12.3 Description of data collection methods

In section 4.2, it was outlined what the "problems which are to be attacked" (Trow 1970: 7) demand in terms of research design, methods and proceeding and it was revealed what these "problems" imply for the selection of the research sites. This section will now take a closer look at each of the methods of this *"widest array of [...] methodological tools that we possess and they [the research problems] demand"* (Trow 1970: 7)*.*

12.3.1 Secondary literature and data collection

In order to gain an understanding of the subject matter, to derive a specific theoretical and conceptual background and to identify research gaps and needs, the relevant secondary literature was collected and reviewed. The review comprised scientific and practitioners work on the regional context, theoretical concepts and methodological approaches (Tashakkori &Teddlie 2003). Aiming to arrive at a profound basis for outlining an appropriate theoretical and conceptual framework, scientific and grey literature, especially in the fields of risk and vulnerability research, evaluation approaches, institutions and governance, rural development and individual decision-making were analysed. Relevant literature was found within substantive peer-reviewed journals such as 'Global Environmental Change', 'Progress in Human Geography' and 'World Development' and from key monographies and edited volumes. Grey literature was taken from significant institutions in this field such as from UN organisations (especially UNU-EHS, UNFCCC and UNDP) and the World Bank as well as from renowned think tanks (e.g. Institute for Development Studies, Centre for Development Research, International Institute for Environment and Development). The expertise and know-how about the Vietnamese context was acquired from peer-reviewed journals (e.g. Journal of Vietnamese Studies, Natural Hazards), relevant monographies and edited books (e.g. Renaud, Künzer 2012; Stewart, Coclanis 2011; Kerkvliet 2005), publications from Vietnamese research institutions (e.g. Dragon Institute for Climate Change Research and Mekong Delta Development Institute) and science projects and networks engaged in the region (e.g. WISDOM Project, M-Power Network, Summernet, Economy and Environment Program for Southeast Asia). Moreover, international development cooperation (e.g. GIZ Tra Vinh, CARE and Oxfam) and governmental institutions (especially from MARD[1], MONRE[2], and GSO[3]) in the Mekong Delta provided valuable information with regard to the regional context. Building on a primary empirical data basis, an extensive literature research on methodology has been undertaken, considering both qualitative as well as quantitative paradigms, with a particular focus on mixed-method approaches. Key monographies (e.g. Creswell, Plano Clark 2011; Raab-Steiner, Benesch 2008; Flick 2007; Atteslander 2006; Bernard 2000) and articles from peer reviewed journals (e.g. International Journal of Social Research Methodology and Journal of mixed methods research) were therefore screened. Especially in the field of evaluation methods and participatory research, international organisations provided valuable guidelines and handbooks (e.g. 3ie 2012; CARE 2012; GIZ 2011; Jacob, Mehiriz 2012; PROVIA 2012; UNFCCC 1999 and World Bank 2002).

Of central importance in the research context also was the collection and review of governmental reports and publications. An overview of the existing reports and the reports themselves, most commonly, were only available at the respective institution. In many cases, particularly at the provincial level, these were only accessible to the researchers with a respective research permit from the Provincial People's Committee (e.g. Climate Change Scenarios for Tra Vinh, Agricultural

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[1] Ministry of Agriculture and Rural Development (MARD)
[2] Ministry of Natural Resources and Environment (MONRE)
[3] General Statistics Office (GSO)

