1   Introduction

Subject of this Book[1]

From its source to its mouth, the Ganges is India's most sacred river. It is extremely closely associated with the religious life of all Hindus and simultaneously constitutes the lifeline for an entire region in which almost every tenth earth-dweller resides (National Ganga River Basin Authority 01.2011).[2] Its ecological problems are just as great as its sacredness is. The subject of this book is a discourse on the worship of the Ganga by the Hindi-speaking public and the pollution of the Ganges. The main reasons for the dramatic ecological pollution are the discharge of untreated municipal and industrial wastewater. According to data from the Indian Ministry of Environment, about 50 percent of the entire municipal and industrial wastewater is discharged into the river without having been treated or sufficiently treated (Kamyotra 12.2009). Just how urgent the ecological cleaning of the Ganges was already considered decades ago, can be appreciated by the fact that the *Ganga Action Plan* Phase I (GAP I), the first river cleaning plan in India, was already launched in the 1980s. Whereas GAP I was targeted at reducing the wastewater discharged into the Ganges by building wastewater treatment plants, GAP Phase II (GAP II) was also intended to reduce the wastewater discharged into the most important tributaries. The *Mission Clean Ganga*, a more comprehensive river clean-

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[1]   This book is the abbreviated, translated, and revised version of my dissertation „Verehrung und Verschmutzung des Ganges".

[2]   The drainage basin of the river Ganges is located in the federal states of Uttarakhand, Haryana, Himachal Pradesh, Rajasthan, Delhi, Uttar Pradesh, Madhya Pradesh, Chhatisgarh, Jharkhand, Bihar, and West Bengal, which, according to the census of 2011, have a total population of about 650 million people (Government of India, Ministry of Home Affairs, Office of the Registrar & Census Commissioner, India, 11.2010). Based on the current world population of almost seven billion people, this is almost every tenth person on earth. The 2001 census cites 448.3 million people who were residing within the actual Ganges plain at the time (National Ganga River Basin Authority, Ministry of Environment and Forests, (Government of India) or similar). In 2013 the population density in the Ganges basin is estimated to be about 1,000 inhabitants per square mile (Rai 2013).

ing program, was commenced (on 5th of October 2009) after both targets were by no means fully implemented. The World Bank has given a credit of one billion dollars for this project, indicating that *Mission Clean Ganga,* in contrast to the preceding programs, is considered efficient and sustainable.

It had not been possible to make the necessity of this extensive river cleaning program clear to the public within the frameworks of the GAP. The opinions, attitudes, and diverse religious and economic interests of the public are to be collected and taken into consideration in the *Mission Clean Ganga* for the first time. One of the goals of this book is also to comprehend the different perspectives on the correlations between the ecological pollution of the Ganges and the religious significance of the Ganga.

The Ganges is namely not merely an economically important river, it is simultaneously the earthly existence of the goddess Ganga. She differs from the other deities in that she is permanently present. She is always accessible. The believers do not need to call her by ritual invocation or thank and take leave of her in other rituals (Gutschow/ Michaels 1993:48).[3] Furthermore, she differs from other deities, who have an ambivalent character, being a one-sided, always good, and forgiving mother goddess. The city of Varanasi, with its over one hundred ghats, which the believers use to descend into the holy waters of the Ganga, is particularly sacred. In her water, the people can obtain forgiveness for their sins, a better rebirth, have mystical experiences, or simply find regeneration (Hoffmann 1997:86). The bath in the Ganga, whether as ritual or informal, is the most important manner of obtaining spiritual purity (Hansson 2001:92). Filled in small vessels, the water is transported to Hindus all over the world because it is indispensable for wedding ceremonies and the dedication of temples, images of deities, or houses (Hoffmann 1997:86).

