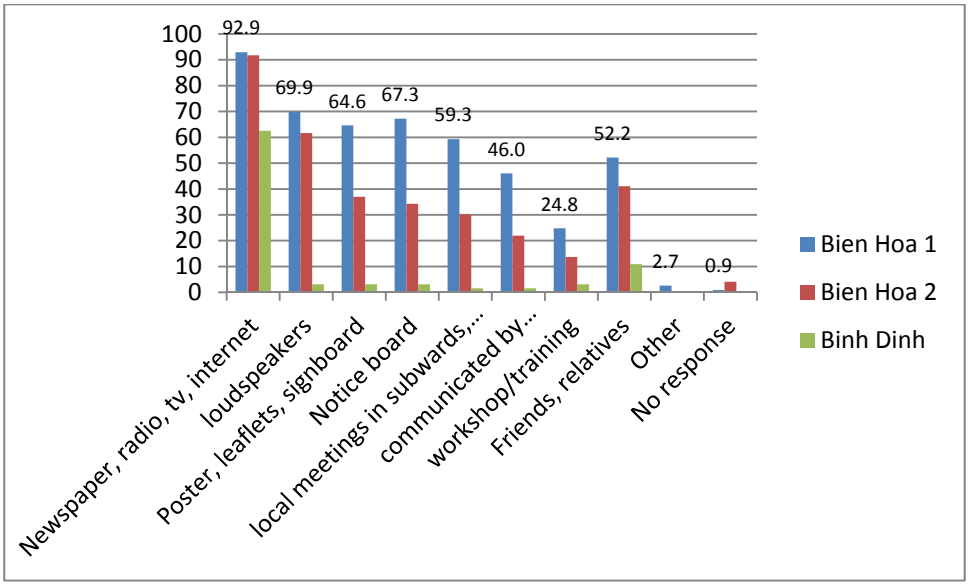
dioxin victims are still facing difficulties in accessing and benefiting from government policies.

5.3.4. Communication on dioxin

5.3.4.1. For communities

80. In the baseline survey, the major information sources on dioxin for respondents were newspapers, TV and radio (50.6%). The results of the endline survey (Figure 22) show that the communication on dioxin-related information was diversely channelled by an increase of mass media to more than 90% in BH. The percentage of respondents using other channels is much higher in BH1 than in BH2. The statistical tests at the 5% level of confidence also show that the average number of information sources accessed by respondents is higher in BH1 than BH2 (p=0.000) and higher in BH than in BD (p=0.000).[26] Loudspeakers are used in BH1 and BH2 at a relatively high rate, at 69.9% and 61.6% respectively, followed by posters, notice boards, leaflets and training workshops (24.8% in BH1 and13.7% in BH2). According to the qualitative information, the workshop participants were representatives of organizations and only included a few residents. In BD, almost no communication channels but mass media were used.

Figure 23: Sources of information



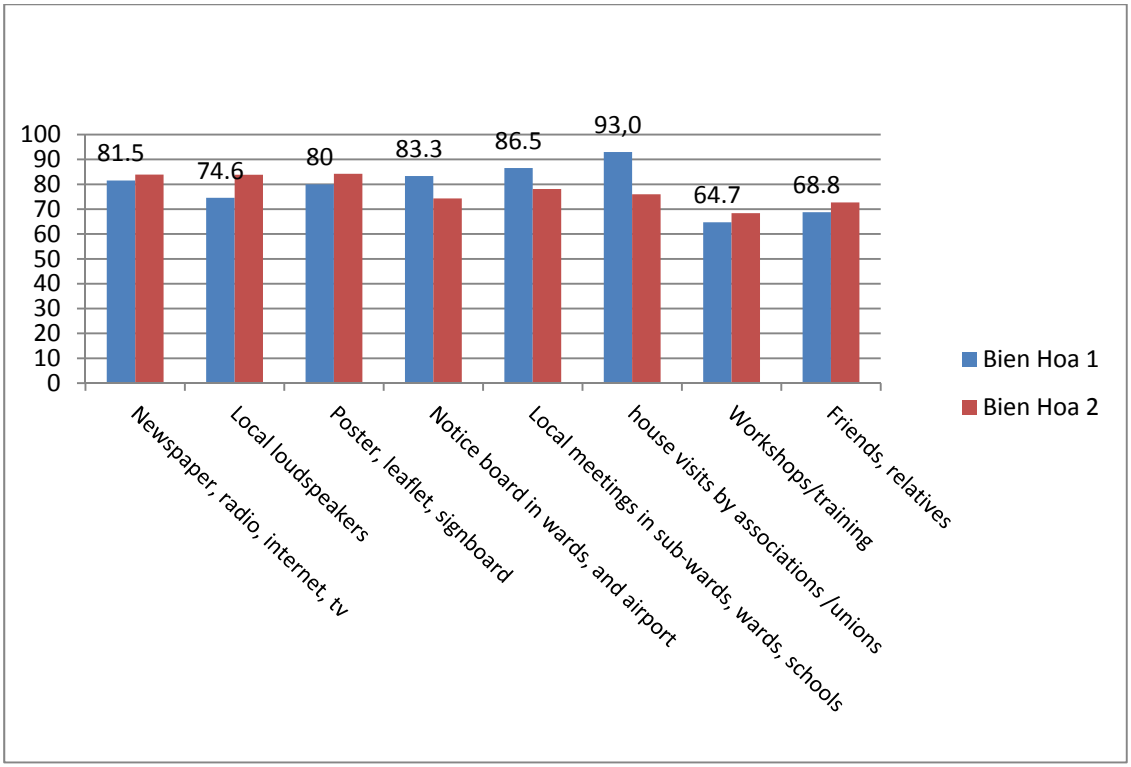
Source: Survey results

81. Information from diverse channels was assessed by respondents and interviewees to be comprehensive. A majority of respondents in BH1 and BH2found the information provided through local meetings and associations understandable. This is followed by more than 70% of respondents in BH1 who consider information through other channels, such as posters, leaflets, notice boards and direct local meetings in wards, to be understandable. Only 64.7% of respondents in BH1 considered information from workshops and training

[26] See Annex 11 for more information

sessions understandable, accounting for the lowest satisfaction rate compared to other information channels (Figure 23).

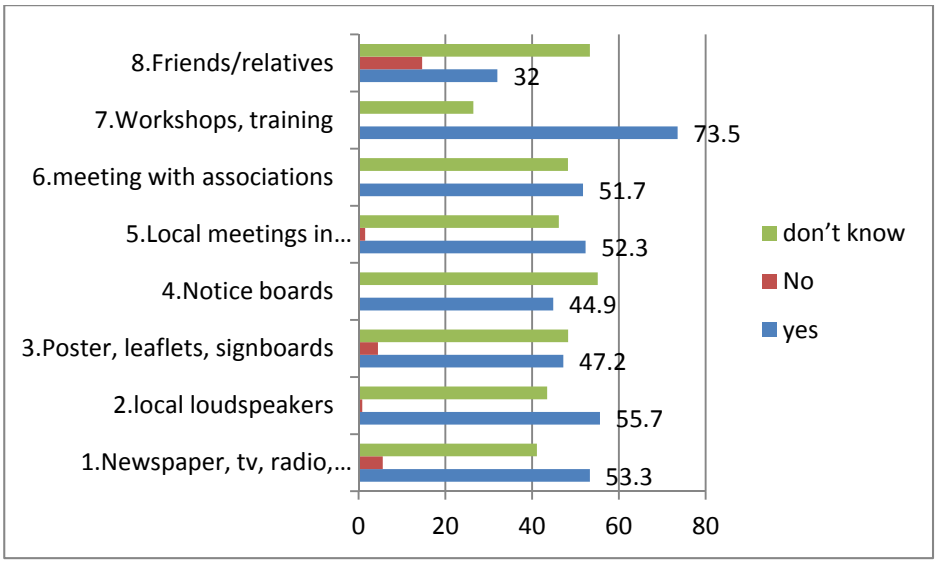
Figure 24: Assessment of satisfaction with information sources



Source: Survey results

82. Among the above mentioned information sources, the evaluation team also wanted respondents to identify which ones came from the CC, as other communication activities were carried out and completed long before the CC (e.g. during 2007-2009 by the Viet Nam Public Health Association in Tan Phong and Trung Dung wards), and from other sources (if any). The table below shows that the information sources from the CC accounted for a certain percentage. Among those, training workshops by Office 33 had the highest rate at 73.5%, local loudspeakers and notice boards in wards or at the airbase accounted for about 56%, and the lowest rate was from friends and neighbours (Figure 24).

Figure 25: Sources through which information is disseminated



Source: Survey results

83. The qualitative information revealed that the most effective communication channel, according to respondents, was local meetings where information on dioxin and DEP was mainstreamed by local associations. The messages communicated at the meetings were supposed to spread through word of mouth to family relatives. However, a limitation with this particular direct communication channel is the fact that most meetings were attended by retired people or people with a high education, while poor people or those who might often work and could be easily affected by the dioxin environment did not attend. In addition, some intermediaries were not knowledgeable enough to answer all residents' questions.

84. Communication channelled through leaflets is not limited to time and space, which is considered as an advantage for those who had to work all day and who could not attend the meetings. However, local officials could not confirm whether leaflets were read by households. It is possible that the leaflets were seen as leaflets for commercial purposes and did not get any attention. Some people expressed hesitance to believe in the content of the leaflets. On the other hand, interviews with some households and military families revealed that they did read the leaflets and kept them in their house. This type of communication channel is helpful in warning people to be more careful, particularly women who are often in contact with food and drink.

85. Similar to leaflets, posters were seen to be effective for those who work all day, although there was an insufficient quantity. Posters were hung up in schools and in some public spaces. According to interviewees, where to hang posters was guided by Office 33 and approved by a ward People's Committee. The posters included pictures that helped to make the content understandable. However, posters are not durable if they are posted outside and it is also suggested to make them in a larger size.

Image 1: Examples of posters on dioxin

86. The 50 questions and answer book received different comments from different target groups. It was rated by many local officials as informative and understandable and intermediaries could also use it. Secondary pupils also liked it and found it interesting. However, for some old people and head of communal groups, the book seemed small and presented complicated information, such as chemistry formulas. In general, the book needs more illustrations and pictures. The project intermediaries were also provided with a guide book, which included information on dioxin and DEP and communication methods, which they found to be interesting and helpful. However, certain sections, for example the diary and checklist, were not used.

87. The CC was implemented effectively at two secondary schools – Hung Vuong and Tran Hung Dao. The pupils were keen to read and discuss with the presenters. However, the meeting space could only accommodate about 300 students and representatives from the schools said that more pupils would participate if the space was larger.

88. Office 33 provided a training course to representatives of local associations who had a chance to observe and practice through a communication demonstration at a household. This practice helped strengthen the communication skills of intermediaries. The training course was viewed as interesting, useful and professional. As a result, intermediaries re-communicated the content to other members of their associations and this activity was supported by the local authorities.

89. Office 33 consulted the local authorities, agencies and associations to find the best communication approach. Communication via commune loudspeakers was done once a month. Some residents believed that listening to the local speakers several times helped them better understand the information. Recorded tapes in the local dialect were also played in the commune and received positive

evaluation by local people. However, there was an insufficient number of tapes since each ward received only two. Local residents said they would like a larger distribution to sub-ward heads so that they can use them flexibly. The content of the tape was short, simple and understandable (see Annex 6 for more details).

90. Local people appreciated direct conversation with dioxin experts as they had a chance to listen, ask and discuss a lot of information on dioxin and issues related to their lives. Therefore, residents and military officers wished to have more direct meetings with dioxin experts.

> *"I attended a meeting of our residential group two or three times, which had a dioxin theme. Since the Government started dioxin communication activities and detected dioxin at BH airbase, our commune organized several meetings on dioxin; some households attended, some did not. A local loudspeaker broadcast information on dioxin but sometimes it was heard, and sometimes it wasn't. During the day adults go to work, in the evening children do homework, and early morning from 5.30 to 6am was too early for broadcasting. Therefore, the best time for a loudspeaker is on Sunday morning. Residents did not know about the 50 questions book. We went to a sub-ward meeting, we were asked to do some things and not do other things; the Women's Union and a veteran's association did some communication work on dioxin. I did not see a poster on the road or on a street or by the lake."*
>
> Interview with a military family

5.3.4.2. For journalists and local authorities

In addition to the above communication channels for which the beneficiaries are local residents, teachers, pupils and associations, there were workshops for government officials and journalists.

91. The training workshops provided participants with updated information on dioxin. However, it was commented that the discussion section in the workshop focused too much on technical issues, rather than issues of interest to journalists, for example allowing them to share experiences on effective communication of dioxin issues. This approach limited the understanding of the correct messages among the huge amount of information to be captured by journalists.

92. Another limitation to journalists was the direct access to information. For example, in an important workshop on dioxin it is often government leaders and related agencies who are invited, rather than local journalists. Therefore, current information is not provided locally through interviews with representatives, but through information obtained from other newspapers.

93. In the workshop for provincial officials it was commented that the content focused on beneficiaries. It would be better if the workshop also focused on the communication skills of intermediaries, to avoid them sending a wrong message to other people. It is important to send messages in such a way that makes residents knowledgeable enough to protect themselves but not worried.

94. A training workshop at the provincial level also involved representatives of commune associations and residents. However, in a commune training

workshop, no higher-level leaders were invited. It was mentioned afterwards that the leadership could therefore not know if their staff needed any support from them when they mainstreamed dioxin in their sectoral activities.

95. In addition, the website of Office 33 was seen as very informative and served as a reliable source for journalists and sectoral officials who cared about dioxin and related issues.

96. Office 33 produced a 30-minute documentary film which has been shown on VTV1 and VTV4 many times, and bilingual language materials on dioxin. These have provided domestic and international agencies, as well as US and Vietnamese residents, with information on the history of dioxin in Viet Nam, the distribution of it into the environment, dioxin victims, the Government's efforts in dioxin remediation and communication, and the participation of relevant agencies in communication products. This has contributed to improving the relationship between the US and Viet Nam and in calling for more attention of international organisations to dioxin issues. According to qualitative information, this is valuable material and a communication product of good quality. In addition, about 30 CDs were distributed to related local agencies and communities.

5.4. Capacity of local intermediaries[27]

97. The CC aimed at local beneficiaries, including (i) provincial management staff; (ii) journalists; (iii) commune, ward and sub-ward officers and associations; (iv) teachers and pupils; (v) military officers and soldiers; and (vi) residents in local communities. These beneficiaries received information to improve their knowledge and awareness of dioxin and DEP. They were also considered as direct or indirect intermediaries. The major groups who were trained specifically to carry out communication activities in local communities are listed in Table 4.

Table 4: Communication groups in BH

Groups of intermediaries	Quantity
Teachers	33
Representatives of associations and residents	20
Military officers and soldiers	35
Managerial and communication staff of sectoral agencies	49

Source: Communication report 2013

98. The workshop for provincial management and communication staff provided information with the expectation of possible mainstreaming of this knowledge in sectoral activities. As shared by some representatives of provincial agencies working

[27] See Annex 7 and 8 for further details

on health and environment, DEP was mainstreamed in their sectoral activities. This report could not analyse in more detail how efficiently and how often it was mainstreamed. A provincial staff member commented that to be more effective, at least two people, one leader and one staff member, should attend the workshop as a leader plays a directive role, while the staff member should make a plan to implement what has been discussed in the workshops.

99. The qualitative information revealed that teachers have the capacity and skills to communicate dioxin issues. Teachers saw the necessity of communicating about dioxin and DEP and they mainstreamed this in the school's outdoor activities and in some teaching subjects if possible. Pupils themselves are considered by teachers as potential intermediaries as they capture knowledge quickly. Interviews with some pupils also showed that they communicated dioxin issues to their parents, based on information they were provided with at school. In order to capture the extent of communication of students to other people, further surveys and M&E that could keep track of this communication form is needed.

100. In this project, journalists performed their role of delivering information on dioxin to the public and readers. The workshop provided rich and useful information to journalists as inputs for their writing. However, some content was not useful from the journalists' perspectives. For example, the information was rather technical and complicated, to some extent the workshop programme was not appropriate for journalists, and they did not play a major role in the workshop. This led to confusion when selecting information to communicate to the public in articles.