Development Reports and Hydrometeorological data for Tra Vinh). Other reports were easier accessible (e.g. DARD[4] Tra Vinh 2011a, 2011a, 2011b, 2010); some of the provincial reports were even freely available online (e.g. PC[5] Tra Vinh 2011; DPI[6] Tra Vinh; Department for Statistics Tra Vinh 2012; Tra Vinh Economic Zone Authority 2012). At the district level, the OARD[7] provided the most important reports (OARD Tra Cu 2011a, 2011b, 2011c, 2012, 2011d) and the office of industry and trade borrowed the statistical yearbook (Statistical Office Tra Cu District 2011) for Tra Cu District, yet only for the years 2006 until 2010; the most recent report was not available by then. At the communal level, the accessibility and availability of relevant information differed depending on the officers in charge. In Don Xuan Commune, all reports were freely available to the researcher. Furthermore, an independent consulting group compiled an extensive and detailed planning document for the years 2011 until 2020 (PC Don Xuan 2011) which was of high interest to the researcher. In Kim Son Commune, in contrast, the officers were restrictive with giving out documents and stated that the reports which were available in the other communes did not exist there. At the hamlet level, each hamlet leader keeps a regular account of the socio-economic and agricultural situation in the hamlet. They are supposed to visit each household once per month, ask them whether any changes occurred and keep record of it. In many cases this was not strictly followed; nevertheless each hamlet leader possessed a more or less detailed hamlet book. The researcher visited each hamlet leader, enquired information on the most relevant indicators and documented them. Moreover, each hamlet leader provided a list of all households, including a note on who was affected by tidal flooding/salinisation. This list was copied manually and used as a basis for selecting the surveyed households.

12.3.2 Interviews

An interview is generally defined as communication between at least one interviewer and one interviewee[8]. In the following, the interview types which were found to be appropriate for the research context will be presented and explicated according to their utilisation in the research context (see Table 12.1).

Table 12.1: Characteristics and examples for the most common interview types in the research context

Interview type	Interview structuration	Type of question	Interview situation & tone	Role/ Influence of interviewer	Foreknow-ledge	Purpose	Examples in the present research
Exploratory guideline-based interview	Guideline-based	Open	Situation and tone is not specified	Active, flexibly asks guideline-based questions	Little knowledge available prior to the interview	Provide a first overview of the research problems	Exploratory interviews with authorities, experts and hh
Narrative-conversational interview	Most commonly no guidelines	Open	Conversational tone and conducted in an informal environment	Active in the exchange/ discussion or more passive listener	Little knowledge available prior to the interview	Explore a problem and complement acquired know-how	Exchange with colleagues/ supervisors

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[4] Provincial Department for Agriculture and Rural Development (DARD)
[5] People's Committee (PC)
[6] Provincial Department of Planning and Investment (DPI)
[7] District Office for Agriculture and Rural Development
[8] Verbal stimuli in form of questions are the initiator of a reaction which refers to individually recallable experiences, valuations and opinions (Atteslander 2006: 101). In contrast to a conversation in a normal-day life situation, it is purposeful and there exists a theory-driven control of the whole interview planning and process (Atteslander 2006: 103).

Semi-standardised interview	Guideline-based interview	Open-ended and closed questions; listing, ranking and scoring questions	Neutral in tone, mostly at the interviewee's workplace or home	Actively guiding the interview	Foreknowledge as a basis for the interview preparation	Explain/ clarify and quantify/ generalise	Risk appraisal and strategy evaluation interviews with officials
							Data enquiry interviews with hamlet leaders
Standardised household survey	Question-naire-based	Closed questions, ranking and scoring	Neutral in tone, mostly at the hamlet house or the interviewee's home	Actively guiding the interview	Foreknowledge as a basis for the questionnaire design	Quantify and generalise information	Household survey
Problem-centred interviews	Either guideline-based or spontaneous	Open questions centred around a problem	Situation and tone is not specified	Actively engaged, often in form of a dialogue	Foreknowledge needed to jointly 'work' on the problem	Problem-oriented understanding	Strategy-centred interviews with officers
							Migration-centred interviews with hh
Visualisation interviews	Interview/ visualisation guidelines	Open-ended and closed questions, instructions for visualisation	Situation and tone is not specified	Actively guiding the interview/ visualisation	Foreknowledge needed to guide and question the answers /visualisation	Visualisation and/or spatial referencing, explanations	Resource risk maps with hamlet leaders
							CBA/seasonal diagrams with hh

Source: author (based on categorisations of Helfferich 2009; Witzel, Reiter 2012; Atteslander 2006; Kumar 2002; Kruker, Rauh 2005)

12.3.2.1 Semi-structured interviews

Semi-structured interviews[9] were the most important source of information in the current research project. It can be differentiated between various forms of semi-structured interviews. In the present research context, the following are of particular importance: Exploratory guideline-based interview, narrative-conversational interview, semi-standardised interview, problem-centred interviews and visual information sharing (characteristics and examples for each of the interview types can be found in Table 12.1).