The water of the Ganga accompanies the life of the Hindus from their birth until their death. Every Hindu has the desirable objective of dying in the sacred city of Varanasi. It is of major importance to have one's own dead body burnt at the banks of the Ganga. The ashes are then scattered into the river to purify the human soul. The paramount religious importance of the Ganga has become evident to the entire

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[3] "She is celestial-unmediated and immediate. Whatever is holy, whatever is merciful, whatever is utterly auspicious is already there" (Eck 1996:151).

world yet again in 2013, because 120 million people (Government of India n.d.) took their sacred baths at *Sangam*, the confluence of the Ganges and the Yamuna in Allahabad, during the *Kumbh Mela*, the festive highlights which take place every 12 years. The water of the Ganga not only serves for ritual bathing, the entire sacred river is a medium of transport for the ashes of the cremated corpses and the annually approximately 45,000 unburned dead bodies (Hoffmann 1997:33). This religious devotion and the ritual use also have a certain ecological impact, which although in the focus of public attention, is – as this book will show – not amongst the primary causes of pollution. The actual ecological impacts on the Ganges River are related to its secular usage. A large fraction of the Indian and Bangladeshi population lives in the drainage basin of the Ganges. Water is withdrawn from the river on a large scale for the immediate provision of the human beings, for the irrigation of agricultural land as well as for the industrial sector. Furthermore, numerous dams take water from the upper reaches of the river to generate electricity for the entire region, thus reducing it into a mere rivulet over long distances. On the other hand, municipal and industrial wastewater, a large fraction of which is untreated, is discharged into this rivulet.

The water quality of Indian rivers is divided into five classes. Many sections of the Ganges only still attain the penultimate class – water class D. This water can no longer be processed so that it is potable, and swimming in it is prohibited. It is merely still suitable as a water source for wild animals, for fish farming, and for agricultural irrigation. In reality, the river water is still used for bathing and processed for drinking purposes, although it cannot be cleaned of all substances hazardous to human health. The negative influences of the wastewater discharge and the dam constructions mutually reinforce each other, thus not only human health but also the existence of the entire sacred river as an ecosystem is highly endangered.

The ecological problems are not restricted to the Ganges but affect almost all Indian rivers, which are in an extremely polluted condition (Ministry of Environment and Forests 03.2011). Environmental protection measures are thus all the more important, particularly in light of the rapidly increasing water shortage throughout India.

The first major river cleaning plan, the *Ganga Action Plan* (Phase I and II), was however basically a failure. The reasons for this failure are diverse. One of them is that violations against the in principle very

good Indian environmental laws are generally not sufficiently penalized. A further reason is that the plan did not take the different perspectives of the river population and its ecological problems or the interests of the diverse professional groups, who are dependent on the river, into consideration. A river cleaning program that incorporates the inhabitants must understand the diverse perspectives of the population and be responsive to these. This study focuses on this question, that is, how the ecological pollution is seen in the eyes of the population. In this connection, the question of the religious dimension of the goddess Ganga concerning the ecological problems of the Ganges River and vice versa, what impacts the ecological problems of the Ganges River have on the belief in the goddess Ganga is important in the religiously-minded society in India. The longest part of the river and the most sacred Hindu places are located on Hindi-speaking territory. The objective of this study is thus to survey and describe the ecological problems of the river and the religious dimensions of the Ganga, as they are present in the awareness of the Hindi-speaking public.

This research objective gradually emerged from a personal, amazing question. How can a river that is so sacred be so dreadfully polluted? How can it be that this divine river is so badly treated? Many people who clean the ghats throw the waste they have swept together directly into the river without being aware that they are harming the river in the process. On the contrary, as I learned from them, they do this in the conviction that they are cleaning the river. I only gradually came to understand this paradox. The ghats and the sacred river evidently form a unit in religious consciousness. Cleaning the ghats is an act of worship. However, simultaneously it is not considered an act of polluting the Ganga when the waste is swept into the water. This is indicative of a first still rudimentary consciousness of the need to protect the river. However, this protection is not performed actively, but rather the people are relying on the religious purification capacity and beyond this they rely on the ecological self-purifying ability of the Ganga. For this very reason, the believers are of the opinion that the ecological pollution does not impair the religious purification ability of the Ganga.