101. The intermediaries in the community were a major link to communal residents for dioxin communication. The trained communication intermediaries(also called project collaborators) included ward health workers, members of the Women's Union, the Dioxin Victims Association, the Farmer's Union, the Veteran's Association, the Youth Union and some households in four wards around BH airbase (20 persons in total). According to the interviewees, the representatives of the above associations are capable of acquiring knowledge related to dioxin and DEP. The dioxin-related issues were integrated by them in meetings of their associations. In addition, people were also provided with information about dioxin through communal group meetings (each sub-ward consists of many communal groups). Some people commented that the information to communal groups was inefficient. The heads of communal groups were merely information providers, who were highly appreciated by residents for their passion to work, rather than their knowledge of dioxin.

"We had a training and explanation on dioxin, but as we are not professional in this area our awareness is limited. Then we explained the information to people in the communities. We could not transfer all knowledge and so not all participants fully understood. Therefore, if the budget affords, a communication programme which includes basic and sufficient information (from A to Z) to be compressed on a cassette could be provided to communal groups. Then what we do is put it on loudspeakers. If associations or heads of communal groups argue about something, we can use the information on the cassette to solve the issue. In addition there are only about 35 to 40 households in one communal group, so it is easy for them to listen to the cassette." - Interview with the head of a communal group

5.5. M&E of the CC

102. Taking into account the project process as a whole, from the design to the implementation stage, the project did include M&E steps for the CC, such as the baseline survey, KAP and detailed plans. However, a plan for M&E of the CC was not clearly shown in the project documents. In the logframe, M&E was planned to be verified by surveys and interviews. In the communication strategy, M&E is described in step 10. However, the project has not yet provided an overall plan of M&E for the CC. The matrix planning and the detailed implementation plan did not mention M&E either. In this regard, the project has not paid sufficient attention to M&E.

103. Some recommendations for the implementation of M&E were made but due to limited funding they have not been carried out. Furthermore, the CC was implemented as a package contracted with a donor, meaning there was not clear continuity, and the M&E depends on project staff who are also responsible for other components of the project. M&E is important in order to identify, for example, if local residents read leaflets, how project communicators implemented communication on dioxin after the training course, how communication on dioxin was integrated in sectoral activities, and residents feedback after the CC.

5.6. Coordination with local stakeholders

104. According to Office 33, there is good coordination between the project and agencies at ministerial, provincial and local levels and this is the basis for the success of the project. At the local level, the agencies that coordinated with the project include BD People' Committee, Division 935, the Provincial Department of Natural Resources and Environment, the Provincial Department of Public Health, the Department of Education and Training, the Provincial People's Committees of BH and the People's Committees of four wards around the BH airbase (Quang Vinh, Buu Long, Trung Dung and Tan Phong). These agencies were active and collaborative in coordinating with project staff and implemented the CC successfully in communities. The coordination of Office 33 was rated effective by a majority of provincial officers and Office 33 also provided exact information on dioxin and DEP, meeting the communication needs of local sectoral agencies.

> "*Office 33 undertakes thorough communication on dioxin, its impact on the environment and human health, and policies for dioxin victims in the contaminated areas. This communication was mainstreamed in our activities (in the Department of Labour, Invalids and Social Affairs). We, as a government management agency, coordinated by mainstreaming their content into ours in the communities.*"
> From interview with a provincial officer

105. Some local representatives said that coordination needs to be more than just coordination through workshops or training sessions or by providing comments on communication needs or IEC materials. For example, a local agency wanted Office 33 to consult with them before a training workshop took place, and after the workshop they suggested to get together to discuss a plan for further implementation.

106. According to some sectoral agencies, as Office 33 is a ministerial agency, they have a right to use dioxin information in workshops or IEC materials. However, at the provincial level they are unsure to what extent they are allowed to communicate the

information to the public, and they are not sure if they need permission from a provincial authority first.

"*There should be more specific guidance, for example, this issue is allowed, this area is affected by dioxin …. which message is necessary to deliver, which is not etc. Without such specific information, we don't dare to implement, irrespective that it was done by Office 33; we are not sure if we are allowed to, or if there is a policy or agreement on what we can do."*
Interview with a staff member of a sectoral agency

107. Some recommendations from local interviewees were made, suggesting that Office 33 should be a bridge connecting different local authorities on the issue. For example, in schools, information on DEP was communicated, which included not eating fish from the airbase, while fishing at the airbases still took place. When Office 33 works with teachers or with the provincial Education Department, it would be better to have representatives of local authorities participating, so that they can better understand the communication effects and the connection between local agencies and associations.

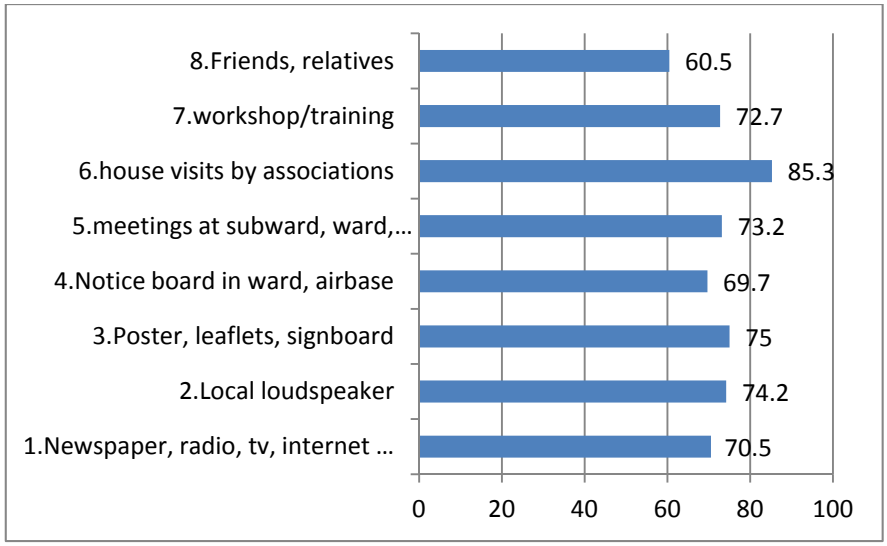
5.7. The impact of the CC

The applicability of the CC in communities' lives

108. Behaviour change communication is not easy and it takes a relatively long time to see the changes. Local residents welcomed communication on dioxin in the community. Most of the interviewees said that the CC met people's communication needs, as the communication approach now is open, unlike previously where some information was hidden to avoid creating fear among residents.

109. Figure 25 shows that the application of information learned through the different communication channels by respondents in BH is relatively high. Communicating through association representatives has been rated as the most understandable and the most applicable (85.3%), followed by posters, leaflets and local loudspeakers. The lowest application is information received from friends and relatives, which accounts for 60.5%.

Figure 26: Application of communication by communication channel



Source: Survey results

Changes in awareness of dioxin and DEP

110. Dioxin is not a new concept for local people but their understanding of it has been very vague. However, there has been a remarkable change in awareness of dioxin and DEP since the CC of Office 33 started. This is seen in the willingness of residents to learn more about dioxin. The reason that the evaluation team believes that the CC has had a significant impact is the fact that most of the interviewees viewed the necessity for dioxin communication to be undertaken on a larger scale. They believe that the more is communicated on the issue, the better DEP measures can be applied, and this will make them less worried.

"Previously, I only knew about dioxin but I did not know about its harm as it takes a long time for a person to be affected and get ill."
Interview with a provincial official in BH

"Currently, regulations related to dioxin have been implemented by local people, for example fishing or raising livestock or cultivation of vegetables in the dioxin contaminated area was stopped. My family has been living here; my wife was born and grew up here, in the airbase area. At that time we did not know about dioxin exposure in this area. We only knew about it several years ago. Before, in 2013, we knew about it but we did not care much about prevention. [Then] we started to pay attention and seriously think about safe food and ways not to be exposed."
Interview with a military family in BH

Changes in behaviour

111. **Fishing and farming in the airbase area**: A significant success of the CC is that Military Division 935 issued regulations to prohibit the raising of livestock and catching fish in the contaminated areas. Accordingly, all contracts for using land and water were terminated. As shared by a military officer, there are many lakes in the airbase and among those, four were identified as contaminated. All livestock raising and

cultivation in these particular lakes has been stopped since warnings by Office 33, and there are now signboards at the lakes. However, fishing and farming activities are still going on in the other lakes that are not contaminated. This is probably the reason why some residents mistakenly believe that the livestock raising and cultivation that is still going on is acceptable, despite the prohibitions in the contaminated areas (see Figure 16 for further details).

112. **Safe water**: The residents believe that tap water is safe and the majority of households use tap water. However, not all households can access it. Those who do not have tap water use well water. Some poor households use dug well water. Some households use dug well water or drilling well water for watering ornamental plants, but not for vegetables.

> *"Now people don't grow vegetables which are easily exposed to dioxin. They use drilling water for ornamental plants. Previously, they used it to wash pigs. Many dug wells were filled up; some drilling wells were filled up too. This is because they heard that water with mud or sediment in it could be contaminated with dioxin. They understand as their level of education is quite high. Some households use well water for ornamental plants, not for drinking. Nearly 100% of households in communal groups no 3, 4, 5 and 6have access to tap water. The rest use drilling well water. In communal group no 7, households cannot access tap water as it can only go to a main line, not farther into communal groups. If they want to use tap water, they have to pay to connect the main line to their houses, which some poor households cannot afford."*
>
> Interview with a local resident

113. **Consumption of food from contaminated hotspots**: Determining the origin of food from contaminated areas is still a significant problem. However, local residents are well aware of it and cautious about not buying or eating food from the airbase, such as fish, meat or vegetables that are hairy or which contain oil, such as pumpkin and lotus roots (see Figure 14).

Changes in daily habits

114. **Pupils** who go out to areas that they know to be affected by dioxin (for example the Bien Hung Lake in the park) do not play football in the airbase area. Pupils shared that they want to know more about dioxin, its harmful effects and DEP measures in order to protect themselves and their families.

115. **Some households** reflect that in order to prevent dioxin exposure they wear gloves while gardening to avoid contact with soil, and then wash their hands and feet before eating and sleeping. This is a significant change as some people previously did not wash their hands and feet before eating and going to bed.

116. **Airport officers and soldiers**. Previously there were many plants and livestock within the airbase areas. Since Office 33 started working at the airbase (about five years ago), officers informed all military subdivisions within the airbase to not cultivate or raise livestock, and recently the DEP measures have been understood and implemented by the officers.

5.8. Recommendations from local target groups

117. It can be said that the small-scale communication work has achieved its objectives – that is people who live in and near the contaminated areas have gained basic knowledge of dioxin and DEP measures. However, communication on a larger scale to provide the most common warnings and recommendations for people to be aware of DEP, and to ensure migrants do not to panic, still needs to be carried out. This view may be slightly different from that of local leaders when they said that communication efforts must also take into account socio-economic development factors, while not causing confusion in other residential areas and affecting potential investment in the province.

> *"Each area in the vicinity of the airbase should be specifically examined to see if it is affected by dioxin. Areas "around the airbase" sounds very broad, what area is it exactly? We should think about people first, and enterprises located in the areas are also people. They need to know how to prevent contamination. What we do is make recommendations, but it is not prohibited to use products from a contaminated area. It is up to you to use them or not."*
> Interview with an association representative

118. A common challenge for people living in BH is that they could not identify the origin of food. Providing warning signboards and recommendations are therefore necessary in order for them to make their own choices for prevention. These warnings and recommendations should be displayed broadly because food is not only sold in the exposed area but also in other areas. Some residents wished to have more specific information, for example what area is heavily or lightly influenced, what animals must not to be reared or what seedlings must not be planted.

119. According to officers and residents, communication coverage in and nearby areas of the airbase is still insufficient, which could limit the understanding of local citizens. Information on dioxin can be obtained through mass media, such as radio, television and newspapers. However, the information on DEP from these sources is limited. The communication would be more effective if it is done directly between dioxin experts and residents, soldiers, and pupils as they could then discuss any issue which concerns their daily life. It is therefore necessary to increase this type of direct communication.

120. Residents believe that direct communication conducted by heads of local associations and communal groups was effective, as there was an interaction between audience and speakers. In practice, despite the fact that intermediaries were trained, they still worried about being asked to explain something to residents as they are not knowledgeable enough for a Q&A session. Thus, according to the intermediaries, there should be more time allowed for training and each session should be longer, followed by supervision by Office 33. They also suggest that if the project can afford it, they would like the 50 questions book and a tape recorder to be provided to communal groups.

121. Administratively, there is one smaller unit under the sub-ward level that is a communal group. According to residents, this group level needs to be included in communication training by Office 33, as the group works directly with local residents. There is a concern that if these people were trained by those from their ward (training

of trainers) they would not receive the same volume of knowledge as if they got it directly from Office 33.

122. Communities recommended that communication activities in schools could include writing or drawing competitions, or Q&A sections on DEP, in order to increase pupils' knowledge, with an expectation that they can disseminate this knowledge to their parents at home afterwards. In addition, an evaluation of communication at school can also be done, probably every three months. For example, a simple questionnaire can be used to find out what has been provided and to rate the communication effectiveness as related to behaviour or mindset changes. This simple questionnaire would not take much time and could be collected after a few minutes.

123. A specific wish of teachers is for training on DEP to be provided to all teachers, if the project can afford it. In this case, all teachers can communicate directly with communication experts and integrate the knowledge into their class lessons. The training of trainer method seems difficult for teachers because of time limitation and fixed programmes, as they follow a common teaching programme designed by the provincial education department.

124. Several local officials commented on the necessity of balancing the cost of a conference versus communication activities in communities, as they think a conference might be more costly than local communication activities.

125. There is a need to increase the number of warning signboards and posters, for example in markets, where many people can read and discuss these with each other. This is also a good way for illiterate people to engage with literate members of the community.

126. In BH, there are a number of migrant workers. This group often has limited education and the community suggested that there is a need for this group to be targeted by the CC. The Youth Union is suggested to be an intermediary that can work in collaboration with other associations in the community.

127. Collaboration between Office 33 and local sectoral departments during the communication implementation process is suggested to be even closer. This can be done by selecting a relevant department to be the main partner who would be responsible for implementing the project in communities. In this way M&E would also be strengthened by keeping track of activities and difficulties in implementation.

128. A long-term coordination plan with provincial management agencies after a joint conference (if possible), agreement on a general plan, content for communication with sectoral agencies and clarifying the extent of integration of each sectoral department is necessary. For example, communication on DEP can be integrated with health care services for dioxin victims. This collaboration is effective since there are networks on environment, health care and education that can directly reach beneficiaries. This collaboration also aims to use the local budget and human resources effectively.

129. Each communication channel has its strengths and weaknesses in delivering messages to communities. For target groups to understand the messages and change their behaviours accordingly, the communication process needs to be continuous, and combined with different channels for a long period of time. For

example, communication on dioxin and DEP could be done in collaboration with local health units when providing health checks for residents. All these activities would make the communication more practical and relevant for residents. As a result, it is necessary to collaborate with local agencies in specific activities to increase the efficiency of the communication.

130. Local agencies and authorities also want to receive IEC materials or project products in an official way, with permission from higher-level authorities, to make sure that they are allowed to integrate the content and messages into their own activities.

131. A management agency should have a map of the current situation of dioxin contamination and a diagram of the impact of dioxin on human health and the environment to better understand the general situation. This map could, for example, describe the contaminated spots in and outside the airbase, the extent of contamination and the remediation activities which are going on.

132. It is necessary to include staff from provincial levels in a training course in the local community. These staff members will play a role as supervisors. In other words, this person might be a trainer who can provide training to project collaborators in communities and supervise their activities in the M&E process.