Within the present research context, firstly, several interviews with experts were undertaken. An important role played the narrative-conversational interviews with colleagues from the WISDOM projects, particularly with Jörn Birkmann, Nguyen Thanh Binh, Vo Van Tuan, Matthias Garschagen and Dunja Krause. The stay at Can Tho University in an international team of researchers also offered plenty of opportunities to informally exchange experiences, know-how and contacts. Moreover, not-

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[9] A semi-structured interview is based on a predetermined guideline for questioning while being at the same time flexible and "open to hear what people have to say". It is therefore located in the middle of the continuum between structured and unstructured open interviews. The interviewer tries to "create a comfortable environment" where he allows the interviewee to react outside of predetermined categories but also creates a kind of structured interview situation by guiding the interviewee through given questions (Atteslander 2006: 121f; Diekmann 2006: 373f; Krueger, Casey 2000: xi; Longhurst 2010: 105f).

affiliated researchers from Can Tho University and international experts were called upon. These interviews were more guideline-based problem-centred interviews to fill knowledge gaps (for a list of expert interviews see Annex 12.2). In Tra Vinh province, expert interviews were conducted with the staff of the GIZ[10]. Initially, an exploratory interview with staff members and the head of the office was undertaken. In the following months several more informal and open conversations were held with selected staff from the GIZ. An interview with IFAD[11], the other international organisation based in Tra Vinh Province, was scheduled but was cancelled several times so that it did not take place in the end.

Semi-structured interviews were also conducted with households and local stakeholders at the province, district, commune and hamlet level (for a list of interviews see Annex 12.2). All of these interviews were conducted with the help of at least one translator. In some cases when the interviewee did not speak Vietnamese, an additional Khmer-Vietnamese translator was required. At both the household and the governmental level, it was refrained from recording the interviews. Reasons for this decision were most notably related to the fact that a recording deters interviewees, particularly authorities, from providing more in-depth and also critical information. Instead of recording, the researcher took detailed notes. In order to gain reliable information, the translators were instructed to translate as precisely as possible during the interview. Moreover, each interview was discussed with the translator right afterwards to resolve unclear points, complement and crosscheck the notes, and jointly interpret the interview atmosphere and the openness of the interviewee.

At each level, the most relevant governmental departments and offices (PC, DARD, DONRE[12], DOLISA[13], HMI[14] and OARD) as well as the dominant mass organisations (Women's Union and Farmers Association) were visited. The sampling of the interviewees was initially undertaken by the PC at the respective administration level. It was based on the intended interview content stated in the research permit. Having established contacts, trust and an overview of the administrative responsibilities, the researcher was able to choose and to contact the potential interviewees directly. This was not the case at the province level, though.

The interviews in the respective institutions were initially guideline-based and exploratory; many of the interviews at the commune and hamlet level were also necessary in order to prepare the group discussions and the household survey. At the province level, further semi-standardised interviews for risk and strategy appraisal were conducted. These interviews followed similar guidelines like the group discussions with communal officers comprising a free risk listing, cost-benefit appraisal of risk-related measures, and ranking and scoring of these measures according to selected evaluation criteria (see the following section for a more detailed description and Annex 12.5 for the guidelines of these interviews). Moreover, at the communal level, problem-centred interviews on relevant risk-related measures with officers in charge were undertaken. For each of the most relevant governmental measures at the communal level a responsible staff member was identified and contacted. The interviews centred on an in-depth explanation and individual evaluation of respective measure (see Annex 12.5 for the guidelines of these interviews). At the local level, each hamlet leader was interviewed semi-standardised in order to appraise statistical data according to selected indicators (see Annex 12.9 for the list of indicators). The selection of the indicators was based on the availability of hamlet level data and data requirements for an overview of vulnerability patterns at the hamlet level. Other semi-standardised interviews with hamlet leaders were conducted during the household survey. Each hamlet leader was interviewed according to a standardised questionnaire (see the following section 12.3.2.2), in contrast to most survey interviews, however, the researcher