This was my first insight into the religious and ecological imaginative world of the people residing along the banks of the sacred river. It led to the question as to how these people perceive the complex interplay of religion and ecology and how the religion of the Ganges and its

pollution are reflected in the public awareness. Here extremely diverse perceptions and imaginations, that are dependent on the religious upbringing, age of the people, their respective education, material interests, and different professional affiliations, collide. Basic questions result in a multi-facetted image. To what extent is there an awareness of the ecological problems of the Ganges River? What role does religion play in the perception of the ecological problems? And, vice versa, what effect does the ecological condition have on the ritual practices and the belief in the goddess Ganga? What are seen as the causes of the ecological pollution? What, in the people's imaginations, constitute the obstacles to effectively overcoming the ecological problems? Are there approaches for overcoming the ecological crisis within the public awareness? Is there a potential for the development of an increasingly productive relationship between ecology and religion?[4] Qualitative semi-structured interviews of experts, who know and shape the public awareness result in diverse mosaic stones, from which an image of the crucial condition of the sacred river as seen by the public is compiled. This group of experts includes journalists from daily newspapers, the

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[4]   I selected Varanasi (Banaras) for the data collection because I was of the opinion that the discussion about the possible interactions between the religious significance and the ecological pollution of the Ganges would be reflected exceptionally clearly in this city that is so very sacred to Hindus.

Varanasi – also called Kashi by believers – is considered the city of light (Hertel/Humes 1998:1). It is closely linked to Shiva and is one of the oldest, permanently inhabited cities in the world (Parry 1994:11). It has been at the centre of the Hindu belief since the 6th century B.C. (Eck 2006:21).

Hindus come to Banaras to perform an entire range of lifecycles, but also everyday rites. Death rites are extremely important in this respect (Parry 1994:1). Many elderly people come to Varanasi to die there in special hospices; because everybody who dies there is blessed by Shiva and attains Moksha, that is, his soul finds redemption. A ritual bath in the Ganges in Varanasi is considered particularly purifying and auspicious because the river bends and flows northwards back towards its source for a short period in the city, before recommencing its actual route eastwards (Hertel/Humes 1998:3).

The inhabitants of Varanasi are reminded that they live in a particularly sacred town by the daily purifying baths, the numerous temples, the festivities in which the Ganges plays an important role, the streams of pilgrims, and the large number of rite specialists, features that cannot be overlooked in Varanasi. The discourse about the religious significance of the Ganga and the water pollution of the Ganges – its extent, impact, areas of influence, and facets – is lively and controversial, not only in the vernacular press and newspaper articles but also at the different ghats.

nongovernment organizations (NGOs) and experts on rites, professors and representatives of authorities.

Professionally, the journalists must identify the latest trends. On the one hand, they would like to report what their readers think and simultaneously they would like to direct their awareness by publishing their own perception of the causes and impacts of the pollution. The NGO representatives are the people considered most capable of sensitizing the population to the problems of the Ganges. Generally being rites experts, NGO representatives also have a special insight into the relationship between ecology and religion. The professors from the *Banaras Hindu University* (BHU) interviewed supplement the public awareness by their scientific views of the situation of the Ganges. The representatives of the authorities bring an official government view into the overall image but also contribute their personal opinions and solutions to the handling of the problems of the Ganges.

Five topics became apparent from the analysis of the interviews to which all expert groups made relevant contributions. These topics range from the religious dimension of the Ganga, over the water pollution of the Ganges River, their presentation in the media, the issue of corruption in connection with the river cleaning programs, to approaches that should lead to a public change in attitude and thus a productive relationship between religion and ecology. These topics "fuel" the public awareness and the analysis thereof is the objective of this study. The survey is however not based on a purely theological approach. It far more includes biological, nature conservation, and even social aspects as well.

This study thus firstly intends to convey why the efforts to clean the river are repeatedly faced with immense incomprehension by so many Hindus. The Ganges River and Hinduism are so closely linked that a protection without the religious dimension of the river and without the ritual practices of the believers would be completely futile. One may not make the mistake of disregarding the religious and only concentrating on the environmental and nature conservation aspects of the river when one tries to convince the population of the necessity to protect the Ganges. On the other hand, it is decisive for the future of the Ganges River whether the devout Hindus address the issue of ecology.

To date, the believers have reacted to the not to be overlooked pollution of the Ganges by separating the sacred purification capacity from the ecological condition of the water. From a religious perspective, this

separation has contributed to a growing indifference towards the eco-logical problems of the river. Nevertheless, despite this separation, it remains impossible to renounce the use of polluted water for religious practices. Thus, the polluted water can also not be separated from the goddess. The river and goddess belong together. The goddess suffers from the polluted water; she, the suffering goddess is the river.