VI. CONCLUSIONS AND RECOMMENDATIONS

Conclusions	Recommendations
Communication messages	
The project has successfully delivered communication on dioxin and DEP to the community and achieved its objectives of providing knowledge, changing people's behaviour and improving the accountability of local authorities. Local citizens are now aware of the harmful effects of dioxin, and more importantly, they can identify exposure pathways and can therefore apply preventative measures. Managerial agencies and authorities have also enhanced their management responsibility in limiting the source of exposure in the community.	However, not all targeted groups have fully grasped or correctly understand the information provided. It is therefore necessary to increase the frequency of communication as well as to consolidate it through an M&E system at the local level. Office 33 needs to coordinate more closely with local authorities to completely stop possible pathways to dioxin exposure, such as fishing and selling aqua products from the contaminated lakes.
Communication channels	
The project has used appropriate communication channels targeting specific groups. The communication interventions have been combined with community-wide mass media, which seek to directly influence target groups to raise the awareness for behaviour change. The communication efforts have been strengthened by using the power of local associations, local authorities and schools to promote the connection between knowledge of dioxin and DEP measures in practice. This combination has resulted in positive changes for participants, the community and beneficiaries of the project.	It would be more effective if detailed programmes for each target group are more congruent, taking into account their strengths and voice in communication and available resources in the communities. There is a need to better balance financial and human resources to ensure the most benefit for communities. For example, a certain budget for communication continuity in communities could be reserved. The communication capacity (skills and knowledge) of local intermediaries in the communities needs to be strengthened.
Media distribution areas	
The CC was implemented in four wards in BH. This coverage, which was identified based on the priorities of the	Media distribution at a larger scale, in communities which have received little

project, is considered small in scale. The survey results show positive impacts of the CC on communities with a communication intervention.	communication intervention so far, is suggested. This would help to raise awareness of dioxin and DEP measures in the long run.
Continuity in communication	
Communication activities were included and carried out in line with other dioxin remediation components. These activities mainly focused on technical issues and the harm of dioxin, not DEP. The CC was implemented by Office 33 for more than one week (in November 2013), focusing on dioxin, exposure pathways and DEP. After this event, there were no more communication activities conducted by Office 33 in local communities.	Communication to raise awareness and change behaviours requires a long period of time, and it should therefore be a continuous process. Accordingly, which time period will be the most appropriate and which target groups are given priority depends on project resources. This continuity is necessary and should be included in the project's design and its M&E plan.
Coordination and linkage with local sectoral agencies	
The cooperation between the project and local departments is seen in the dissemination of conferences, training workshops and comments provided on IEC materials. Local sectoral agencies expressed their willingness to strengthen their cooperation with Office 33 on dioxin.	Communication is more effective if it is implemented in close coordination with local agencies and authorities and based on a long-term and specific plan. The use of local resources of sectoral agencies at different levels for mainstreaming and M&E of dioxin communication is a practical way to ensure efficiency and sustainability.
IEC materials	
The majority of IEC materials are diverse, understandable and well prepared, and take into account comments provided by stakeholders and representatives of the local communities.	It would be helpful if IEC materials could be designed for more target groups. For example, the 50 questions book is understandable for students. However, for some residents it needs to be shorter, more simple and include more illustrations and larger font. A larger amount of materials should be provided to heads of communal groups (the smallest administrative unit) and specific criteria for distributing these materials need to be

	described in writing.

Suggestions for M&E of IEC materials use and communication activities

1. **For sectoral departments**: Currently, cooperation on dioxin between the project and local sectoral departments is limited to the provision of information, without any binding responsibility to mainstream it in their sectors. A suggestion for M&E can therefore only be made when there is compulsory cooperation among sectoral departments and the project. Both parties would then agree on their role, the content, the plan to mainstream information in sectoral activities, the time and frequency of implementation of dioxin communication activities, as well as the M&E strategy and plan.
2. **For schools**: The integration of communication activities on dioxin has made it possible for teachers to mainstream it at any opportunity, such as during whole school meetings or in outdoor activities. The extent that communication on dioxin has been integrated depends on each teacher. The project could also work with teachers to make a plan and provide content that teachers can consistently mainstream in their lessons, for example content from the book '50 Questions & Answers on Dioxin'. It is suggested that teachers conduct mainstreaming activities once or twice per quarter, if they are trained on how and what to mainstream.
3. In addition, as mentioned earlier, communication on dioxin in schools can be evaluated immediately in the form of a small questionnaire after a communication event, such as a talk by a dioxin expert. An immediate survey without the involvement of teachers would avoid the risk that teachers might influence the survey results in order to show that their activities are successful.
4. **For communes/wards**: There are plenty of activities carried out by different sectoral departments and associations, such as the women's associations, associations of Agent Orange, health units and agricultural units. The following M&E activities are suggested to be carried out:
    - Working with a local People's Committee on the implementation plan (for example, communication by loudspeakers and in small groups).
    - There is a need for one paid person to be responsible for M&E of project activities. This person may be from an Agent Orange association, or a staff member from the Social Affairs Committee or a commune health or environment unit. These associations and committees conduct sectoral activities which are closely associated with dioxin prevention.
    - Based on agreed plans, this M&E person would be responsible for following up and supervising all project activities and keeping the higher management levels informed of the project's progress on a monthly basis.

- There is a need to provide this person with a monthly report form as part of the project requirements (see Annex 12 for further details).
- An allowance for the M&E person is important. According to local communication staff, they were not paid anything, except for handing out leaflets (for example 5,000VND/leaflet). This allowance is paid on a case by case basis. The allowance mentioned here is intended to pay for M&E after the communication event is completed, the "post communication period". The allowance should be considered based on the number of activities and living costs in the area.

List of annexes

List of interviewees in Bien Hoa and Dong Nai

No	Full name	Address
Bien hoa		
1	Lê Thanh Đăng	Deputy head of Trung Dung ward
2	Vũ Duy Ngọt	Resident of Tân phong Ward
3	Đặng Thị Thùy Dương	Head of Environment protection Office
4	Nguyễn Hữu Nghĩa	Teacher of Trần Hưng Đạo Secondary School
5	Nguyễn Ngọc Vàng	Deputy Head of Hùng vương secondary school
6	Trương Thị Nguyệt	Quang Viinh Ward
7	Đỗ Duy Phàn	Bửu Long ward
8	Đặng Mai Trúc	Quang Vinh Ward
9	Huỳnh thị Phương	Head of Women Union Quang Vinh ward
10	Phan Minh Đức	Tân phong Ward
11	Khiếu Hữu Sản	Head of Veteran Club in Tân phong ward
12	Lã Hồng Kỳ	Head of Farmer Union in Tân phong ward
13	Nguyễn Kim Tuyến	Trung dũng Ward
14	Trần thị Thúy Huyền	Tân phong Ward
15	Nguyễn Hoàng Bảo Trân	Trung Dũng Ward
16	Nguyễn Thị Hiệp	Bửu Long Ward
17	Cổ thị Kim Nga	Trung dũng Ward
18	Đặng Thị Hồng	Trung dũng Ward
19	Nguyễn Văn Hùng	Trung dũng Ward
20	Đào Nguyên	Head of Orange victims Association
21	Đào Thu Uyên	Student of Tran Hung Dao school
22	Nguyên Thanh Tuấn	Student of Tran Hung Dao school
23	Nguyễn Văn Chanh	Military family, Division 935
24	Thái Văn Quân	Subward 6, Trung dũng ward
25	Đỗ Duy Phàn	Vereran association, Bửu Long Ward
26	Ngô Quang Hiển	Head of airforce in Bien Hoa
27	Nguyễn Ngọc Cảnh	Education Department Bien Hoa
28	Nguyễn Xuân Hùng	Director of Medical Prevention Center in Bien Hoa
29	Đào Xuân Nam	Deputy head of Tan Phong ward
39	Trần Thị Cúc	Bửu long
31	Nguyễn hữu thành	Head of Social Support Division
32	Huỳnh cao Hải	Deputy director of Bien Hoa Department of Public Health
33	Nguyễn thị Phương Liễu	Journalist
34	Nguyễn Văn Quản	Resident, Subward 1, communial group 6, Tân phong ward
35	Khoan Anh Tuấn	Deputy principal of Tran Hung Dao secondary shool
Phu Cat		
1	Nguyễn thị Hằng	Resident in Tiên hôi, Nhơn thành commune
2	Bùi thị Bích Thủy	Person in charge in culture of Cát tiên commune
3	Phan Tân	Head of communial group Tiên hội, Nhơn thành commune
4	Nguyễn thị Dung	Chairwoman of Women Union Cát tiên commune
5	Phùng Thị Mỹ Thuận	In charge in population of Cát tiên commune
6	Đào Văn Tú	Deputy head of Cát tân commune
7	Nguyễn Thị Lan	Chairwoman of WU Nhơn thành commune
8	Nguyễn Văn Lanh	Head of medical unit in commune Nhơn thành
9	Lê Thị Tuyết Mai	Head of Red Cross of commune Nhon Thanh

10	Đoàn Xuân Điền	In charge in population of Nhơn thành commune
11	Vũ Hồng Sơn	Head of Phu Cat air force division
12	Nguyễn Minh Tuấn	Key staff of Phu Cat airport division
13	Đoàn Văn Thanh	Key staff in Phu Cat airport division
14	Thái Hữu Mạnh	A soldier in the airport division
15	Võ Thị Mai	Military family
16	Đào Hữu Quốc	Environment Office, Department of Natural Resources and Environment

List of serveyed respondents

LIST OF SURVEYED RESPONDENTS IN BIEN HOA

Time: May 2014
Location: Trung Dung Ward
Respondents: residents

No	Full name	House number	Communial groups
1	Mai Thị Giang Châu	H6/2	Tổ 8 KP5
2	Mai Tiến Đạt	54/3E	Tổ 8 KP5
3	Trần Văn Cản	5.2	Tổ 8 KP5
4	Trần Thị Tình	26H/31	Tổ 8 KP5
5	Đỗ Văn Gầu	54/9A	Tổ 8 KP5
6	Hồ Trần Thanh Châu	54/9C	Tổ 8 KP5
7	Nguyễn Thị Thanh Thiên	38	Tổ 8 KP5
8	Nguyễn Văn Tười	54/11	Tổ 8 KP5
9	Hoà Duy Thịnh	62/4	Tổ 8 KP5
10	Nguyễn Văn Phú	62/8	Tổ 8 KP5
11	Phan Ngọc Hải	88/13	Tổ 8 KP5
12	Nguyễn Thị Cẩm Hồng	76A/1	Tổ 8 KP5
13	Nguyễn Văn Đựng	76/7	Tổ 8 KP5
14	Nguyễn Thị Kim Vân	76/7	Tổ 8 KP5
15	Nguyễn Văn Khoa	76/7	Tổ 8 KP5
16	Nguyễn Thị Cúc	76/6	Tổ 8 KP5
17	Nguyễn Văn Tấn	82/9	Tổ 8 KP5
18	Trương Văn Xét	86	Tổ 8 KP5
19	Nguyễn Thị Phương Trang	88	Tổ 8 KP5
20	Nguyễn Văn Hoa	88/1 Nguyễn Ái Quốc	Tổ 8 KP5
21	Phạm Huy Toàn	102/1	Tổ 8 KP5
22	Bùi Văn Quốc	102/4	Tổ 8 KP5
23	Phan Thị Anh Tuyết	100	Tổ 8 KP5
24	Phan Văn Hoà	100	Tổ 8 KP5
25	Doãn Thị Nghĩa	96	Tổ 8 KP5
26	Hoàng Thị Tép	88/1A	Tổ 8 KP5
27	Hoàng Hữu Tiến	88/1C	Tổ 8 KP5
28	Võ Mai Thi	88/1C	Tổ 8 KP5
29	Vũ Thị Thảo	84	Tổ 8 KP5
30	Nguyễn Vĩnh Thuỵ	76/4A	Tổ 8 KP5

LIST OF SURVEYED REPSONDENTS

Time: June 2014
Location: Cat Tan Ward
Respondents: residents

No	Full name	Communial group
1	Nguyễn Hồng	Bình Đức
2	Nguyễn Thị Sang	Bình Đức
3	Phan Đình Quốc	Bình Đức
4	Trần Thị Duyên	Bình Đức
5	Mai Thị Phong	Bình Đức
6	Nguyễn Thị Tho	Bình Đức
7	Trần Ngọc Hoá	Bình Đức
8	Nguyễn Văn Huy	Bình Đức
9	Nguyễn Đình Anh	Bình Đức
10	Huỳnh Hải	Bình Đức
11	Mai Xuân Đại	Bình Đức
12	Trần Thị Hương	Bình Đức
13	Nguyễn Cường	Bình Đức
14	Nguyễn Lần	Bình Đức
15	Nguyễn Tốt	Bình Đức
16	Trần Thị Thơm	Bình Đức
17	Trần Thị Ban	Bình Đức
18	Trần Thị Thu Thuỷ	Bình Đức
19	Nguyễn Yên	Bình Đức
20	Bùi Thanh Tâm	Bình Đức
21	Nguyễn Tiến	Bình Đức
22	Mai Thị Lý	Bình Đức
23	Trần Thị Bích	Bình Đức
24	Nguyễn Thanh Dũng	Bình Đức
25	Trần Thị Út	Bình Đức
26	Nguyễn Thị Dung	Bình Đức
27	Phan Thanh Ba	Bình Đức
28	Trần Đình Thương	Bình Đức
29	Nguyễn Thị Chư	Bình Đức
30	Nguyễn Thị Phòng	Bình Đức
31	Phan Thị Lan	Bình Đức
32	Nguyễn Thị Minh	Bình Đức
33	Nguyễn Thị Nhung	Bình Đức

BỘ TÀI NGUYÊN VÀ MÔI TRƯỜNG
VĂN PHÒNG 33

CHƯƠNG TRÌNH PHÁT TRIỂN LIÊN HỢP QUỐC

Code No ☐

QUESTIONNAIRE

Dear Sir/Madame

For the survey on people's knowledge and understanding dioxin and dioxin exposure prevention measures in communities, you are kindly requested to provide information you know in the questionnaires below

Your participation in this survey is completely voluntary. The selection of households was randomly done by computer. The information that you are going to provide is only for the purpose of this study.

You are kindly requested to provide answers in order. For each question, you may chose 1 or more than one options for answer depending on a specific request, please mark (√) or mark (X) in the most appropriate answer that you have selected.

We sincerely thank you for your cooperation

Please Note: in this survey: Dioxin exposure is apenetration of toxic into the human body.

A. KNOWLEDGE ON DIOXIN AND ITS IMPACTS ON HUMAN HEALTH AND ENVIRONMENT

A1. Have you ever heard about Dioxin (in Herbicides/Agent Orange)?
(Choose only 1 option, cross the box you choose)

☐1. Yes ☐ 2. No

A2. Are you afraid of being ***exposed to dioxin***? *(Select one option only)*

☐1. Yes. Please state your reasons:
……
……..
……..
……..

☐2.No. Please state your reasons::
.....
.....
.....
.....

☐ 3.Don know

A3. Where do you think that dioxin can exist and accumulate in? *(you may choose more than one option by crossing the box(es) that you choose)*

☐1. Soil
☐2. Mud
☐3. Water
☐4. Air
☐5. meat
☐6. Vegetables
☐7. aquaproducts
☐8. Fish and animals' fat
☐9. Other *(please specify)*.....
☐10. Don't know

.

A4. What way does dioxin can penetrade a human body *(you may choose more than one options by, crossign the box(es) you choose*

☐1. Ingestion/eating and drinking
☐2. Respiration
☐3. Skin contact
☐4. Blood transmission
☐5. Genetic transmission
☐6. Breastfeeding
☐7. Other *(please specify)* ……
☐8. Don't know

A5. Please provide your opinion on the statements below: *(For each statement, please choose by crosings one box)*

Statement	1. Correct	2. False	3. Don't know
1. Dioxin spreads into environment mostly through soil erosion	☐	☐	☐
2. Dioxin dissolves in water	☐	☐	☐
3. Most plants don't absorb dioxin in soil	☐	☐	☐
4. Dioxin accumulates more in sediment than in water	☐	☐	☐
5. Dioxin mostly accumulates in fat, liver and brain tissues of animals	☐	☐	☐
6. Dioxin accumulates most in animals' fat	☐	☐	☐

A6. In your opinion, how does dioxin impact ***on human health and organisms***? *(Choose only one option for each subject)*

human health: ☐1. Toxic ☐2. Non-toxic

organisms: ☐1. Toxic ☐2. Non-toxic

A7. In your family, is there anyone suffering from chronic disease listed below? ***(Disease prolonging for over 3 months and having been diagnosed by doctor and have yet recovered)***

Instructions:

In Question A7.1, for each disease, choose "1.Yes"(if there is someone in your family got it) or "2.No"(if no one got it)
In Q A7.1, if you choose"☒1.Yes", please continue with questions A7.2, A7.3 and A7.4 of the same row.

In Q A7.2, if you choose "☒2.No, please move to the next disease and skip questions A7.2, A7.3 and 7.4.