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[10] Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)
[11] International Fund for Agricultural Development (IFAD)
[12] Provincial Department of Natural Resources and Environment
[13] Provincial Department of Labour, Invalids and Social Affair
[14] Hydro-meteorological Institute Tra Vinh

also asked open ended questions at those points which were interesting, ambiguous, or unclear.

Moreover, interviews to visualise and spatially reference the hamlet characteristics in a resource risk map were conducted with the leader of each hamlet (see Annex 12.5 for the guidelines of these interviews). In these interviews, the interviewee was asked to draw a map of the hamlet in which he was firstly asked for the main delineating features which mark off different areas in the hamlet (e.g. canals, roads, areas of higher elevation and dikes). Then the interviewer asked to identify and mark the residential areas and the location of public places such as schools, pagodas or the hamlet house. Subsequently, the production areas were delineated and the respective crops cultivated were identified and integrated in the map. This provided a basis for identifying the areas affected by salinity/flooding. These risk areas were then shaded according to the severity of hazard impacts. Finally, the fields of each survey interviewee were marked in the map. Throughout the process of visualisation, open discussions were initiated on why certain products were grown where and why some areas were more affected than others. Authorities and households with whom the researcher has established closer ties were interviewed in a more narrative-conversational manner. These interviews were often centred on ambiguous points or on sensitive issues such as the implementation of an industrial zone.

Also at the household level, several semi-structured interviews were undertaken. Initially, exploratory guideline-based interviews were conducted. The interviewees were selected by the communal authorities; the researcher was only able to state some basic criteria for selection such as hazard exposure, poverty classification, ethnicity, production type and interesting adaptation measures applied (see Annex 12.5 for the guidelines of these interviews). Moreover, semi-standardised interviews according to a preliminary questionnaire were undertaken as a pre-test for the planned household survey. The format, feasibility and importance of the survey questions were tested in both open and closed questions. In each of the selected hamlets[15] one household was chosen by the hamlet leader according to similar criteria as for the exploratory interviews so that different vulnerability groups were represented in the sample. Moreover, semi-standardised household interviews were conducted. During the household survey, in each hamlet between 2-4 households were randomly selected from the survey sample and were interviewed following, on the one hand, the closed survey questions (see section 12.3.2.2); on the other hand, the interviewer flexibly asked open questions where aspects were found which needed explanation, which were interesting or which seemed ambiguous. Other semi-standardised interviews were undertaken in the context of migration. These comprised open and closed questions on spatial and temporal migration pattern, push factors, pull factors, support networks as well as costs and benefits of migration (see Annex 12.5 for the guidelines of these interviews). The interviews were undertaken by the researcher and by enumerators which already supported the household survey before. For these interviewers[16] a one-day training course was provided to get acquainted with the guidelines and resolve unclear points. The interviewees were chosen from the survey sample. At the end of each survey day, the researcher identified jointly with the assistants interviewees who were open and interested to talk and which had migrants in their family. Subsequently, a random stratified sample was taken which included the most common spatial and temporal migration patterns, as well as different poverty classifications and ethnicities.

Furthermore, households were interviewed about their production structures and activities and were asked to visualise the crop and hazard calendar (see Annex 12.5 for the guidelines of these interviews). During these interviews, the interviewee was first asked when he applied which step in the production process and was instructed to draw a calendar exemplarily for the year 2010/2011. Then the households depicted, also according to a yearly calendar, when salinity/flooding occurred in

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[15] Except for Ba Nhi as this hamlet was selected belatedly during the survey.
[16] The interviewers were chosen from the group of survey assistants (for more details on the survey assistant selection process see section 12.3.2.2).