Therefore, this book provides information on the ecological and religious education of the population and gives practical examples how religion can be incorporated in environmental protection and nature conservation. The aim of all educational efforts must be to make the habitat river comprehensible as an earthly form of existence of the god-dess Ganga and thus worthy of protection for all devout Hindus. It will only be possible to win India's religiously minded people for sustain-able environmental protection and nature conservation by integrating the ecological education work with the Hindu cultural and religious traditions.

1.1   Theoretical and Methodological Foundations

Structure of the Book

This book consists of four parts. The introduction is followed by a sec-tion in which the diverse perspectives of the Ganges are elucidated. To obtain as comprehensive an image as possible, perspectives of its mythological significance, its use, its biology, and ecological situation[5]

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[5]   As far as this chapter is concerned, I would like to point out that it developed from an earlier research work, namely, that, in contrast to my expectations, the Dainik Jagran newspaper makes no biological statements on either zoological, botanical, or ecological aspects. A description of the current species population in the Ganges, which would definitely be within the scope of general biology, is not included in the newspaper. Instead, only the input of pollutants into the ecosystem river is described, albeit with less emphasis being placed on the resultant processes than on the fact that the river is polluted as a result.
Further research was now concentrated on determining whether the current ecological situation of the river enables one to describe and make statements on the species population. Thus, I am trying to establish a comprehensive image of the biology of the Ganges.

as well as its protection are presented.[6] The next section consists of a detailed discussion based on results of the analysis of interviews with four expert groups, namely journalists, representatives of environmental protection movements and rites experts, university professors as well as representatives of authorities. It proved meaningful to combine and compare the analytical results of the four expert groups for the structure of the discussion, and to compare and discuss these with the results of secondary sources. Five main categories were established for this in a synopsis.[7] The book ends with a conclusion of the results and critical perspectives. Before the reference list, there is an appendix listing the names as well as the professions or fields of activity of the interlocutors and three photos.

Notes on Transcription, Spelling, and Citation Form

English and Hindi citations are presented in their original form – Hindi in printed Indic transcription – and German citations have been freely translated. Syntactic and grammatical errors have been neither corrected nor marked to maintain the readability of the quotations.

In continuous text, the words from the Hindi language are in italics and using standard English spelling. Indian and English proper names, city names or words such as "ghat", "Sadhu", "Brahmin", or "karma", which are already in common usage, are in normal print.

The abbreviation BOD (Biological Oxygen Demand) is also retained in the continuous text as my interlocutors also made use of this expres-

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[6] The detailed analysis of the interviews is not included in this book. In order to analyse the interviews a number of general categories with different subcategories were developed. Identical or similar statements found within these individual subject areas were analysed for their commonalities. Within some subject areas there were opinions that deviated from the found commonalities, and thus could not be reliably classified. In some cases, the same categories did not evolve in every group. Ultimately, it was however possible to allocate all statements from the interlocutors into categories. It is however not always possible to clearly differentiate between the viewpoints – they often mingle. For example, religious perspectives can also play a role in the presentation of biological facts.

[7] These divisions are artificial, thus there is overlapping within the individual points of view. For example, the ecological impact of water pollution also influences the people's religious mentality.

sion. Geographic or political data from secondary sources which are outdated are used in the currently correct form.

The city of Varanasi has two further names, Kashi and Banaras.[8] All three names are used as they appear in the secondary sources. The Ganga is feminine in Hindi, Ganges is neutral in English, and masculine in German. In Hindi, the name Ganga refers to the river in its religious and secular sense. In this book, I have used the name Ganges for the river in its secular sense and the name Ganga for the river in its religious and mythological sense. I have placed the definite article before the Ganges when the river is meant from a purely secular point of view.

Methods

The subject of this study necessitates an interdisciplinary approach, that is a survey from diverse, namely religious, sociopolitical and bio-ecological aspects. I used different types of data to be able to approach the subject in a sophisticated manner. At a theoretical level, I was able to gain most of my background knowledge and technical information from secondary sources and Hindi-language newspaper articles. To keep track of the public discussion in the daily press, I performed a data survey[9] according to the "synthetic week" method, which counteracts natural regularities (Maurer/Reinemann 2006:52),[10] from January 2005 until June 2007. The data in this collection originated from articles on water pollution of the Ganges in its broadest sense published in the newspapers *Dainik Jagran*, *Hindustan*, and *Aaj*. Although the articles were read to obtain accurate information, they did not serve as basis for systematic analysis. These sources supplied extensive background information but little detailed insight into the

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[8]   There are two spelling versions of Banaras in the secondary sources: "Banaras" and "Benares." In this dissertation, I decided to use the former because it is a close approximation of the Hindi spelling.