Disease	**Q A7.1.** Is there anyone in your family suffering from this disease?		**Q A7.2.** ***If yes,*** who suffers from the disease? *(You may choose more than one options by crossing the box(es) tyou choose)*				**Q A7.3.** When was the disease diagnosed ?	**Câu A7.4.** In your opinion, is the disease ***related to Dioxin exposure***?	
	1.Yes	*2.No*	*1.Grandparents*	*2. Parents*	*3. Grandsons, granddaughters*	*4. others*		*1.Yes*	*2.No*
1. High blood pressure	☐	☐	☐	☐	☐	☐		☐	☐
2. Goiter	☐	☐	☐	☐	☐	☐		☐	☐
3. Respiratory diseases	☐	☐	☐	☐	☐	☐		☐	☐
4. Diabetes	☐	☐	☐	☐	☐	☐		☐	☐
5. Tuberculosis	☐	☐	☐	☐	☐	☐		☐	☐
6. Heart disease	☐	☐	☐	☐	☐	☐		☐	☐
7. Cancer	☐	☐	☐	☐	☐	☐		☐	☐

8. Birth defects	☐	☐	☐	☐	☐	☐		☐	☐
9. Mental disorders	☐	☐	☐	☐	☐	☐		☐	☐
10. Pregnancy complications	☐	☐	☐	☐	☐	☐		☐	☐
11. Digestive diseases	☐	☐	☐	☐	☐	☐		☐	☐
12. arthritis diseases	☐	☐	☐	☐	☐	☐		☐	☐
13. Urinary system diseases	☐	☐	☐	☐	☐	☐		☐	☐
14. Other *(please specify):*	☐	☐	☐	☐	☐	☐		☐	☐

B. DIOXIN EXPOSURE PREVENTION MEASURES

B1. In your opinion, what kinds of following food ***originated from dioxin contaminated areas should not be eaten***? *(You may choose more than one option by crossing the box(es) that you choose)*

☐1. Meat
☐2. Eggs
☐3. Milk
☐4. Fish
☐5. Crab
☐6snails
☐7. pumpkin
☐8. Lotus roots
☐9. Carrots
☐10. Rice
☐11. Don't know

B2. In your opinion, which of the following ***dioxin exposure prevention measures*** are correct or incorrect?

Instructions:

In question B2.1, for each measure, please cross the option "1.Correct" or "2.Incorrect".
If you choose "☒1.Correct", please answer the Question B2.2 of the same row
If you choose "☒2.Incorrect", please move to the next measure and skip question B2.2

Measures	**Question B2.1.** The following measure to prevent dioxin exposure is correct or incorrect?		**Question B2.2.** ***If yes*** **,** over the past 5 years, have you applied this measure in your family?		
	1. Correct	2. Incorrect	1. Always	2. Sometimes	3. Haven't applied
1. Don't access dioxin contaminated areas	☐	☐	☐	☐	☐
2. Don't cultivate, or catch aquaproducts in dioxin contaminated areas	☐	☐	☐	☐	☐
3. keep rearing livestock in dioxin contaminated areas, but make fences and use safe food for rearing	☐	☐	☐	☐	☐
4. Don't eat products from dioxin contaminated areas	☐	☐	☐	☐	☐
5. Don't use water from Dioxin contaminated areas	☐	☐	☐	☐	☐
6. Use facemask when entering the	☐	☐	☐	☐	☐

Dioxin contaminated areas					
7. Don't let children to play in dioxin contaminated areas	☐	☐	☐	☐	☐
8. Wash meat with clean water before cooking to prevent dioxin exposure	☐	☐	☐	☐	☐
9. Remove fat before consuming of animals of unknown orgin					

B3. ***In your family,*** do you have any difficulties in applying dioxin exposure prevention measures? *(You may choose more than one options by crossing the ones you choose)*

☐1. Clean water or tap water is not available in your living area

☐2. the origin of food is unknown

☐3. Safe and known origin of foods are more costly

☐4. Use clean water or bottled water is more costly

☐5. Your family can't control cattle or poultry from accessing dioxin contaminated areas

☐7. If you stop cultivating, raising cattle and catching fish in dioxin contaminated areas, your family's income will be reduced.

☐8. Don't know the measures to prevent dioxin exposure

☐9. Other *(Please specify).*……

☐10. Don't know

B4. What is the ***main water source*** that you use for cooking/drinking in your family? (*Please select one option only)*

☐1. Tap water

☐2. Rain water

☐3. Dug well water

☐4. Drilled well water

☐5. Others (please specify):……

B5. Does your family have any activities as listed bellow?

Instructions:

In question B5.1, please cross only one option"1.Yes", "2.No" or "3.Don't know" for each activity. And do the same way as for question B5.1

Activities	**Question B5.1. Before 2013** does your family have the following activities?			**Question B5.2. In** 2014 to present, does your family have the following activities?		
	1.Yes	2.No	3.Don't know	1.Yes	2.No	3.Don't know
1. Cultivation, rearing livestock in Bien Hoa/Phu Cat airbases	☐	☐	☐	☐	☐	☐
2. Consuming food cultivated from Bien Hoa/Phu Cat airbases	☐	☐	☐	☐	☐	☐
3. Raising and using aquaproducts from Bien Hoa/Phu Cat airbases	☐	☐	☐	☐	☐	☐

4. Consume aquaproducts cultivated from Bien Hoa/Phu Cat airbases	☐	☐	☐	☐	☐	☐

B6. , Are there ***any dioxin contaminated areas*** in surrounding your living areas? *(Please select one optionr only)*

☐1. Yes ☐2.No ☐3. Don‘t know

If you choose answer “☒2.No” or “☒3.Don’t know”, please move to question B10 and skip question 7,B8 and B9

B7. ***If your answer is Yes,*** what are these areas used for? *(You may choose more than one options by crossing the box(es) that you select)*

☐1. Farming ☐4. aquaculture ☐7. Other *(Please specify)*

☐2. Forestry ☐5. Housing .....

☐3. livestock ☐6. Abandoned

B8. Have you seen ever any dioxin warning signboards in the surrounding area? *(Please Select one option only)*

☐1. Yes ☐2.No ☐3.Don’t pay attention

If you choose answer “☒2.No” or “☒3.Don’t know”, please move to question B10 and skip question B9

B9. ***If your answer is Yes,*** what is your opinion? (*please choose one option only)*

☐1. I don’t care about the content of the signboard

☐2. I don’t understand what is written on the signboard

☐3. I understand but don’t pay much attention and don’t follow the instructions on the signboard

☐4. I understand the content of signboard and follow the instructions stated on the signboard

☐5. Other *(Please specify):*……..

B10. In your opinion, are there any organizations/agencies which are implementing dioxin remediation activities and handling dioxin issues in the contaminated areas? *(Please choose one option only)*

☐1. Yes ☐2.No ☐3. Don’t know

If you choose the *option* **“☒2.No” or “☒3.Don’t know”, please move to question B12 and skip question B11**

B11. ***If your answer is Yes,*** please list the names of organizations/agencies that you know

……

……

……

……

……

B12. In your area, are there dioxin remediating activities listed below? And how effective are they?

Instructions:
In question B12.1*, for each activity, please choose only one option "1.Yes", "2.No" or "3.Don't know"*
If you choose"☒1.Yes", please move to question B12.2 of the same row
If you choose "☒2.No" or"☒3.Don't know" please move to the next activity and skip question B13.2 of the same row.

Activities	**Question B13.1.** Are there the following dioxin remediation activities in your area?			**Question B13.2.** ***If yes,*** please provide your assessment on their effectiveness.		
	1. Yes	2. No	3.Don't know	1. Effective	2. not effective	3.Don't know
1. Demarcate contaminated areas	☐	☐	☐	☐	☐	☐
2. Remediate dioxin contaminated soil	☐	☐	☐	☐	☐	☐
3. Contain contaminated materials	☐	☐	☐	☐	☐	☐
4. Remove dioxin contaminated soil to another area	☐	☐	☐	☐	☐	☐
5. Communication and education for local people about dioxin contamination situation and exposure prevention measures	☐	☐	☐	☐	☐	☐
6. *Other (please specify):……..*	☐	☐	☐	☐	☐	☐

C. POLICIES FOR AGENT ORANGE VICTIMS

C1. Have you ever heard about the ***government policies for the war Agent Orange/Dioxin victims***? *(Select one option only)*

☐1. Yes ☐2. No

C2. In your family, is there anybody ***recognized as Agent Orange/Dioxin victims***? *(Select one option only)*

☐1. Yes ☐2. No

If you choose "☒2. No," please move to D1 and skip question C3

C3. ***If you choose Yes***, **which policies below** have you or any other members of your family benefited from?

Instructions:

For question C3.1, for each policy, please cross either box "1. Yes" or "2. No".
If you select the answer "☒1. Yes," please continue with the follow-up question C3.2 at the same line
If you select the answer "☒2. No," then please move to the question for the next policy and skip question C3.2 of the same line.

Policy	**Question C3.1** Have you benefited from the following policy?		**Question C3.2** ***If you have***, your opinion on the policy?		
	1. Yes	2.No	1.Good	2.Acceptable	3. Not good
1. Regular allowance from the government	☐	☐	☐	☐	☐
2. Having chance to live in a social protection center	☐	☐	☐	☐	☐
3. Receiving support for health care and rehabilitation, etc.	☐	☐	☐	☐	☐
4. Receiving support on education, vocational training and job placement	☐	☐	☐	☐	☐
5. Receiving support to access transportation, public facilities, and communication	☐	☐	☐	☐	☐
6. Receiving legal support at your request	☐	☐	☐	☐	☐
7. Receiving support in cultural, sports and tourism activities	☐	☐	☐	☐	☐
8. Other *(please specify):*.....	☐	☐	☐	☐	☐

.....					

D. COMMUNICATIONS ABOUT DIOXIN

D1. Have you ever **searched for information about dioxin by yourself**? *(Select one option only)*

☐1. Yes ☐2. No

D2. From what sources of information have you gotten to know about preventing dioxin exposure?

Instructions:

For question D2.1, for each source of information, please cross one box "1. Yes" or "2. No". If you select the option "☒1. Yes" then, please continue with questions D2.2 and D2.3 at the same line.

If you select "☒2. No," please move to the next source of information question and skip questions D2.2 and D2.3 of the same line.

Source of information	**Question D2.1.** did you receive information on dioxin exposure prevention via the following sources:		**Question D2.2.** ***If Yes,*** Please give your comments on the quality of dioxin information via such sources?			**Question D2.3.** ***If Yes***, have you followed the provided information from such sources of information?		
	1. Yes	2. No	1.Easy to understand	2.Normal	3. Difficult to understand	1. Follow all	2. Aprtially follow	3. Do not follow
1. Newspapers, radio, TV, Internet …	☐	☐	☐	☐	☐	☐	☐	☐
2. Local loud speakers	☐	☐	☐	☐	☐	☐	☐	☐
3. Posters/banners/pictures/leaflets/ signs	☐	☐	☐	☐	☐	☐	☐	☐
4. Communal or airbase's notice	☐	☐	☐	☐	☐	☐	☐	☐
5. Meetings /talks in the village/ communes/schools	☐	☐	☐	☐	☐	☐	☐	☐

6. House visits of social associations (medical staff, women's union, youth union, communication collaborators, etc)	☐	☐	☐	☐	☐	☐	☐	☐
7. Workshops/training	☐	☐	☐	☐	☐	☐	☐	☐
Relatives and friends								
8. Others *(Pls specify):*	☐	☐	☐	☐	☐	☐	☐	☐

D3. How do you self-assess your understanding about the following issues? *(For each issue, cross one box at the same line)*

Items	1. Know	2. Do not know
1. Generally understand about dioxin	☐	☐
2. Understand about dioxin impacts on environment	☐	☐
3. Understand dioxin impacts on human's health	☐	☐
4. Understand the preventive measures to dioxin exposures	☐	☐
5. Understand policies related to AO victims	☐	☐
6. Understand organizations/agencies in charge of dioxin remediation	☐	☐

D4. When you need to know **information regarding your health condition**, where do get that information? *(You can select more than one option by crossing the box(es) that you choose)*

☐1. Hospital
☐2. Medical prevention center
☐3. Communal clinics
☐4. Newspaper, radio, TV, Internet, etc
☐5. Staff of Local authoirities
☐6. Associations (women's union, youth union, etc.)
☐7. Friends, relatives, neighbors
☐8. Other *(specify)*……
…….
☐9. Do not search for information from any sources

D5. When you need to know about the information related **to farming, breeding and cultivation**, where do you get that information? *(You can select more than one answer by crossing the box(es) that you choose)*

☐1. Vet staff, agriculture staff
☐2. District officers
☐3. Commune officers
☐4. Heads of the communial groups
☐5. Associations (women's union, youth union, etc.)
☐6. Friends, relatives, neighbors
☐7. Newspaper, radio, TV, Internet , etc
☐8. Airbase staff Other *(specify)*……
……
☐9. Other *(specify*
☐10. Do not search information from any sources

D6. Other comments/recommendations from interviewee:

.....

.....

.....

.....

.....

.....

.....

E. PERSONAL INFORMATION OF THE INTERVIEWEE

E1. Full name:**……**

E2.

Addresss:**……**
……

E3. Telephone:**……**

E4. Gender: ☐ ***1. Male*** ☐ ***2. Female*** *E5.* ***Date of birth:*** **……..**

E6. Ethnicity: ☐ ***1. Vietnamese*** ☐ ***2. Other ethnicity***

E7. Your current marital status? **(Select one answer only)**

☐***1. Married*** ☐***2. Divorced/widow(er)*** ☐***3. Bachelor***

E8. Your *highest* ***education qualification?*** **(Select one answer only)**

☐ 1. No education
☐ 2. Primary school
☐ 3. Secondary school
☐ 4. High school
☐ 5. Vocational training
☐ 6. Colledge, University Graduates
☐ 7. Post graduates
☐ 8. **Other** ***(Please specify)***.....

E9. ***Your*** main occupation ***at the time of interview?*** **(Select one answer only)**

☐1. Agriculture, forestry, fishery
☐2. *Agricultural product* trading
☐3. *Other product* trading
☐4. Office workers
☐5. Workers
☐6. Self employed (motorbike taxi rider, etc)
☐7. Housewife
☐8. Retired
☐9. Do not work
☐10. Students/pupil
☐11. Other job (please specify*):* ……...
.....

E10. How long have you been living here (in current ward/commune)***?*** **(Select one option only)**

☐1. Less than 1 year
☐2. From 1 - 5 years
☐3. From 5 - 10 years
☐4. From 10 -15 years
☐5. From 15 - 20 years
☐6. Over 20 years

E11. How long have you been living here?..... (If you have been living here since you were born, please specify your date of birth)

E12. If your current home is not the place where you have grown up, please speficy where you lived before moving to your current location**? (Select one answer only)**

☐1. Other area at the same commune/ward
☐2. Other commune/ward – *specify the name:*. **.....**
☐3. Other district – *specify the name:* **.....**
☐4. Other province – specify commune/ward/district, and province's name*:* **.....**
.....

Thank you very much for your survey participation

Date……. month……., 2014

Signature of the interviewee

Endline survey for the communication component in Bien Hoa and Binh Dinh in May 2014

Content for the qualitative information

A. In-depth interview for managerial officers who participated in communication activities

1. Purpose for communication
2. Communication Target Groups
3. Plan vs. the implementation, challenges and advantages, effectiveness and appropriateness in:
   a. Communication activities;
   b. Key messages in knowledge of dioxin, of its impact on human health and environment, of DEP measures, of government agencies responsible for dioxin issues, law and policy;
   c. Capacity andcommunication skills;
   d. Mechanism for monitoringandsupervision;
   e. Coordination mechanismsamong agencies;
   f. Impacts:knowledge, capacityandbehavioral changes ofthe participants;
   g. Support policy from the State; and
   h. Access to policy, legislation and information.
4. Recommendations, including onsustainablecommunication modelsand scaling

B. **Focus group discussionfor peopleinvolved incommunication activities**(teachers, collaborators, local mass organizations).