that year and delineated periods of low, medium and high severity. Both calendars were then also drawn for 'normal' years. Subsequently, the activities undertaken in each production step were listed and were described based on the following characteristics: required labour, person in charge of executing the task, time and assets required for implementation, input factors needed, including the amount needed and the price/unit for the year 2011 and for the year with maximum and minimum amount needed or price paid. Yearly expenditures and the price of the productive assets were also included in the calculation. The costs were then compared with the turnover calculated from enquiring produced and sold output, output price per unit and other side revenues, all again for the year 2011 and the minimum and maximum amount/price. On top of those calculations, also other revenues, subsistence consumption and production details were enquired (see Annex 12.5 for the guidelines of production-centred interviews). The interviews were undertaken by the researcher and by three other survey assistants. The interviewers[17] received a one-day training course on how to conducts such cost-benefit analyses and the first production cost-benefit interviews were always undertaken together with the researcher. Similar to the migration interview sample, the interviewees were selected from the survey sample. From the households which were identified to be open and knowledgeable in terms of production, a random stratified sample was drawn representing the most common production types, poverty classification, ethnicity and land size classes.

12.3.2.2 Structured household survey

In the process of data collection, a structured face-to-face household survey with standardised questionnaires was also conducted[18]. After having gained a first overview of the research area, particularly with respect to the research problem, the researcher designed a preliminary questionnaire. The construction of the survey was based on secondary methodological literature (Bernard 2000; Debels et al. 2009; Diekmann 2006; IISD et al. 2009; Khandker et al. 2010; Kruker, Rauh 2005; Raab-Steiner, Benesch 2008; UN 2005), the review of existing questionnaires in a similar thematic and regional context and discussions with experts and colleagues. A specification was possible due to the preceding field research, particularly the exploratory household interviews and group discussions. The questionnaire covered the following topics (see Annex 12.5 for a template of the questionnaire):

1. General household information
2. Production information
3. Risk perception
4. Household-led coping and adaptation strategies appraisal (for 18-20 selected strategies)
5. Governmental coping and adaptation strategies appraisal (for 15 selected strategies)

The section on general household information comprised a list of household members characterised by social indicators. In the production section it was asked for products, land ownership, yield and

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[17] The interviewers were chosen from the survey assistants (for more details on the survey assistant selection process see section 12.3.2.2).

[18] The structured interview is a form of interviewing where each respondent is meant to be exposed to the same stimuli (Atteslander 2006: 133; Bernard 2000: 228). Bernard (2006: 251) states that the main idea of structured interviewing is "to control the input that triggers people's responses so that their output can be reliably compared". A questionnaire-based survey is the most known form of structured interviewing (Atteslander 2006: 133). The social situation is meant to be structured, i.e. the interview situation should be the same or similar for each of the respondents. Ensuring that the questions are answered within the same context requires, for instance, that the place of the interview is similar for all survey participants and that the questions are always asked in the same order. A high degree of standardisation, i.e. having questions with given answer categories, also plays a central role in ensuring the comparability (Atteslander 2006: 134). This standardisation of the interview situation facilitates consequently a better reliability across different enumerators and interviewees.

productive assets. The part on risk perception started with a listing and ranking of risks and continued with questions on the perception of hazards, their changes throughout time and the reasons for losses and damages. The strategy sections covered firstly some general aspects such as "if", "when" and "how" a measure was applied. The subsequent evaluation of household strategies was based on a listing of the three most important advantages and disadvantages of a strategy and a ranking of those. The advantages/disadvantages were chosen of a given list comprising cost, income effect, implementability, implementation time, long-term benefit and environmental impact. The governmental strategy part also started with some general information. For the evaluation of governmental strategies a likert scale question format was chosen, whereby the respondent was asked to judge the degree to which a given statement about the quality of a strategy held true. The statements reflected the following outcome- and process-oriented criteria: income effect, reliability, participation, competence, proportion of beneficiaries, implementation time and long-term effect. The indicators for both evaluation sections were chosen from an extensive list of criteria identified through exploratory field visits and literature research (see section 2.3). The selection was based on experiences made in the indicator listing and the evaluations of strategy during the group discussions (see the following section 12.3.3) and on previous household and expert interviews. They comprise the most important criteria named in the discussions and were meant to be understandable and feasible for evaluating strategies. Both the government and household strategy section ended with a pairwise comparison where the respondents had to choose pairwise between 4-5 different strategies (for more details see a questionnaire templates in Annex 12.5).