[9]   The archive in Varanasi, where the data collection was performed, is called Nāgripracāriṇi sabhā. Digital photographs were made of the articles that had the Ganges or the Ganga as its topic on the day of the collection.

[10]   This procedure was discussed and coordinated with the Forsa Institute for Social Research and Statistical Analysis (Forsa Gesellschaft für Sozialforschung und statistische Analysen).

worlds of reality and opinions of the population.[11] However, the *Dainik Jagran*, which played a major role as subject of analysis in my earlier research, proved to be a decisive written source for the conception of the interviews with diverse expert groups. Articles in this newspaper that reported on the Ganges were analyzed using the qualitative-heuristic approach, for which I had developed a system of categories that took statements on religious, ecological, social, medical, political, and economic points of view into consideration. The qualitative-heuristic approach, which primarily emphasizes the analysis of similarities, is recommended because it also registers important individual cases, such as absences and latencies as well as singularities (Bonfadelli 2002:54; Maurer/Reinemann 2006:44-45). The results of this study give an insight into further research interests and simultaneously provide the starting point for a series of interview questions.

The interviews with four different target groups led to different data.[12] Primarily, I was interested in recording my interlocutors' reactions to water pollution, to understand its influence on their life world and religious imaginative world, and, if possible, to discover starting points for work to improve ecological awareness. The first target group consists of journalist, namely authors of some articles on the Ganges. The second is compiled of religious leaders as well as founders and employees of NGOs who have made it their tasks to clean the river. The third group, the university professors, is preoccupied with water pollution at a scientific level. The fourth group interviewed consists of civil servants employed by the waterboard *Jal Nigam* or the *Pollution Control Board* in Varanasi. This study is based on the research question how the complex interaction of the ecological problems of the Ganges and its religious significance are reflected in the public awareness of the Hindu community in India.

The qualitative social research method was selected to obtain the desired insight into the topic as well as the opinions of these groups

[11] To counteract the risk of presenting a one-dimensional view of the subject by primarily evaluating literature theoretically and academically, it was deemed essential to "look behind the scenes" and study the daily working life over and above the study of the literature.

[12] It was necessary to extensively comprehend the diverse perceptions of the Ganges of the people from different fields of work and activities as an intermediate goal to be able to answer the research question. Only thereafter, the data could be realistically summarized, analyzed, and evaluated.

because it enables the collection and analysis of personal views, opinions, and perceptions of people who live and work within the specifically to-be-researched environment. It is acknowledged as the most useful research method for obtaining information on private thoughts and opinions, that is, on subjective realities (Fielding 1993:125).[13] "Qualitative research takes into account that viewpoints and practices in the field are different because of the different subjective perspectives and social backgrounds related to them." (Flick 2002:14). I selected key questions for my interviews because this form has proved reliable in the reconstruction of subjective perceptions (Flick 2002:31).[14] For this study, qualitative semi-standardized interviews[15] were held with 26 Indian experts and practitioners whose field of work consists of reporting on the Ganges as well as in the worship, research, and/or pollution abatement of the river.[16] Generally, a qualitative interview is hardly or not standardized at all. The formulation of the questions on a defined general topic can be freely selected in the respective interview situation. In a semi-standardized interview, the interviewee has the time and space to think over his opinions and experiences concerning a specific topic and talk about them. The more open the created interview situation is, the greater the possibility the interviewee has of expressing and justifying personal views and experiences in his own words. Thus, the focus of individual answers often lies considerably at the discretion of the respondent. This, under given circumstances, can be

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13   See Flick/Kardoff/Steinke 2003; Lamnek 2005.
14   The narrative form of interview according to Schütze is too unspecific and too open in view of the questions asked here (Schütze 1983:283-285).
15   To be precise, 31 interviews were held because some interviewees were questioned more than once for reasons of time or because additional information in excess of the key questions had to be gathered. There were also cases where a first listening to the statements made in the interviews necessitated explanations that are more precise.
16   Furthermore, I attended an activity of the NGO *Sankat Mochan Foundation* on *World Environment Day*, held numerous conversations with people who live in ghats and work, for example, as washers, fishermen, boatmen, priests, and cremators, visited the *Ministry of Environment and Forest*, the *Central Pollution Control Board* as well as the *Centre for Science and Environment* in New Delhi and watched the festivities for *Ganga Dashahara* in Varanasi, to thus gain more insight into the practical side of matters.