1. Demand forcommunitycommunication abouttheunderstanding andprevention ofdioxin exposure
2. Implementation ofcommunication(challenges and advantages,quality ofimplementation)in:
   a. Subjects to communicate;
   b. Communication content(knowledge about dioxin, impacts of dioxin on human health and environment, DEP measures, government agencies responsible for dioxin issues, law and policy);
   c. Forms ofcommunication;
   d. Capacity andskillsof communication staff;
   e. Trainingcourses;
   f. People's ability to access dioxin information;
   g. Access toinformation; support policy from the State, feasibility; and
   h. Impacts:awareness and behavioral change
3. Recommendation

List of IEC materials

No	Communication products	Content	Target groups/persons	Note
1	Factsheet	Overcoming of consequences of Agent Orange/Dioxin in Vietnam	To whom are interested	TA+TV
2	CD	AO/Dioxin issue in Vietnam was recorded and distributed to local radio units-băng phát thanh	To all residents in 4 communes around Bien Hoa airbase	TV
3	Handbook	50 Q&A on Agent Orange/Dioxin	To all who are interested	TV
4	Poster	Dioxin Exposure Prevention	Residents, schools	TV
5	Pocketbook	Dioxin/AO for students	Pupils and children	TV
6	Handbook	Handbook for communicators	Communicators at communes	TV
7	Timetable	Student timetable template	Pupils	TV
8	Leaflet	operation safety	Residents, military officers, entrepreneurs, laborers in the contaminated areas	TV
9	Leaflet	preventing dioxin exposure	To all who are interested	TV
10	Leaftlet	Dioxin contamination in Bien Hoa Airbase	To all who areinterested	TA+TV
11	Book	Legal documents on Dioxin/AO-	Managerial people who are interested in this issue.	TV
12	Newsletter	1st, 2nd, 3rd, 4th, 5th, 6th	To all who are interested	TA+TV
13	Documentary film Phimtàiliệu	AO/Dioxin in Vietnam	To public	TV phụđề TA
14	Proceeding	31st Dioxin Symposium	Dioxin, managerial people, researchers, and all who areinterested in dioxin issues	TA + TV
15	Proceeding	32nd Dioxin Symposium	Dioxin, managerial people, researchers, and all who areinterested in dioxin issues	TA
16	Proceeding	33rd Dioxin Symposium	Dioxin, managerial people, researchers, and all who areinterested in dioxin issues	TA +TV
17	Proceeding	International workshop "Learning - Sharing Lessons: Dioxin/POPs Pollution assessment and remediation in Vietnam"	Dioxin, managerial people, researchers, and all whoare interested in dioxin issues	Ini the printing process
18	Book	Agent Orange History - Alvin Young	Dioxin, managerial people, researchers, and all who areinterested in dioxin issues	TV
19	Comprehensive	Agent Orange/dioxin	Dioxin, managerial people,	TA +

	Report	contamination in three hotspots in Vietnam , 2013	researchers, and all who are interested in dioxin issues	TV

Plan for IEC materials and communication implementation

Project: Environmental Remediation of Dioxin Contaminated Hotspots in Viet Nam

No	Target groups	IEC materials	Content	Methodology	Implementing agencies	Time for implementation
1	Donors, mass media agencies, management agencies, unions and households	fact sheet	- Remediation of Dioxin Contaminated Hotspots in Viet Nam - Situation of contamination of dioxin in BH airbase Information of dioxin remediation in BH airbase	- Workshop - Focus group discussion - distribution of leaflets, factsheets and handbooks	- Office 33 - Communication experts - central and local media agencies - Management agencies and associations (PCC of province/city), Departments of health/medical centers, DONRE, DOLISA, WU, FU, YU) - Association of dioxin victims	- 7/2013: to complete the content/messages for communication - 9-10/2013: to complete communication activities
		hard sheet	- List of dioxin related diseases of the MOH in 2009 - Routes for Dioxin exposure.			
		handbook	- questions and answers of problems related to dioxin exposure			

			- Collection of all legal documents related to dioxin in Viet Nam			
		CD	Basic information on dioxin influence and DEP			
2	Officials and workers who live in Bien Hoa airbase	- fact sheet	- General information about hotspots in Bien Hoa airbase	- Small communication groups - Distributions of leaflets and factsheets. - Posters at work	- Office 33 - Communication experts - Commune collaborators - Management officials in BH airbase - Workers working in BH airbase	7/2013: to complete the content/messages for communication - 9-10/2013: to complete communication activities
		leaflet	- safety in the contaminated areas			
		poster	Routes of dioxin exposure			
3	Households	leaflet	-Don'ts and dos for DEP through food -How to buy safe food.	- Small communication groups - Distributions of leaflets and factsheets.	- Office 33 - Communication experts - Commune people's committee - Communication collaborators (Health units, WU of communes) - Association of AgentOrange victims	7/2013: to complete the content/messages for communication - 9-10/2013: to complete communication activities

4	Fishermen	leaflet	Sign boards in the contaminated areas	- Sign boards with information on dioxin contaminated areas.	- Office 33 - Communication experts - Commune people's committee - Communication collaborators (Health units, WU of communes) - Association of Agent Orange victims	7/2013: to complete the content/messages for communication - 9-10/2013: to complete communication activities
6	Pupils	card	- 20 cards with images and messages related to DEP	- Big group meeting - Distribution of communication cards - Put posters in constructions, information boards, offices	- Communication experts - Secondary schools - Communication collaborators (Youth Unions - Pupils of schools in the commune areas.	7/2013: to complete the content/messages for communication - 9-10/2013: to complete communication activities
		poster	Routes to Dioxin exposure			

PLAN OF BROADCASTING AND DISTRIBUTING COMMUNICATION DOCUMENTS OF DIOXIN PROJECT IN BUU LONG WARD

After People's Committee of Buu Long ward received the documents from Office 33 of Department of Natural Resources and Environment, representatives of collaborators in Buu Long ward have planned as follows:

1/ Broadcast

Ward's broadcast station broadcast 2 times per day (from 6 am to 6:15 am and from 5 pm to 5:15 pm). The broadcast programs' contents are from CDs of propaganda for dioxin prevention provided by the Office.

2/ Distribution of leaflets of dioxin exposure prevention

Collaborators come to quarters and distribute leaflets to the leaders of mainly 2 quarters, namely quarter 1 and quarter 5. These 2 quarters having about 200 households are at the end of the road to Bien Hoa airport, where there is drainage coming from. The leaders then have to distribute leaflets directly to households.

3/ Putting up posters of exposure prevention

Collaborators cooperate with Cultural officials of ward to put up posters at:

- Reception area of People's Committee of Buu Long ward
- Office of 5 quarters
- Information portal of schools and vocational schools in ward's area.

4/ Distribution of communication handbook of dioxin and dioxin exposure prevention:

Distributing collaborators includes key officials at ward People's Committee in order to set up propaganda for fellows – families and surrounding neighbors.

Chairman of 5 quarters and leaders receive the handbooks and propagate to local people.

5/ 50 questions and answers handbook about Agent Orange/dioxin:

Collaborators execute as part 4.

6/ A legal documents relating to other activities…the consequences of Agent Orange/dioxin…

Collaborators distribute this to head officials

- The Veteran Association.
- The United Women Association.

List of participants in the workshop disseminating information and sharing experience in journalism on dioxin issues Hanoi Pullman, 40 Cát Linh 22, April 2013			
International journalists and partners			
1	Bakhodir Burkhanov	UNDP	UNDP' s Deputy Country Director
2	Đào Xuân Lai	UNDP	Assistant Country Director & Head of the UNDP Sustainable Development Department
3	Trương Thị Quỳnh Trang	UNDP	Programme Officer
4	Mitsugu Saito	UNDP	Senior Technical Expert
5	Eric Frater (Mr.)	US Embassy	Environment, Science, Technology & Health Officer
6	Trần Thị Minh Hà	French Television, AFP	
7	Nguyễn Huy Khâm	Reuters	
8	Nguyễn Văn Vinh	Reuters	
9	Nguyễn Vân Anh	Nikkei Japan	Assistant
Sectoral representatives			
10	Thân Thành Công	Department of Science, Technology and Environment, Ministry of Defense	Head of Environment Management, secretary of the working group
11	Đỗ Duy Kiên	Air force defense, the Ministry of Defense	Head of Science and Technology department, colonel
12	Nguyễn Thị Hoàng Anh	Vụ Châu Mỹ, the Ministry of Foreign Affairs	
13	Hà Huy Thông	The Committee of International relations of the National Assembly	Deputy head
14	Nguyễn Xuân Quang	The Committee of International relations of the National Assembly	Secretary
15	Dr. Phạm Thế Tài	The Military medical Academy	
16	Associate prof., Dr. Lê Kế Sơn	Office 33, the MONRE	
17	Nguyễn Văn Minh	Consultant	Technical advisor
18	Trần Minh Hằng	IEC Consultant	Institution of Ethnicity- Viet Nam Academy of Social Science
Domestic journalists - Hanoi			
19	Vũ Thu Trang (Ms.)	VietnamNews	
20	Vũ Thị Hương Giang (Ms.)	Tuoi Tre newspaper	

21	Phan Thị Việt Anh (Ms.)	Sai Gon Tiep Thi newspaper	
22	Nguyễn Liên Châu	Youth Newspaper, Hanoi	In charge in writing on health section
23	Phạm Thu Hương	VNExpress, Hà Nội	International department
24	1 pv tham dự	Báo Sức khỏe & Đời sống	
25	Phùng Quang Thuận	Department for elderies	
26	Phạm Thị Hằng	Dan tri	
27	Nguyễn Thu Hà	VTV1/Ban Thời Sự	
28	Nguyễn Xuân Quỳnh	VTV4	International section
29	Nguyễn Thị Kim Chi	VOV5	
30	Vũ Hồ Điệp (Ms.)	Voice of Vietnam (VOV)	Reporter of International News, VOV 1
31	Phạm Mạnh Cường (Mr.)	Vietnam Forum of Environment Journalists (VFEJ)	Editor for website vfej.vn
32	Nguyễn Bích Thủy (Ms.)	Vietnam news agency	
33	Hoàng Quốc Dũng (mr.)	Pioneer Newspaper	
34	Tô Phương Thủy	Labor Newspaper	
35	Lê Thế Vinh	VietnamNet	
36	Trịnh Anh Thư	Vietnam Army newspaper	
37	Phạm Đình Hiệp	New Hanoi	
Local journalists and television agencies			
38	Bùi Đức Chung (Mr.)	Đà Nẵng Television	
39	Nguyễn Thị Phương Liễu (Ms.)	Đồng Nai newspaper agency	
40	Nguyễn Thị Phượng	Đồng Nai newspaper agency	
41	Trần Đình Tường Lam	Đồng Nai broadcasting agency	
42	Trần Thùy Dương	Đồng Nai television	
43	Hoàng Thị Bích Phú	Dong Nai Labour newspaper agency	
44	Nguyễn Thị Mỹ Hà	Binh dinh television	
45	Nguyễn Văn Nam (Mr.)	SaiGon Times	
46	Trần Trung Thanh	HCM legal newspapers agency	
Project office			
47	Nguyễn Mỹ Hằng		
48	Trần Nguyễn Vân Hà		
49	Vương Thu Hương		
50	Nguyễn Trung Kiên		
51	Đặng Ngọc Châu		

List of local collaborators participating in a training workshop

Training workshop for local communication collaborators (Bien Hoa 30 Oct 2013)			
1	Hoàng Hồng Thái	Staff working on labor, invalid and social affairs, Trung Dũng ward	
2	… Thị Như Đào	Health unit, Trung Dũng ward	
3	Nguyễn Hoàng Bảo Trân	Women Union, Trung Dũng ward	
4	Trần Minh Hải	Youth Union, Trung Dũng ward	
5	Nguyễn Văn Hưng	Associations of dioxin victims, Trung Dũng ward	
6	Đào Xuân Nam	People committee, Tân Phong ward	
7	Trần Thị Mến	Health unit, Tân Phong ward	
8	Phạm Thị Nhật	Women Union. Tân Phong ward	
9	Trần Văn Bộ	Youth Union, Tân Phong ward	
10	Khiếu Hữu Sản	Associations of dioxin victims, Tân Phong ward	
11	Lã Hồng Kỳ	Farmer Union, Tân Phong ward	
12	Trần Thị Minh Thơ	Culture staff, Tân Phong ward	
13	Nguyễn Như Hiền	People committee, Quang Vinh ward	
14	Phan Thị Nhung	Staff working on labor, invalid and social affairs, Quang Vinh ward	
15	Lê Mỹ Linh	Health unit, Quang Vinh ward	
16	Huỳnh Thị Phương	Women Union, Quang Vinh ward	
17	Trần Xuân Cư	Associations of dioxin victims, Quang Vinh ward	
18	Châu Mỹ Dung	Staff working on labor, invalid and social affairs, Bửu Long ward	
19	Nguyễn Thị Hiệp	Health unit, Bửu Long ward	
20	Đỗ Duy Phàm	Association of veterans, Bửu Long ward	
21	Võ Văn Cường	Farmer Union, Bửu Long ward	
22	**Trần Minh Hằng**	Communication expert	
23	Phạm Thế Tài	Consultant – Medical Military Academy	
24	Trịnh Khắc Sáu	Consultant – Vietnam -Russia Center for Scientific Tropical Research	
25	Lê Kế Sơn	Consultant – Office 33	
26	**Nguyễn Mỹ Hằng**	Project Office	
27	Đặng Thị Ngọc Châu	Project Office	
28	Trần Nguyễn Vân Hà	Project Office	

Communication workshop for management agencies (Bien Hoa 29/10/2013)			
1	Nguyễn Thanh Thúy	Communication section for communities	
2	Trương Ngọc Quang	DONRE Dong Nai	
3	Bùi Thị Hoa	DOH Dong Nai	
4	Trần Thị Hương Giang	Department of Information and Communication	
5	Nguyễn Thị Kiều Oanh	DOLISA	
6	Vũ Ngọc Thạch	DOET	
7	Trần Trung Thuận	DOET	
8	Trần Thị Thu Hiền	Provincial Women Union	
9	Nguyễn Công Phong	Vietnam News Agency	
10	Trương Hải Thi	Provincial Youth Union	
11	Trần Thảo Quế	Dong Nai Online Newspaper	
12	Đào Nguyên	Association of Dioxin victims	
13	Nguyễn Thị Nga	Viet Nam assisting disabled people Association	
14	Nguyễn Đình Bản	Division 935, Bien Hoa airport	
15	Lê Thanh Đăng	People Committee, Trung Dũng ward	
16	Hoàng Hồng Thái	Staff of Labor and Social Affairs, Trung Dũng ward	
17	Ôn Thị Như Đào	Medical unit, Trung Dũng ward	
18	Nguyễn Hoàng Bảo Trân	Women Union, Trung Dũng ward	
19	Trần Minh Hải	Youth Union, Trung Dũng ward	
20	Nguyễn Văn Hưng	Association of Dioxin victims, Trung Dũng ward	
21	Đào Xuân Nam	People Committee, Tân Phong ward	
22	Trần Thị Mị	Staff working on policies, Tân Phong ward	
23	Trần Thị Mến	Health Unit, Tan	

		phong ward	
24	Phạm Thị Nhật	Women Union, Tân Phong ward	
25	Trần Văn Bộ	Youth Union, Tân Phong ward	
26	Khiếu Hữu Sản	Association of dioxin victims, Tân Phong ward	
27	Lã Hồng Kỳ	Farmer Union, Tân Phong ward	
28	Trần Thị Minh Thơ	CC. VHXH P. Tân Phong	
29	Nguyễn Như Hiền	UBND P. Quang Vinh	
30	Phạm Thị Nhung	Staff of Labor and Social Affairs, Quang Vinh	
31	Lê Mỹ Linh	Medical unit, Quang Vinh ward.	
32	Huỳnh Thị Phương	Women Union Quang Vinh	
33	Trần Xuân Cư	Association of Dioxin victims, Quang Vinh	
34	Nguyễn Duy Thiệu	Resident, Quang Vinh ward	
35	Châu Mỹ Dung	Staff working on policies, Bửu Long ward	
36	Nhiên Thị Múi	Health Unit, Bửu Long ward	
37	Võ Thị Thu Hà	Women Union, Bửu Long ward	
38	Lê Lưu Luyến	Youth Union, Bửu Long ward	
39	Đỗ Duy Phàn	Veterans Associations Bửu Long ward	
40	Võ Văn Cường	Farmer Union, Bửu Long	
41	Nguyễn Thị Quỳnh Như	Section of Environmental protection, Dong Nai	
42	Nguyễn Hữu Thành	DOLISA	Head of Social Affairs Section
43	Nguyễn Thị Chi	Provincial Women Union	
44	Trần Minh Hằng	Communication expert	
45	Phạm Thê Tài	Consultant – Medical Military Academy	