Pre-tests conducted before the actual survey showed that some formulations of questions were not understandable for the interviewees, some answer categories were inadequate or were missing, the structure and order of questions was in some parts not appropriate, a number of questions took too long and/or were not essential for the research context whereas other questions or strategy examples were still missing. These points were changed in a continuous process of revision and pre-test conduction with colleagues, survey assistants and local farmers. The pre-tests lead not only to several changes in the questionnaire but also revealed that the length of the interviews was, given the financial and temporal restrictions, not appropriate for an intended sample size of 300 households. Therefore, the researcher chose to split the sample. Around 100 interviews were targeted for a long questionnaire-based interview of around 1-2 hours and 200 interviews for a shorter interview of around 0.5-1 hour. The long and the short questionnaires were identical except for the fact that the long questionnaire included the previously described evaluation part at the end of each appraised strategy section. In that way, a quantification based on a sample size of 300 was possible for vulnerability patterns, risk perception, as well as governmental and household level strategy options. This provided a sound basis of comparison and allowed for applying many statistical analyses and tests. The evaluation of strategies was based on a smaller sample size but did still allow for descriptive analyses and comparisons.

The survey interviewees were chosen from a list which comprised all salinity/flood exposed households in a hamlet. These records were compiled based on either a register of all household in the hamlet book (see section 12.3.1) and complemented by an identification of all affected households undertaken by the hamlet leader; or it was based on the official inventory of affected households compiled for the communal government. From these lists, a systematic sample of 40-50 households was drawn in each hamlet and the households were then invited for the respective survey day. Moreover, the leader of each researched hamlet was interviewed based on the longer questionnaire which included the evaluation sections.

For the conduction of the survey, ten enumerators from a pool of GIZ survey assistants were appointed after a round of job interviews. The enumerators were trained in a one-day course lead by the researcher. Subsequently, the enumerators conducted pre-tests with 24 households in one of the research hamlets. In the following days, the questionnaire was extensively discussed with the enumerators which lead to good insights on how to further improve it. Afterwards, another two day

training course was provided where further pre-tests among the enumerators were conducted, more precise instructions were given and unclarities were resolved.

The actual survey was undertaken over a period of two weeks, i.e. one to two days for each hamlet. It was intended to undertake 20 short interviews and 10 long interviews per hamlet. The short interviews were conducted in the hamlet house. Visiting the households in their house would have meant that each enumerator had to be guided from a villager to the house of the interviewee otherwise. Given the restricted timeframe and logistical feasibility, this was only possible for the fewer long interviews. In these cases it was also more important to conduct the interviews in an environment where the interviewee felt comfortable due to the length of the interview and the fact that the evaluations, particularly the ones of governmental strategies, are sensitive topics for most households. The interviewees received a remuneration of 50,000 VND (around two Euros) per short interview and 80,000 VND (around three Euros) per long interview. At the end of the survey period, the envisaged number of 300 household interviews could not be reached, though. Moreover, the number of interviewed aquaculture producing and Kinh households was still too low. Accordingly, another aquaculture hamlet outside the dike in Don Xuan commune where many Kinh people lived was selected and interviews were conducted there.

In order to ensure the quality and reliability of the interviews, feedback rounds with the enumerators were undertaken in the lunch breaks and after each survey day. On these occasions, everyone told about his/her experiences with the interviewees, potential key informants were identified, and ambiguities were jointly discussed. Moreover, two enumerator group leaders were appointed who crosschecked each questionnaire in order to counteract data gaps and to clarify doubtful and indistinct points shortly after the interview. After the whole survey, missing data and remaining unclarities in the questionnaires were identified and recorded. All surveyed households were then contacted again via telephone. In short interviews, the survey participants were asked to resolve ambiguities and complement the questionnaire where necessary. The households which were not reached via telephone were visited by the enumerators at their homes in another field trip (for an overview of interview dates, numbers, sampling process and content see Annex 12.2).