important for later interpretations.[17] Semi-standardized interviews are often used to determine a certain degree of comparable data on specific topics from the interviews.[18] The interview guideline ensures that the diverse interlocutors express themselves on approximately the same topics, thus facilitating better comparability of the interpretation of the results. This does not however imply that the questions in a qualitative interview need necessarily be identical for all people interviewed (Nohl 2006:21). The purpose of a qualitative interview is rather to understand the perceptions of the people interviewed and to collect data such as feelings, experiences, and personal views to subsequently be able to formulate generalization on the topic being researched. The collection and contrasting of diverse perceptions and experiences makes the research object in its entirety as well as individual processes and relationships easier to comprehend. A further advantage of the qualitative interview is the validity of the material gained using this technique. The interlocutors have the possibility of talking in detail and in depth about a field in which they are experts. Since the interviewees should

[17] Relatively open and informal interpretations of a situation and motives of the interviewees can be requested in semi-standardized interviews. In contrast, there is no possibility of differentiating interpretations of respondents in structured interviews. See also Bortz/Döring 2006:298-300.

[18] A more or less well-elaborated guideline for the structure of the interview (Lamnek 2005:728) generally has open questions on interesting topics based on sound theoretical or empirical knowledge and developed on preliminary theoretical considerations. The guideline is designed to delete all topics which the interlocutors have responded to and treated exhaustively from the list (Lamnek 2005:367). It is thus easy to identify subjects that have not been handled and to enquire in detail if there are ambiguities. The guideline is thus to be seen as a structural aid and memory support for the interviewer, without his having to adhere to its strict sequence.

The open formulation of the key questions is an incentive to give extensive, free answers in a conversation, which often resulted in further perceptions and experiences being presented in the semi-structured interview. As a result, opinions that are very dear to the interviewee, and which were not yet known and thus also not taken into consideration when compiling the guideline, are disclosed (Flick 2002:117). This implies that this method of interviewing can cover further research topics in addition to those intended. Thus, the research field can be investigated more extensively with the help of the semi-standardized qualitative interview than would be the case with more narrow structured research methods. Furthermore, semi-structured interviews enable subsequent enquiries, and specifications provide the opportunity of adapting the method to an altered situation (Flick 2002:117; Froschauer/Lueger 2003:59).

only speak for themselves, and only be influenced marginally by the researchers, experience has shown that the reports are open, honest, and above all personally formulated, which leads to hardly distorted results (Froschauer/Lueger 2003:59).

The objective of the interviews was to obtain personal evaluations of the ecological condition of the Ganges as well as an estimation of its possible impact from people whose work is concerned with this topic, who have made it their voluntary task, or from religious specialists concerned with the worship of the river. I also hoped that the interviews would supply indications on what the experts consider of primary importance, how they evaluate the state river cleaning programme GAP and to what extent their perceptions of the ecological condition of the river are shaped by religion. Overall, a possible connection between religion and environmental protection and nature conservation should be searched for, thus establishing starting points for religious and ecological educational work.

In the light of the complexity of the topic being studied, qualitative research claims to make the investigation procedure so open that justice is nevertheless done to the complexity of the research subject. The to-be-investigated object per se, its characteristics, its daily context as well as the specific question of the research are decisive for the selection of the methods (Denzin/Lincoln 2003:13). Qualitative research methods enable holistic, in-depth insights into what occurs in a specific field of research because they are open and investigative. They always focus around what the interviewees consider relevant, how they observe their world and what characterizes their lifeworld (Froschauer/Lueger 2003:16). Qualitative researchers attempt to interpret lifeworlds based on the significance attributed to them by the people affected. This is why the investigation is conducted from the system or the natural environment of the research subject or the interlocutors (Froschauer/Lueger 2003:16). Qualitative social research is therefore targeted at strict investigation of socio-scientific subjects of research from "the inside" (Flick 2002:48-51).