46	Trịnh Khắc Sáu	Consultant – Viet-Nga Tropical Research Center	
47	Lê Kế Sơn	Consultant - Office 33	
48	Nguyễn Mỹ Hằng	Project office	
49	Đặng Thị Ngọc Châu	Project office	
50	Trần Nguyễn Vân Hà	Project office	
51	Vũ Thị Bích Liễu	Section of contamination control	
52	Nguyễn Xuân Hùng	Medical center, Bien Hoa city	Director
53	Nguyễn Thế Dũng	Division 935 Biên Hòa airport	
54	Ngô Quang Hiếu	Division 935 Biên Hòa airport	
55	Đặng Thị Thùy Dương	Division of environment protection, DONRE Dong Nai	
56	Nguyễn Duy Chinh	Resident of Bửu Long ward(10/5A KP2)	
57	Huỳnh Cao Hải	DOH Dong Nai	Phó GĐ
58	Nguyễn Hoàng Long	Environment section of PCC Biên Hòa city	
59	Phạm Trung Tính	Resident Bửu Long (15/11 KP2)	
60	Đoàn Quang Úy	Resident Bửu Long (8A/7 KP3)	

List of teachers attending communication workshop on communication skills on DEP

Section for communication workshop for teachers			
No	**Full name**	**Schools**	**Position**
1	Nguyễn Khánh Hưng	Secondary school Tân Bửu	Hiệu trưởng
2	Nguyễn Ngọc Phương Anh	Secondary school Tân Bửu	Giáo viên TPT
3	Trần Thanh Tuyền	Secondary school Tân Bửu	GVCN
4	Bạch Thị Ngọc Mai	Secondary school Tân Bửu	GVCN
5	Nguyễn Anh Minh	Secondary school Tân Bửu	GVCN
6	Nguyễn Vì Thanh	Secondary school Tân Bửu	GVCN
7	Phan Thị Hồng Nhung	Secondary school Tân Bửu	GVCN
8	Phạm Thị Thuận	Secondary school Tân Bửu	GVCN
9	Phạm Thị Kim Loan	Secondary school Tân Bửu	GVCN
10	Nguyễn Thị Dư	Secondary school Tân Bửu	GVCN
11	Khoan Anh Tuấn	Secondary school Trần Hưng Đạo	Phó hiệu trưởng
12	Cao Tiến Dũng	Secondary school Trần Hưng Đạo	Giáo viên TPT
13	Nguyễn Hữu Nghĩa	Secondary school Trần Hưng Đạo	GVCN
14	Trịnh Thị Uyên Thi	Secondary school Trần Hưng Đạo	GVCN
15	Bùi Thị Luân	Secondary school Trần Hưng Đạo	GVCN
16	Mai Kim Loan	Secondary school Trần Hưng Đạo	GVCN
17	Trần Thị Mai Ly	Secondary school Trần Hưng Đạo	GVCN
18	Mai Thùy Nhung	Secondary school Trần Hưng Đạo	GVCN
19	Lê Thị Hạnh Dung	Secondary school Trần Hưng Đạo	GVCN
20	Đặng Thị Lệ Thu	Secondary school Trần Hưng Đạo	GVCN
21	Nguyễn Văn Có	Secondary school Hùng Vương	Phó hiệu trưởng
22	Hoàng Anh Tuấn	Secondary school Hùng Vương	Giáo viên TPT
23	Dương Thị Kiều Hoa	Secondary school Hùng Vương	GVCN
24	Đào Thị Huyền	Secondary school Hùng Vương	GVCN
25	Lê Thị Trần Lê	Secondary school Hùng Vương	GVCN
26	Phạm Thị Thùy Linh	Secondary school Hùng Vương	GVCN
27	Hà … Hùng	Secondary school Hùng Vương	GVCN
28	Nguyễn Ngọc Trọng	Secondary school Hùng Vương	GVCN
29	Huỳnh Thị Kim Xuân	Secondary school Hùng Vương	GVCN
30	Nguyễn Thị Thu Hà	Secondary school Hùng Vương	GVCN
31	Trần Minh Hằng	Communication expert	
32	Phạm Thế Tài	Consultant – Medical Military Academy	
3	Trịnh Khắc Sáu	Consultant – Viet Nga Tropical research center	

34	Lê Kế Sơn	Consultant - Office 33	
35	Nguyễn Mỹ Hằng	Project office	
36	Đặng Thị Ngọc Châu	Project office	
37	Trần Nguyễn Vân Hà	Project office	
38	Nguyễn Ngọc Cảnh	Deputy Director, Bien Hoa city	
39	Trần Kim Huệ	Secondary school Tân Bửu	
40	Nguyễn Thị Thanh	Secondary school Tân Bửu	
41	Trần Ngọc Huyền	Secondary school Tân Bửu	
42	Nguyễn Xuân Phú	Secondary school Tân Bửu	
43	Nguyễn Thanh Hương	Secondary school Tân Bửu	
44	Võ Thị Thu Huyền	Center for communication and Environment Consultation	
45	Nguyễn Thanh Thúy	Center for communication and Environment Consultation	
46	Nguyễn Thành Vinh	Secondary school Trần Hưng Đạo	
47	Nguyễn Thu Hồng	Television station Đồng Nai	

Table 1: Results of statistical tests of the difference of respondents rate on "knowledge of Dioxin" in localities

Biên Hòa 1 and Biên Hòa 2

```
              storage  display     value
variable name   type   format      label      variable label
------------------------------------------------------------------------------
------------------------------------------------------------------------------
---------
d3_1_moi1       byte   %9.0g                  d3_1_moi, nhomho == Bien Hoa 1
d3_1_moi2       byte   %9.0g                  d3_1_moi, nhomho == Bien Hoa 2
d3_1_moi3       byte   %9.0g                  d3_1_moi, nhomho == Binh Dinh

Two-sample test of proportions           d3_1_moi1: Number of obs =      100
                                         d3_1_moi2: Number of obs =      128
------------------------------------------------------------------------------
  Variable |       Mean   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
 d3_1_moi1 |          1          0                            1           1
 d3_1_moi2 |   .8984375   .0266997                     .8461071    .9507679
-------------+----------------------------------------------------------------
      diff |   .1015625   .0266997                     .0492321    .1538929
           |  under Ho:    .030947     3.28   0.001
------------------------------------------------------------------------------
    diff = prop(d3_1_moi1) - prop(d3_1_moi2)                  z =   3.2818
    Ho: diff = 0

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(Z < z) = 0.9995         Pr(|Z| < |z|) = 0.0010          Pr(Z > z) = 0.0005
```

Biên Hòa and Bình Định

```
              storage  display     value
variable name   type   format      label      variable label
------------------------------------------------------------------------------
------------------------------------------------------------------------------
d3_1_moi1       byte   %9.0g                  d3_1_moi, treatment == Trong du an
d3_1_moi2       byte   %9.0g                  d3_1_moi, treatment == Ngoai du an

Two-sample test of proportions           d3_1_moi1: Number of obs =      228
                                         d3_1_moi2: Number of obs =       64
------------------------------------------------------------------------------
  Variable |       Mean   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
 d3_1_moi1 |   .9429825   .0153564                     .9128845    .9730804
 d3_1_moi2 |    .515625   .0624695                     .3931871    .6380629
-------------+----------------------------------------------------------------
      diff |   .4273575   .0643293                     .3012744    .5534405
           |  under Ho:   .0506062     8.44   0.000
------------------------------------------------------------------------------
    diff = prop(d3_1_moi1) - prop(d3_1_moi2)                  z =   8.4448
    Ho: diff = 0

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(Z < z) = 1.0000         Pr(|Z| < |z|) = 0.0000          Pr(Z > z) = 0.0000
```

Table 2: Results of statistical tests of the difference of respondents rate on “knowledge of Dioxin influence on environment” in localities

Biên Hòa 1 and Biên Hòa 2

```
              storage  display     value
variable name   type   format      label      variable label
------------------------------------------------------------------------------
------------------------------------------------------------------------------
d3_2_moi1       byte   %9.0g                  d3_2_moi, nhomho == Bien Hoa 1
d3_2_moi2       byte   %9.0g                  d3_2_moi, nhomho == Bien Hoa 2
d3_2_moi3       byte   %9.0g                  d3_2_moi, nhomho == Binh Dinh

Two-sample test of proportions           d3_2_moi1: Number of obs =      105
                                         d3_2_moi2: Number of obs =      121
------------------------------------------------------------------------------
  Variable |       Mean   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
 d3_2_moi1 |   .9904762   .0094783                       .971899    1.009053
 d3_2_moi2 |    .892562   .0281518                      .8373856    .9477384
-------------+----------------------------------------------------------------
      diff |   .0979142   .0297046                      .0396944    .1561341
           |  under Ho:   .0321507     3.05   0.002
------------------------------------------------------------------------------
    diff = prop(d3_2_moi1) - prop(d3_2_moi2)                  z =   3.0455
    Ho: diff = 0

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(Z < z) = 0.9988         Pr(|Z| < |z|) = 0.0023        Pr(Z > z) = 0.0012
```

Biên Hòa and Bình Định

```
              storage  display     value
variable name   type   format      label      variable label
------------------------------------------------------------------------------
------------------------------------------------------------------------------
d3_2_moi1       byte   %9.0g                  d3_2_moi, treatment == Trong du an
d3_2_moi2       byte   %9.0g                  d3_2_moi, treatment == Ngoai du an

Two-sample test of proportions           d3_2_moi1: Number of obs =      226
                                         d3_2_moi2: Number of obs =       64
------------------------------------------------------------------------------
  Variable |       Mean   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
 d3_2_moi1 |   .9380531    .016035                      .9066251    .9694811
 d3_2_moi2 |    .515625   .0624695                      .3931871    .6380629
-------------+----------------------------------------------------------------
      diff |   .4224281   .0644946                       .296021    .5488352
           |  under Ho:    .051268     8.24   0.000
------------------------------------------------------------------------------
    diff = prop(d3_2_moi1) - prop(d3_2_moi2)                  z =   8.2396
    Ho: diff = 0

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(Z < z) = 1.0000         Pr(|Z| < |z|) = 0.0000        Pr(Z > z) = 0.0000
```

Table 3: Results of statistical tests of the difference of respondents rate on "knowledge of Dioxin influence on health of residents" in localities

Biên Hòa 1 and Biên Hòa 2

```
              storage  display     value
variable name   type   format      label      variable label
------------------------------------------------------------------------------
------------------------------------------------------------------------------
d3_3_moi1       byte   %9.0g                  d3_3_moi, nhomho == Bien Hoa 1
d3_3_moi2       byte   %9.0g                  d3_3_moi, nhomho == Bien Hoa 2
d3_3_moi3       byte   %9.0g                  d3_3_moi, nhomho == Binh Dinh

Two-sample test of proportions           d3_3_moi1: Number of obs =      105
                                         d3_3_moi2: Number of obs =      123
------------------------------------------------------------------------------
  Variable |       Mean   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
 d3_3_moi1 |   .9904762   .0094783                       .971899    1.009053
 d3_3_moi2 |   .9512195   .0194228                      .9131516    .9892874
-------------+----------------------------------------------------------------
      diff |   .0392567   .0216121                     -.0031022    .0816156
           |  under Ho:   .0229208     1.71   0.087
------------------------------------------------------------------------------
    diff = prop(d3_3_moi1) - prop(d3_3_moi2)                  z =   1.7127
    Ho: diff = 0

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(Z < z) = 0.9566         Pr(|Z| < |z|) = 0.0868         Pr(Z > z) = 0.0434
```

Biên Hòa and Bình Định

```
              storage  display     value
variable name   type   format      label      variable label
------------------------------------------------------------------------------
------------------------------------------------------------------------------
d3_3_moi1       byte   %9.0g                  d3_3_moi, treatment == Trong du an
d3_3_moi2       byte   %9.0g                  d3_3_moi, treatment == Ngoai du an

Two-sample test of proportions           d3_3_moi1: Number of obs =      228
                                         d3_3_moi2: Number of obs =       64
------------------------------------------------------------------------------
  Variable |       Mean   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
 d3_3_moi1 |   .9692982   .0114246                      .9469063    .9916901
 d3_3_moi2 |    .765625   .0529509                      .6618431    .8694069
-------------+----------------------------------------------------------------
      diff |   .2036732   .0541694                      .0975032    .3098433
           |  under Ho:   .0373374     5.45   0.000
------------------------------------------------------------------------------
    diff = prop(d3_3_moi1) - prop(d3_3_moi2)                  z =   5.4549
    Ho: diff = 0

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(Z < z) = 1.0000         Pr(|Z| < |z|) = 0.0000         Pr(Z > z) = 0.0000
```

Table 4: Results of statistical tests of the difference of respondents rate on "knowledge of Dioxin Exposure prevention" in localities

Biên Hòa 1 and Biên Hòa 2

```
              storage  display     value
variable name   type   format      label      variable label
------------------------------------------------------------------------------
------------------------------------------------------------------------------
d3_4_moi1       byte   %9.0g                  d3_4_moi, nhomho == Bien Hoa 1
d3_4_moi2       byte   %9.0g                  d3_4_moi, nhomho == Bien Hoa 2
d3_4_moi3       byte   %9.0g                  d3_4_moi, nhomho == Binh Dinh

Two-sample test of proportions          d3_4_moi1: Number of obs =      106
                                        d3_4_moi2: Number of obs =      118
------------------------------------------------------------------------------
  Variable |       Mean   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
 d3_4_moi1 |   .9150943   .0270737                      .8620308    .9681579
 d3_4_moi2 |   .8389831   .0338354                      .7726669    .9052992
-------------+----------------------------------------------------------------
      diff |   .0761113   .0433338                     -.0088215    .1610441
           |  under Ho:   .0442577     1.72   0.085
------------------------------------------------------------------------------
    diff = prop(d3_4_moi1) - prop(d3_4_moi2)                  z =   1.7197
    Ho: diff = 0

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(Z < z) = 0.9573         Pr(|Z| < |z|) = 0.0855         Pr(Z > z) = 0.0427
```

Biên Hòa and Bình Định

```
              storage  display     value
variable name   type   format      label      variable label
------------------------------------------------------------------------------
------------------------------------------------------------------------------
d3_4_moi1       byte   %9.0g                  d3_4_moi, treatment == Trong du an
d3_4_moi2       byte   %9.0g                  d3_4_moi, treatment == Ngoai du an

Two-sample test of proportions          d3_4_moi1: Number of obs =      224
                                        d3_4_moi2: Number of obs =       64
------------------------------------------------------------------------------
  Variable |       Mean   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
 d3_4_moi1 |       .875   .0220971                      .8316905    .9183095
 d3_4_moi2 |    .140625   .0434543                      .0554562    .2257938
-------------+----------------------------------------------------------------
      diff |    .734375   .0487499                      .6388269    .8299231
           |  under Ho:   .0641957    11.44   0.000
------------------------------------------------------------------------------
    diff = prop(d3_4_moi1) - prop(d3_4_moi2)                  z =  11.4396
    Ho: diff = 0

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(Z < z) = 1.0000         Pr(|Z| < |z|) = 0.0000         Pr(Z > z) = 0.0000
```

Table 5: Results of statistical tests of the difference of respondents rate on "knowledge of policies related to dioxin victims" in localities

Biên Hòa 1 and Biên Hòa 2

```
              storage  display     value
variable name   type   format      label      variable label
------------------------------------------------------------------------------
------------------------------------------------------------------------------
d3_5_moi1       byte   %9.0g                  d3_5_moi, nhomho == Bien Hoa 1
d3_5_moi2       byte   %9.0g                  d3_5_moi, nhomho == Bien Hoa 2
d3_5_moi3       byte   %9.0g                  d3_5_moi, nhomho == Binh Dinh

Two-sample test of proportions          d3_5_moi1: Number of obs =      101
                                        d3_5_moi2: Number of obs =      116
------------------------------------------------------------------------------
  Variable |       Mean   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
 d3_5_moi1 |   .7920792   .0403806                      .7129347    .8712237
 d3_5_moi2 |   .6637931   .0438622                      .5778247    .7497615
-------------+----------------------------------------------------------------
      diff |   .1282861   .0596195                       .011434    .2451382
           |  under Ho:   .0608704     2.11   0.035
------------------------------------------------------------------------------
    diff = prop(d3_5_moi1) - prop(d3_5_moi2)                  z =   2.1075
    Ho: diff = 0

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(Z < z) = 0.9825         Pr(|Z| < |z|) = 0.0351         Pr(Z > z) = 0.0175
```