12.3.3   Group discussions

 In the present research context, two different types of group discussions[19] were conducted. Firstly, focus group discussions (FGD)[20] with the purpose of risk and strategy appraisal; and secondly, FGDs aiming to depict the institutional setting. The group discussions were lead by the researcher and by a well instructed Vietnamese moderator who explained the purpose of the discussion, facilitated related activities, initiated discussions, and ensured that the discussion did not digress too far from the research problem. They were all simultaneously translated by a further assistant and recorded in form of detailed note taking. Both discussions included elements of participatory rural appraisal research[21] meaning that the moderators aimed to listen to and learn from the discussion of the

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[19] The group discussion is, in contrast to an interview, not only about a verbal communication between the interviewer and the interviewee/s but also or particularly about the interaction between the interviewees and should therefore also be differentiated from interviews.

[20] Focus groups are a commonly applied form of group discussions, particularly in market and media research (Bernard 2006: 232; Flick 2007: 252). The centre of attention in focus groups lies on the interactive aspect of qualitative data collection (Flick 2007: 259). It is an unstructured group discussion where the moderator is taking over a relatively passive, non-directive role (Montello, Sutton 2006). His main intention is to keep the participants on a topic set (Longhurst 2010: 105).

[21] Participatory research emerged in the 1970s and has distinguished itself most notably in terms of the power alignment within the research process away from the research more towards the local population (Cornwall, Jewkes 1995: 1667). The most prevalent line of thought and practice within participatory research relates to Participatory Rural Appraisals (PRA). Robert Chambers (2007) identifies three main principle clusters of PRA.

participants and visualisations played an important role.

The FGDs which centred on the perception of risk and risk-related practices were conducted with groups of households, on the one hand, and with groups of communal authorities, on the other hand (see Annex 12.5 for the guidelines of these interviews). The FGDs had a length of around four hours and took place in public places, i.e. the ones with households in the hamlet house and the ones with authorities in the building of the communal PC. Both household and authority group discussions followed the same guidelines in order to compare perceptions, opinions and evaluations of political and private stakeholders. The discussions started off with a general risk appraisal where the participants were asked to first write down the largest risks for the community[22] on separate cards, rank them according to their importance, and tell when each of these risks was the most severe in the last ten years. This led the discussion in the direction of salinity/flooding. In a next step, a cause-effect diagram for either one of these risks was depicted and discussed by the participants. In a matrix format, firstly, direct impacts on the physical environmental and, subsequently, indirect often social impacts resulting from the direct impacts were illustrated on a flipchart. In the preceding step, the participants discussed how they coped with these impacts in the short-run and which measures were taken to be better adapted in the future[23]. Having identified what was already done, a discussion on potential options, which were not applied yet, was initiated. The strategies and options were written on separate cards and were associated to the impacts. In the household FGDs, the same process was repeated for governmental measures and options. This extensive list of risk-related strategies provided the basis for identifying the three most important measures. For each of these strategies, social, environmental and economic costs and benefits were discussed and recorded in form of a table. Subsequently, a discussion about evaluation was facilitated where relevant criteria were identified. Then, it was possible to draw a multi-criteria decision-matrix and jointly evaluate the three most important strategies based on a rating scale from +3 to -3. The group was, in the end, asked to jointly allocate 25 chips to the criteria depending on their relevance in the decision for or against application of a strategy.