Cultural and social anthropology has developed two methods of approach to achieve this, namely the etic and the emic consideration of the specific socio-cultural phenomenon. In the etic approach, the criteria and modes of thought from one's own culture are brought to the to-be-investigated culture or society from the outside. Emic on the other hand refers to descriptions of a culture or a system that originates

from an insider and thus from the inside of a society (Leibniz University Hannover n.d.).

The interest in the interviews is also concentrated on understanding culture-specific explanatory approaches personally given by the interviewed people to designate and understand phenomena (and inherent logic and differences). It is impossible to make a purely etic or emic method of representation in the process. This is alone discernible in the fact that the interlocutors speak about both their own perceptions and those of population groups to which they do not feel any attachment.

Qualitative research methods must thus be dynamic processes to be able to obtain the desired results and cannot be reduced to a few specific techniques. Qualitative social research makes use of numerous sources, means and investigation methods with the aid of which routine matters, implications and problematic events in the lives of specific individuals can be presented in detail. Nevertheless, despite this exceptionally large number of investigation methods at its disposal, qualitative research is primarily narrative in character and makes use of content analysis to interpret the contents of communications (Nohl 2006:20).

Qualitative data was collected in three ways for the study presented here. Reading and previous analysis of newspaper articles concerning water pollution of the Ganges River were the starting point for the compilation of the interviews with practitioners and experts. Furthermore, supplementary conversations were held at ghats to gain, for example, an as undistorted as possible impression of life there. Moreover, to make observations of the religious significance and ecological problems of the Ganges River, I attended, for example, festivities such as the *Ganga Dashahara*.

The Selection of the Interlocutors

The composition of the sample of potential interviewees is of central importance for the research process.[19] To obtain as comprehensive an image of the investigated research object as possible, qualitative research necessitates the considerations of different perspectives because "quali-

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[19]   Significantly more men than women are active in the areas researched which is why far more men than women were interviewed in this study.

tative research takes in account that viewpoints and practices in the field are different because of the different subjective perspectives and social backgrounds related to them" (Flick 2002:19). There are, of course, many people linked to the Ganges by their work. Members of these diverse professions possibly experience and evaluate the pollution of the Ganges differently, subject to their personal respective field of work. Therefore, the collection and comparison of perspectives from the diverse professional fields is necessary to be able to understand and evaluate the pollution and religious significance of the Ganges in its entirety.

The numbers of participants in this study as well as the fact that they live in Varanasi, and furthermore all have the same ethnicity, already indicate that this study is not targeted at obtaining universally or generally valid results or information. Instead, using the material collected, it is intended to present experiences and perceptions of other people who are probably very similar to those who work in the same positions in the examined area. Nevertheless, other people's written words on narratives and statements are always subject to a considerable degree of interpretation and personal evaluation by the respective author. The presented results are thus in principle always disputable.[20] That the results are not universally valid is obvious. But they give an insight into individual experiences, the material generated makes characteristic features visible and suggests interpretations. This is where there is productive potential. The scientific aspect of the procedure consists of the methodological reflection and the comprehensible representation of analyses and interpretations. This implies that, when reading this book, one must take into account that the presented statements are not *the* perceptions of the religious Hindus but merely insights into the personal worlds of experience of a few interviewed Hindus who work in the field of worship and/or are active against environmental pollution and report about this issue. These insights are however extremely informative and revealing when answering the question how the people working as experts and insiders in these fields see the relationship between ecology and religion, how they evaluate the ecological condition of the river, and how they estimate the state of awareness within the population regarding the water pollution of the

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[20] For this very reason, I do not claim that the results presented here in this study are representative in the statistical meaning of the word.

river. It must be noted that not all interlocutors were contacted at the same time, because it took a considerable period to locate them. Many of my interlocutors were able to name people from public life, activists, or people engaged in another manner, whom I subsequently contacted. I considered it crucial to firstly verify if they were indeed suitable for an interview. Although the individual experts had been selected as representatives of their specific professional group and as such, also selected to speak as experts for their group, one must bear in mind that single individuals can never express or reflect the perceptions or the experiences of all members of a specific group.