Biên Hòa and Bình Định

```
              storage  display     value
variable name   type   format      label      variable label
------------------------------------------------------------------------------
------------------------------------------------------------------------------
d3_5_moi1       byte   %9.0g                  d3_5_moi, treatment == Trong du an
d3_5_moi2       byte   %9.0g                  d3_5_moi, treatment == Ngoai du an

Two-sample test of proportions          d3_5_moi1: Number of obs =      217
                                        d3_5_moi2: Number of obs =       64
------------------------------------------------------------------------------
  Variable |       Mean   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
 d3_5_moi1 |   .7235023   .0303624                      .6639931    .7830115
 d3_5_moi2 |         .5      .0625                      .3775023    .6224977
-------------+----------------------------------------------------------------
      diff |   .2235023   .0694847                      .0873148    .3596898
           |  under Ho:   .0667501     3.35   0.001
------------------------------------------------------------------------------
    diff = prop(d3_5_moi1) - prop(d3_5_moi2)                  z =   3.3483
    Ho: diff = 0

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(Z < z) = 0.9996         Pr(|Z| < |z|) = 0.0008         Pr(Z > z) = 0.0004
```

Table 6: Results of statistical tests of the difference of respondents rate on "knowledge of organizations/agencies responsible for dioxin remediation" in localities

Biên Hòa 1 and Biên Hòa 2

```
              storage  display     value
variable name   type   format      label      variable label
------------------------------------------------------------------------------
------------------------------------------------------------------------------
d3_6_moi1       byte   %9.0g                  d3_6_moi, nhomho == Bien Hoa 1
d3_6_moi2       byte   %9.0g                  d3_6_moi, nhomho == Bien Hoa 2
d3_6_moi3       byte   %9.0g                  d3_6_moi, nhomho == Binh Dinh

Two-sample test of proportions          d3_6_moi1: Number of obs =       95
                                        d3_6_moi2: Number of obs =      117
------------------------------------------------------------------------------
 Variable |       Mean   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
 d3_6_moi1 |   .6736842   .0481045                      .5794012    .7679672
 d3_6_moi2 |   .5384615   .0460881                      .4481306    .6287925
-------------+----------------------------------------------------------------
      diff |   .1352227   .0666194                       .004651    .2657944
           |  under Ho:   .0676844     2.00   0.046
------------------------------------------------------------------------------
    diff = prop(d3_6_moi1) - prop(d3_6_moi2)                  z =   1.9978
    Ho: diff = 0

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(Z < z) = 0.9771         Pr(|Z| < |z|) = 0.0457          Pr(Z > z) = 0.0229
```

Biên Hòa and Bình Định

```
              storage  display     value
variable name   type   format      label      variable label
------------------------------------------------------------------------------
------------------------------------------------------------------------------
d3_6_moi1       byte   %9.0g                  d3_6_moi, treatment == Trong du an
d3_6_moi2       byte   %9.0g                  d3_6_moi, treatment == Ngoai du an

Two-sample test of proportions          d3_6_moi1: Number of obs =      212
                                        d3_6_moi2: Number of obs =       64
------------------------------------------------------------------------------
  Variable |       Mean   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
 d3_6_moi1 |   .5990566   .0336595                      .5330852     .665028
 d3_6_moi2 |      .0625   .0302577                       .003196     .121804
-------------+----------------------------------------------------------------
      diff |   .5365566   .0452602                      .4478482     .625265
           |  under Ho:   .0712209     7.53   0.000
------------------------------------------------------------------------------
    diff = prop(d3_6_moi1) - prop(d3_6_moi2)                  z =   7.5337
    Ho: diff = 0

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(Z < z) = 1.0000         Pr(|Z| < |z|) = 0.0000          Pr(Z > z) = 0.0000
```

Table 7: Results of statistical tests of the difference of respondents rate on "knowledge of organizations/agencies responsible for dioxin remediation and issues related to dioxin contamination" in localities

Biên Hòa 1 and Biên Hòa 2

```
. separate b10_moi, by (nhomho)
              storage  display     value
variable name   type   format      label      variable label
------------------------------------------------------------------------------
b10_moi1        byte   %9.0g                  b10_moi, nhomho == Bien Hoa 1
b10_moi2        byte   %9.0g                  b10_moi, nhomho == Bien Hoa 2
b10_moi3        byte   %9.0g                  b10_moi, nhomho == Binh Dinh

. prtest b10_moi1==b10_moi2

Two-sample test of proportions            b10_moi1: Number of obs =      104
                                          b10_moi2: Number of obs =      139
------------------------------------------------------------------------------
  Variable |       Mean   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
  b10_moi1 |       .625   .0474722                      .5319563    .7180437
  b10_moi2 |   .3093525   .0392056                       .232511     .386194
-------------+----------------------------------------------------------------
      diff |   .3156475   .0615685                      .1949754    .4363195
           |  under Ho:   .0644246     4.90   0.000
------------------------------------------------------------------------------
    diff = prop(b10_moi1) - prop(b10_moi2)                    z =   4.8995
    Ho: diff = 0
    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(Z < z) = 1.0000         Pr(|Z| < |z|) = 0.0000         Pr(Z > z) = 0.0000
```

Biên Hòa and Bình Định

```
. separate b10_moi, by (treatment)
              storage  display     value
variable name   type   format      label      variable label
------------------------------------------------------------------------------
------------------------------------------------------------------------------
b10_moi1        byte   %9.0g                  b10_moi, treatment == Trong du an
b10_moi2        byte   %9.0g                  b10_moi, treatment == Ngoai du an

. prtest b10_moi1==b10_moi2

Two-sample test of proportions            b10_moi1: Number of obs =      243
                                          b10_moi2: Number of obs =       64
------------------------------------------------------------------------------
  Variable |       Mean   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
  b10_moi1 |   .4444444   .0318764                      .3819678    .5069211
  b10_moi2 |    .015625   .0155024                     -.0147592    .0460092
-------------+----------------------------------------------------------------
      diff |   .4288194   .0354462                      .3593462    .4982927
           |  under Ho:   .0672332     6.38   0.000
------------------------------------------------------------------------------
    diff = prop(b10_moi1) - prop(b10_moi2)                    z =   6.3781
    Ho: diff = 0
    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
```

```
 Pr(Z < z) = 1.0000         Pr(|Z| < |z|) = 0.0000       Pr(Z > z) = 0.0000
```

Table 8: Results of statistical tests of the respondents being aware of activity "demarcate the contaminated areas' near their living places in localities

Biên Hòa 1 and Biên Hòa 2

```
              storage  display     value
variable name   type   format      label      variable label
------------------------------------------------------------------------------
------------------------------------------------------------------------------
b12_1_1_moi1    byte   %9.0g                 b12_1_1_moi, nhomho == Bien Hoa 1
b12_1_1_moi2    byte   %9.0g                 b12_1_1_moi, nhomho == Bien Hoa 2
b12_1_1_moi3    byte   %9.0g                 b12_1_1_moi, nhomho == Binh Dinh

Two-sample test of proportions       b12_1_1_moi1: Number of obs =      101
                                     b12_1_1_moi2: Number of obs =      130
------------------------------------------------------------------------------
  Variable |       Mean   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
b12_1_1_moi1 |   .4752475   .0496909                      .3778552    .5726398
b12_1_1_moi2 |   .2692308   .0389028                      .1929827    .3454788
-------------+----------------------------------------------------------------
      diff |   .2060168   .0631079                      .0823275     .329706
           |  under Ho:   .0636402     3.24   0.001
------------------------------------------------------------------------------
    diff = prop(b12_1_1_moi1) - prop(b12_1_1_moi2)            z =   3.2372
    Ho: diff = 0

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(Z < z) = 0.9994         Pr(|Z| < |z|) = 0.0012        Pr(Z > z) = 0.0006
```

Biên Hòa and Bình Định

```
     storage  display     value
variable name   type   format      label      variable label
------------------------------------------------------------------------------
------------------------------------------------------------------------------
b12_1_1_moi1    byte   %9.0g           b12_1_1_moi, treatment == Trong du an
b12_1_1_moi2    byte   %9.0g           b12_1_1_moi, treatment == Ngoai du an

Two-sample test of proportions       b12_1_1_moi1: Number of obs =      231
                                     b12_1_1_moi2: Number of obs =       64
------------------------------------------------------------------------------
  Variable |       Mean   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
b12_1_1_moi1 |   .3593074   .0315684                     .2974345    .4211802
b12_1_1_moi2 |     .03125   .0217491                    -.0113774    .0738774
-------------+----------------------------------------------------------------
     diff |   .3280574   .0383351                      .2529219    .4031929
          |  under Ho:   .0639753     5.13   0.000
------------------------------------------------------------------------------
    diff = prop(b12_1_1_moi1) - prop(b12_1_1_moi2)            z =   5.1279
    Ho: diff = 0

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(Z < z) = 1.0000         Pr(|Z| < |z|) = 0.0000        Pr(Z > z) = 0.0000
```

Table 9: Results of statistical tests of the respondents being aware of activity "remedy the contaminated areas' near their living places in localities l

Biên Hòa 1 and Biên Hòa 2

```
     storage  display     value
variable name   type   format      label      variable label
------------------------------------------------------------------------------
------------------------------------------------------------------------------
b12_1_2_moi1    byte   %9.0g                 b12_1_2_moi, nhomho == Bien Hoa 1
b12_1_2_moi2    byte   %9.0g                 b12_1_2_moi, nhomho == Bien Hoa 2
b12_1_2_moi3    byte   %9.0g                 b12_1_2_moi, nhomho == Binh Dinh

Two-sample test of proportions        b12_1_2_moi1: Number of obs =       91
                                      b12_1_2_moi2: Number of obs =      114
------------------------------------------------------------------------------
  Variable |       Mean   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
b12_1_2_moi1 |   .3296703   .0492792                      .2330849    .4262557
b12_1_2_moi2 |   .1842105   .0363073                      .1130495    .2553715
-------------+----------------------------------------------------------------
      diff |   .1454598   .0612099                      .0254905    .2654291
           |  under Ho:   .0607709     2.39   0.017
------------------------------------------------------------------------------
    diff = prop(b12_1_2_moi1) - prop(b12_1_2_moi2)            z =   2.3936
    Ho: diff = 0

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(Z < z) = 0.9917         Pr(|Z| < |z|) = 0.0167         Pr(Z > z) = 0.0083
```

Biên Hòa and Bình Định

```
              storage  display     value
variable name   type   format      label      variable label
------------------------------------------------------------------------------
------------------------------------------------------------------------------
b12_1_2_moi1    byte   %9.0g           b12_1_2_moi, treatment == Trong du an
b12_1_2_moi2    byte   %9.0g           b12_1_2_moi, treatment == Ngoai du an

Two-sample test of proportions       b12_1_2_moi1: Number of obs =      205
                                     b12_1_2_moi2: Number of obs =       64
------------------------------------------------------------------------------
  Variable |       Mean   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
b12_1_2_moi1 |   .2487805   .0301936                      .1896022    .3079588
b12_1_2_moi2 |      .0625   .0302577                       .003196     .121804
-------------+----------------------------------------------------------------
     diff |   .1862805   .0427455                      .1025008    .2700602
          |  under Ho:   .0577491     3.23   0.001
------------------------------------------------------------------------------
    diff = prop(b12_1_2_moi1) - prop(b12_1_2_moi2)            z =   3.2257
    Ho: diff = 0

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(Z < z) = 0.9994         Pr(|Z| < |z|) = 0.0013         Pr(Z > z) = 0.0006
```

Table 10: Results of statistical tests of the respondents being aware of activity "temporary dioxin exposure prevention' near their living places in localities

Biên Hòa 1 and Biên Hòa 2

```
      storage  display     value
variable name   type   format      label      variable label
------------------------------------------------------------------------------
------------------------------------------------------------------------------
b12_1_3_moi1    byte   %9.0g                 b12_1_3_moi, nhomho == Bien Hoa 1
b12_1_3_moi2    byte   %9.0g                 b12_1_3_moi, nhomho == Bien Hoa 2
b12_1_3_moi3    byte   %9.0g                 b12_1_3_moi, nhomho == Binh Dinh

Two-sample test of proportions       b12_1_3_moi1: Number of obs =       92
                                     b12_1_3_moi2: Number of obs =      114
------------------------------------------------------------------------------
  Variable |       Mean   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
b12_1_3_moi1 |   .4021739   .0511211                      .3019783    .5023695
b12_1_3_moi2 |   .2192982   .0387532                      .1433433    .2952532
-------------+----------------------------------------------------------------
      diff |   .1828757   .0641497                      .0571446    .3086067
           |  under Ho:   .0642831     2.84   0.004
------------------------------------------------------------------------------
    diff = prop(b12_1_3_moi1) - prop(b12_1_3_moi2)            z =   2.8448
    Ho: diff = 0

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(Z < z) = 0.9978         Pr(|Z| < |z|) = 0.0044        Pr(Z > z) = 0.0022
```

Biên Hòa and Bình Định

```
         storage  display     value
variable name   type   format      label      variable label
------------------------------------------------------------------------------
------------------------------------------------------------------------------
b12_1_3_moi1    byte   %9.0g           b12_1_3_moi, treatment == Trong du an
b12_1_3_moi2    byte   %9.0g           b12_1_3_moi, treatment == Ngoai du an

Two-sample test of proportions        b12_1_3_moi1: Number of obs =      206
                                      b12_1_3_moi2: Number of obs =       64
------------------------------------------------------------------------------
  Variable |       Mean   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
b12_1_3_moi1 |   .3009709   .0319578                      .2383348    .3636069
b12_1_3_moi2 |     .03125   .0217491                     -.0113774    .0738774
-------------+----------------------------------------------------------------
      diff |   .2697209   .0386564                      .1939556    .3454861
           |  under Ho:   .0608581     4.43   0.000
------------------------------------------------------------------------------
    diff = prop(b12_1_3_moi1) - prop(b12_1_3_moi2)            z =   4.4320
    Ho: diff = 0

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(Z < z) = 1.0000         Pr(|Z| < |z|) = 0.0000        Pr(Z > z) = 0.0000
```

Table 11: Results of statistical tests of the respondents being aware of activity "removing the contaminated soil' near their living places in localities

Biên Hòa 1 and Biên Hòa 2

```
         storage  display     value
variable name   type   format      label      variable label
------------------------------------------------------------------------------
------------------------------------------------------------------------------
b12_1_4_moi1    byte   %9.0g                 b12_1_4_moi, nhomho == Bien Hoa 1
b12_1_4_moi2    byte   %9.0g                 b12_1_4_moi, nhomho == Bien Hoa 2
b12_1_4_moi3    byte   %9.0g                 b12_1_4_moi, nhomho == Binh Dinh

Two-sample test of proportions        b12_1_4_moi1: Number of obs =       80
                                      b12_1_4_moi2: Number of obs =      110
------------------------------------------------------------------------------
  Variable |       Mean   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
b12_1_4_moi1 |         .2   .0447214                      .1123477    .2876523
b12_1_4_moi2 |   .0545455   .0216523                      .0121078    .0969831
-------------+----------------------------------------------------------------
      diff |   .1454545   .0496872                      .0480694    .2428397
           |  under Ho:   .0470162     3.09   0.002
------------------------------------------------------------------------------
    diff = prop(b12_1_4_moi1) - prop(b12_1_4_moi2)            z =   3.0937
    Ho: diff = 0

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(Z < z) = 0.9990         Pr(|Z| < |z|) = 0.0020         Pr(Z > z) = 0.0010
```

Biên Hòa and Bình Định

```
    storage  display     value
variable name   type   format      label      variable label
------------------------------------------------------------------------------
------------------------------------------------------------------------------
b12_1_4_moi1    byte   %9.0g           b12_1_4_moi, treatment == Trong du an
b12_1_4_moi2    byte   %9.0g           b12_1_4_moi, treatment == Ngoai du an

Two-sample test of proportions        b12_1_4_moi1: Number of obs =      190
                                      b12_1_4_moi2: Number of obs =       64
------------------------------------------------------------------------------
  Variable |       Mean   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
b12_1_4_moi1 |   .1157895   .0232132                      .0702924    .1612866
b12_1_4_moi2 |      .0625   .0302577                      .003196     .121804
-------------+----------------------------------------------------------------
      diff |   .0532895   .0381364                     -.0214564    .1280354
           |  under Ho:   .0438097     1.22   0.224
------------------------------------------------------------------------------
    diff = prop(b12_1_4_moi1) - prop(b12_1_4_moi2)            z =   1.2164
    Ho: diff = 0

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(Z < z) = 0.8881         Pr(|Z| < |z|) = 0.2238         Pr(Z > z) = 0.1119
```