In each of the three research communes, one authority FGD and at least one household FGD were conducted. The focus group discussions with households were organised in two sugarcane producing hamlets[24] in Kim Son commune, in one rice producing hamlet in Ngoc Bien commune, and in one aquaculture dominated hamlet in Don Xuan commune. In that way, all communes and production systems were represented by at least one authority and one household group discussion. To each of the group discussions 8 to 15 people were invited[25]. The selection of households was undertaken in coordination with the respective hamlet leader so that only households who are exposed to salinisation/flooding participated. With regard to other vulnerability indicators (i.e. poverty classification, production type and ethnicity), the sample of participants was intended to be more heterogeneous. In that way, the discussion provided a larger spectrum of different perceptions,

Firstly, the moderator has to "hand over the stick" to the participants and be more of a facilitator listening to and learning from the people. Secondly, sharing, pluralism, and diversity within and between groups of locals and outsiders are of substantial importance. Thirdly, the applied methods utilise group-visual synergies to motivate participants and reveal often untangible know-how in a way that everyone can contribute to and learn from. Kumar (2002) differentiates in this context between three main groups of research methods: Space-related (e.g. resource map, transect, participatory census), time-related (e.g. seasonal diagram, trend analysis, timeline) and relation methods (e.g. cause-effect diagram, Venn diagram, process map).

[22] Households were asked to refer to the hamlet they lived in; authorities were asked to refer to one specific research hamlet in their area of responsibility.

[23] In the household FGDs, the participants talked about household-level strategies; in the authority FGD, the participants talked about governmental measures.

[24] The first FGD in Kim Son served as a pre- test which is why two discussions were conducted in sugarcane producing hamlets of this commune.

[25] Only in one research site, the hamlet leader invited more than 30 people to the group discussion, although he had agreed on inviting only 8-15 people beforehand.

opinions and ideas. The participants for the group discussions with communal authorities were chosen in coordination with the vice head of the respective communal People's Committee. He invited government staff from different departments within the communal government and representatives from the dominant mass organisations who were all either directly or indirectly concerned with public risk management. Accordingly, the vice head of the People's Committee, agricultural extension and social affairs staff as well as representatives from the Committee for Flood and Storm Control, Farmers' Association, Women's Union, Fatherland's Front, and Veterans' Union were present in the discussions. Similar to the household group discussions, it was of importance to obtain an understanding of a large range of opinions, ideas and know-how about risks and strategies applied.

Beside group discussions on the appraisal of risks and risk-related practices, focus group discussions which centered on the institutional setting in the hamlets were conducted. Within these discussions a popular PRA relation method, i.e. the Venn diagram, was created (see Annex 12.5 for the guidelines of these interviews). The moderator firstly initiated a discussion about institutions and actors present in the hamlet and/or important to villagers. Having listed all of them on a piece of paper, the role of each institution in the context of flood and salinity was discussed. This facilitated a subsequent ranking of the institutions according to their influence and importance in risk management. Based on the ranking, participants determined the size of the card on which each institution/agent was recorded. Subsequently, a card which represents the community was put at the centre. All other institution cards were then ordered around the community. Institutions which were easily accessible and present in villagers' all-day-life were located close to the community whereas others were placed further away. Moreover, perceived proximity between different institutions was depicted in the diagram, i.e. institutions which were closely related and often interacted with each other were also spatially associated with each other on the map. Consequently, all flood and salinity-related activities, responsibilities and interconnectivities between the community and institutions and the interconnectivities between different institutions were depicted in form of labeled arrows.

In total, four group discussions were conducted; one in a sugarcane producing hamlet in Kim Son commune, two in rice producing hamlets in Ngoc Bien and Don Xuan communes, and another one in an aquaculture dominated hamlet in Don Xuan commune. In contrast to other group discussions, participant selection was based, in a first step, on an identification of key informants from the survey sample. In order to be able to approach a sensitive and challenging topic like institutional setting, it was important to ensure that informants were not only knowledgeable with respect to the institutional setting but that they were also open and interested to talk about it. Therefore, enumerators identified potential candidates after each survey day and listed them. From this list, four key informants were picked so that each production type and commune was represented. These people were directly contacted and were asked to invite 4-6 people with whom they feel comfortable to talk about the institutional setting and who they judge to have a lot to say about relevant institutions. The discussions took place in an informal and private atmosphere at the house of the key informant without presence of government representatives.

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