Table 12: Results of statistical tests of the respondents being aware of activity "communication and education of local people about dioxin contamination situation and exposure prevention measure' near their living places in localities

Biên Hòa 1 and Biên Hòa 2

```
 storage  display     value
variable name   type   format      label      variable label
------------------------------------------------------------------------------
------------------------------------------------------------------------------
b12_1_5_moi1    byte   %9.0g                 b12_1_5_moi, nhomho == Bien Hoa 1
b12_1_5_moi2    byte   %9.0g                 b12_1_5_moi, nhomho == Bien Hoa 2
b12_1_5_moi3    byte   %9.0g                 b12_1_5_moi, nhomho == Binh Dinh

Two-sample test of proportions       b12_1_5_moi1: Number of obs =      103
                                     b12_1_5_moi2: Number of obs =      115
------------------------------------------------------------------------------
 Variable |       Mean   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
b12_1_5_moi1 |   .7281553   .0438383                    .6422338    .8140768
b12_1_5_moi2 |    .426087    .046113                    .3357072    .5164667
-------------+----------------------------------------------------------------
      diff |   .3020684   .0636255                     .1773647    .4267721
           |  under Ho:    .067186     4.50   0.000
------------------------------------------------------------------------------
    diff = prop(b12_1_5_moi1) - prop(b12_1_5_moi2)            z =   4.4960
    Ho: diff = 0

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(Z < z) = 1.0000         Pr(|Z| < |z|) = 0.0000         Pr(Z > z) = 0.0000
```

Biên Hòa and Bình Định

```
              storage  display     value
variable name   type   format      label      variable label
------------------------------------------------------------------------------
------------------------------------------------------------------------------
b12_1_5_moi1    byte   %9.0g           b12_1_5_moi, treatment == Trong du an
b12_1_5_moi2    byte   %9.0g           b12_1_5_moi, treatment == Ngoai du an

Two-sample test of proportions        b12_1_5_moi1: Number of obs =      218
                                      b12_1_5_moi2: Number of obs =       64
------------------------------------------------------------------------------
  Variable |       Mean   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
b12_1_5_moi1 |   .5688073   .0335421                     .5030661    .6345486
b12_1_5_moi2 |     .03125   .0217491                    -.0113774    .0738774
-------------+----------------------------------------------------------------
     diff |   .5375573   .0399762                      .4592055    .6159092
          |  under Ho:   .0706813     7.61   0.000
------------------------------------------------------------------------------
    diff = prop(b12_1_5_moi1) - prop(b12_1_5_moi2)            z =   7.6054
    Ho: diff = 0
```

```
    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(Z < z) = 1.0000         Pr(|Z| < |z|) = 0.0000         Pr(Z > z) = 0.0000
```

Table 13: Results of statistical tests of the average scores on self-assessment on Dioxin at localities

Biên Hòa 1 and Biên Hòa 2

```
. separate diema, by (nhomho)
              storage  display     value
variable name   type   format      label      variable label
------------------------------------------------------------------------------
diema1          byte   %9.0g                  diema, nhomho == Bien Hoa 1
diema2          byte   %9.0g                  diema, nhomho == Bien Hoa 2
diema3          byte   %9.0g                  diema, nhomho == Binh Dinh

. ttest diema1==diema2,  unpaired unequal

Two-sample t test with unequal variances
------------------------------------------------------------------------------
Variable |       Obs          Mean     Std. Err.    Std. Dev.    [95% Conf.
Interval]
---------+--------------------------------------------------------------------
diema1 |     113    10.87611     .395561    4.204871    10.09235    11.65986
diema2 |     146    8.294521    .3552917    4.293006    7.592301     8.99674
---------+--------------------------------------------------------------------
combined     259    9.420849    .2756445    4.436078     8.87805    9.963649
---------+--------------------------------------------------------------------
  diff |            2.581586    .5316961                1.534271    3.628901
------------------------------------------------------------------------------
diff = mean(diema1) - mean(diema2)                                t =   4.8554
Ho: diff = 0                     Satterthwaite's degrees of freedom =
243.297

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 1.0000         Pr(|T| > |t|) = 0.0000         Pr(T > t) = 0.0000
```

Biên Hòa and Bình Định

```
. ttest diema, by (treatment) unequal

Two-sample t test with unequal variances
------------------------------------------------------------------------------
Group |     Obs        Mean    Std. Err.   Std. Dev.   [95% Conf. Interval]
---------+--------------------------------------------------------------------
Trong du |   259    9.420849    .2756445    4.436078     8.87805    9.963649
Ngoai du |    64     5.90625    .3568482    2.854786    5.193146    6.619354
---------+--------------------------------------------------------------------
combined |   323    8.724458     .244637    4.396666    8.243169    9.205747
---------+--------------------------------------------------------------------
  diff |            3.514599    .4509108                2.623533    4.405666
------------------------------------------------------------------------------
diff = mean(Trong du) - mean(Ngoai du)                            t =   7.7944
Ho: diff = 0                     Satterthwaite's degrees of freedom =
147.763

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 1.0000         Pr(|T| > |t|) = 0.0000         Pr(T > t) = 0.0000
```

Table 14: Results of statistical tests of the average scores on dioxin exposure prevention at localities

Biên Hòa 1 and Biên Hòa 2

```
. separate diemb, by (nhomho)

              storage  display     value
variable name   type   format      label      variable label
------------------------------------------------------------------------------
------------------------------------------------------------------------------
diemb1          byte   %9.0g                  diemb, nhomho == Bien Hoa 1
diemb2          byte   %9.0g                  diemb, nhomho == Bien Hoa 2
diemb3          byte   %9.0g                  diemb, nhomho == Binh Dinh

. ttest diemb1==diemb2,  unpaired unequal

Two-sample t test with unequal variances
------------------------------------------------------------------------------
Variable |       Obs           Mean     Std. Err.    Std. Dev.    [95% Conf.
Interval]
---------+--------------------------------------------------------------------
diemb1 |     113    11.79646    .4222328    4.488396    10.95986    12.63306
diemb2 |     146    9.376712    .3856349    4.659644    8.614521     10.1389
---------+--------------------------------------------------------------------
combined |   259    10.43243    .2940443    4.732195      9.8534    11.01146
---------+--------------------------------------------------------------------
 diff |            2.419748    .5718346                1.29341    3.546085
------------------------------------------------------------------------------
diff = mean(diemb1) - mean(diemb2)                            t =   4.2316
Ho: diff = 0                     Satterthwaite's degrees of freedom =
245.069

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 1.0000         Pr(|T| > |t|) = 0.0000          Pr(T > t) = 0.0000
```

Biên Hòa and Bình Định

```
. ttest diemb, by (treatment) unequal

Two-sample t test with unequal variances
------------------------------------------------------------------------------
Group |     Obs        Mean    Std. Err.   Std. Dev.   [95% Conf. Interval]
---------+--------------------------------------------------------------------
Trong du |   259    10.43243    .2940443    4.732195      9.8534    11.01146
Ngoai du |    64    9.515625    .2808294    2.246635    8.954432    10.07682
---------+--------------------------------------------------------------------
combined |   323    10.25077    .2429453    4.366262    9.772813    10.72873
---------+--------------------------------------------------------------------
 diff |            .9168074    .4066045                .1153455    1.718269
------------------------------------------------------------------------------
diff = mean(Trong du) - mean(Ngoai du)                        t =   2.2548
Ho: diff = 0                     Satterthwaite's degrees of freedom =
214.039

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
```

```
 Pr(T < t) = 0.9874         Pr(|T| > |t|) = 0.0252         Pr(T > t) = 0.0126
```

Table 15: Results of statistical tests of the average sickness suffered by a family member at localities

Biên Hòa 1 and Biên Hòa 2

```
. separate diema7, by (nhomho)

              storage  display     value
variable name   type   format      label      variable label
------------------------------------------------------------------------------
------------------------------------------------------------------------------
diema71         byte   %9.0g                  diema7, nhomho == Bien Hoa 1
diema72         byte   %9.0g                  diema7, nhomho == Bien Hoa 2
diema73         byte   %9.0g                  diema7, nhomho == Binh Dinh

. ttest diema71==diema72,  unpaired unequal

Two-sample t test with unequal variances
------------------------------------------------------------------------------
Variable | Obs       Mean    Std. Err.   Std. Dev.   [95% Conf. Interval]
---------+--------------------------------------------------------------------
 diema71 | 95    2.094737    .2459407    2.397133    1.606416    2.583058
 diema72 |133     1.81203    .1671162    1.927278    1.481458    2.142602
---------+--------------------------------------------------------------------
combined |228    1.929825    .1414048    2.135165    1.651191    2.208458
---------+--------------------------------------------------------------------
  diff   |       .2827068     .297346               -.3041538    .8695673
------------------------------------------------------------------------------
diff = mean(diema71) - mean(diema72)                          t =   0.9508
Ho: diff = 0              Satterthwaite's degrees of freedom =  174.371

Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
Pr(T < t) = 0.8285         Pr(|T| > |t|) = 0.3430      Pr(T > t) = 0.1715
```

Biên Hòa and Bình Định

```
. ttest diema7, by (treatment) unequal

Two-sample t test with unequal variances
------------------------------------------------------------------------------
Group |     Obs      Mean    Std. Err.   Std. Dev.   [95% Conf. Interval]
---------+--------------------------------------------------------------------
Trong du | 228  1.929825    .1414048    2.135165    1.651191    2.208458
Ngoai du | 64        .75    .1259882    1.007905    .4982328    1.001767
---------+--------------------------------------------------------------------
combined | 292   1.671233    .1172641    2.003809     1.44044    1.902026
---------+--------------------------------------------------------------------
    diff |       1.179825    .1893893                .8066058    1.553043
------------------------------------------------------------------------------
diff = mean(Trong du) - mean(Ngoai du)                        t =   6.2296
Ho: diff = 0              Satterthwaite's degrees of freedom =  223.336

 Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
```

```
Pr(T < t) = 1.0000       Pr(|T| > |t|) = 0.0000       Pr(T > t) = 0.0000
```

Table 16: Results of statistical tests of the difference of information sources accessed by respondents at localities

Biên Hòa 1 and Biên Hòa 2

```
. separate diemd2, by (nhomho)

              storage  display     value
variable name   type   format      label      variable label
------------------------------------------------------------------------------
------------------------------------------------------------------------------
diemd21         byte   %9.0g                 diemd2, nhomho == Bien Hoa 1
diemd22         byte   %9.0g                 diemd2, nhomho == Bien Hoa 2
diemd23         byte   %9.0g                 diemd2, nhomho == Binh Dinh

. ttest diemd21==diemd22,  unpaired unequal

Two-sample t test with unequal variances
------------------------------------------------------------------------------
Variable | Obs       Mean    Std. Err.   Std. Dev.   [95% Conf. Interval]
---------+--------------------------------------------------------------------
diemd21 |  112   4.839286    .1959014    2.073225    4.451094    5.227477
diemd22 | 140    3.457143    .1992719    2.357817    3.063147    3.851139
---------+--------------------------------------------------------------------
combined |252    4.071429    .1471022    2.335176    3.781717    4.361141
---------+--------------------------------------------------------------------
    diff |       1.382143    .2794399                .8317621    1.932524
------------------------------------------------------------------------------
diff = mean(diemd21) - mean(diemd22)                          t =   4.9461
Ho: diff = 0                 Satterthwaite's degrees of freedom =  247.738

Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
Pr(T < t) = 1.0000         Pr(|T| > |t|) = 0.0000      Pr(T > t) = 0.0000
```

Biên Hòa and Bình Định

```
. ttest diemd2, by (treatment) unequal

Two-sample t test with unequal variances
------------------------------------------------------------------------------
Group |     Obs      Mean    Std. Err.   Std. Dev.   [95% Conf. Interval]
---------+--------------------------------------------------------------------
Trong du | 252   4.071429    .1471022    2.335176    3.781717    4.361141
Ngoai du | 64     .890625    .1428126    1.142501    .6052369    1.176013
---------+--------------------------------------------------------------------
combined | 316   3.427215    .1405851    2.499096    3.150611     3.70382
---------+--------------------------------------------------------------------
  diff   |       3.180804    .2050232                2.776621    3.584986
------------------------------------------------------------------------------
diff = mean(Trong du) - mean(Ngoai du)                        t =  15.5144
Ho: diff = 0                 Satterthwaite's degrees of freedom =  208.649
```

```
Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
Pr(T < t) = 1.0000         Pr(|T| > |t|) = 0.0000      Pr(T > t) = 0.0000
```

Annex 12:

A suggested organization of IEC materials (the information is taken from Annex 5)

Depending on the purpose of an implementing agency, the information in the following table (can be taken as a whole or parts as suits the target of the agency) is suggested for inclusion in the "50 questions and answers on dioxin" or the guiding communication book for local communicators. As a result, they will know which communication products and channels are used and available. If all IEC materials to be distributed, including those for "who are interested in," are listed in the following table, we would know how many IEC materials are needed, for whom, and who receives what materials.

Example:

No	Communication products	Content	Target audience												Total	Notes
			Central[1]	provincial[2]	Airbase			Journalists	Community				Schools			
					Military officials	Soldiers	Military families		Associations	Authorities	Heads of sub-communes	Residents	Teachers	Pupils		
1	Factsheet	Overcoming consequences of Agent Orange/Dioxin in Vietnam	20	20	20	20	20	20	20	20	20	20	20	20	240	To all people who are interested
2	CD	AO/Dioxin issue in Vietnam was recorded and distributed to local radio units-băng phát thanh			4					4	10		4		16	To all residents in 4 communes around BH airbase
3	Handbook	50 questions&answers	10	10	10	10	10	10	10	10	10	10	10	10	120	To all people who are interested
4	Poster	Dioxin Exposure Prevention			5					10			5		20	Residents Schools
5	Pocketbook	……			x	x	x	x	x	x	x	x	X	x	X	……
6	Handbook	……			x	x	x	x	x		x	x	x		X	……

[1] Central agencies include:
[2] Provincial agencies include:

7	Timetable	.....											X	x	X	.....
8	Leaflet	.....			x	x	x	x	x	x	x	x	x	x	X	.....
9	Leaflet	.....													x	.....
10	Leaflet	.....			x	x		x	x	x	x		x		x	.....
11	Book	.....	x	x	x	x	x	x		x	x	x			x	.....
12	Newsletter	.....													x	.....
13	Documentary film	.....											X		x	.....
14	Proceeding	.....									x				x	.....
15	Proceeding	.....			x		x									.....
16	Proceeding	.....									x		X			.....
17	Proceeding	.....			x				x							.....
18	Book	.....	x	x	x	x	x	x	x	x	x	x	x	x	x	.....
19	Comprehensive Report	.....	x	x	x	x		x		x		x	X		x	.....

20		**…….**		**xx**	**x**	**x**	**x**		**x**	**x**	**x**	**x**			**x**	**…….**

For M&E of the CC

At …….commune, …….district/……city/province

Time from 1/5/2014-1/6/2014

Supervisor:

Activity	**Village 1**		**Village 2**		**Village 3**		**Village 4**		**Challenges**
	Number of times implemented	Content	Number of times implemented	Content	Number of times implemented	Content	Number of times implemented	Content	
Loudspeaker 2 times per months	1	DEP	2	Knowledge on dioxin	2	Diseases that may link to dioxin	1	DEP	Loudspeaker in village 1&4 is not good enough to listen to Village 1 and 4 communicated by loudspeaker only 1 per month because there were lots of other information to broadcast
Small communal group 1 time per month	1	x	1	x	1	x	1	x	Many residents did not come to a meeting as the time was not suitable for them
Mainstreaming in women group meeting	1	x	2	x	1	x	2	x	…….

……	x	x	x	x	x	x	x	x	……..

Suggestions:

1.

2

3

Note: if a list is related to payment, this person needs to send a list of participants with their signature as the projectdid before.