The Preparation and Design of the Interviews

The guideline for the interviews had to be prepared so that it prompted the experts to talk about their perceptions and attitudes, i.e., their personal estimation of the correlation between religion and ecology,[21] the ecological condition of the river, the public discourse as well as the environmental awareness of the population. A "guideline prototype" for the interviews was initially drawn up based on a comprehensive theoretical examination of the situation – prior to and parallel to contact with potential interlocutors. This is divided into four major issues:

1. The ecology of the Ganges (a) as a personal judgement and (b) as the presumed judgement of the population;
2. The religious significance of the Ganga (a) as a personal judgement and (b) as the presumed judgement of the population;
3. The link between the religions significance and ecological condition of the Ganges;
4. The discourse on the treatment of the subject in the public, based on the results of a preceding analysis of newspaper articles.

During the interviews, it became evident that the journalists discussed a further major issue which they considered important for their news-

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[21] The questions often had to be altered slightly, in particular for this sub-topic, because it became evident that the mutual influence of religion and ecology was an issue many of my interlocutors had not often thought about and also not deliberately questioned.

paper and which was an urgent concern for the representatives of the authorities, namely to report about their authority in the media.[22]

The formulations were deliberately left open and general to give the interlocutors the greatest possible freedom for their own contributions during the interview. The questions were asked to ensure that a good interview preparation was guaranteed, but this did not imply that they had to be given in the exact wording or in the given order, because an individual approach to each interview situation or the interlocutor should definitely not be prevented.

A total of 26 Indian practitioners was selected and contacted. The interlocutors received a precise explanation of the research project and the aim of the study as well as the background information for the interest in their personal experiences and opinions to ensure that the greatest possible transparency was attained. They were told that they were to be consulted as experts in their field of work. Based on the prototype, diverse guidelines for each professional group could be drawn up at the end of the preliminary work.

Conduction of the Interviews

The interviews were conducted according to the Andreas Witzel's rules for interview design. These rules enable the use of flexible semi-structured interviews, furthermore enquiries should be possible and one should be able to follow suggestions that first emerge during the conversation. Personal evaluations should be withheld and a non-directive form of interviewing performed (Flick 2002:94-96). The aim was to give the subjective perceptions of the interviewees as much space as possible and to animate them to speak of their experiences and opinions by further questions and confirming listener signals. In this case, Witzel speaks of "communication strategies which generate story-telling" (Witzel 01.2000). This is accompanied by "strategies aimed at generating comprehension", that is, enquiries that are a reaction to unclear or contradictory statements by the interviewee or which result from the theoretical knowledge of the interviewer.

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[22] The design of the guideline was altered slightly and adapted to the individual situation of the respective interview group a number of times during a trial period.

With these intentions and strategies in mind, a total of 26 interviews was held in either Hindi or English, subject to the language my interlocutor preferred, between 8 May 2007 and 26 June 2007. Most interviews were held in the office or at the workplace of the respective participant in Varanasi, although some interviews were also recorded at the home of the informants.

All, excluding two, participants agreed to the recording of the interviews, thus they were digitally recorded.[23] This procedure firstly ensured that I could transcribe the collected data correctly and completely, and secondly that I could concentrate fully on the conversation without constantly having to take notes.[24]

The majority of the participants were interviewed at their workplace and in their professional capacity. Furthermore, many of them are officers or employees in the public sector but also active in organizations that are critical of the government, therefore it was considered indispensable that anonymity be offered to ensure that they could express themselves critically and honestly. For this very reason, each participant was asked at the beginning of the interview whether he had any objections to being mentioned or cited by named in the survey. Furthermore, I pointed out to the participants that all statements would be anonymized if they wished this to be the case.[25] Ultimately, however, every participant did agree to being mentioned by name.[26]

It was planned that the interviews would last about an hour. There was however a significant variation in the length of the individual conversations since the method of the semi-standardized interview allows a lot of freedom. The shortest interview lasted 47 minutes and the

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[23] Only the representatives of the Waterboard Jal Nigam and in particular those of the Pollution Control Board were highly sceptical about recording the interviews or reacted completely dismissive. During the interview with the PCB, notes had to be taken and a recording had to be stopped or completely renounced.

[24] Generally, during the transcription of the recordings, I was interested in the contexts of the statements. A very detailed transcription with every pause, every "hm," and clearing of the throat was not necessary for the processing of the issue.

[25] From the onset, most of my interlocutors however had no objection to being mentioned and cited by name, although others only made up their minds at the end of the interview.

[26] Only one person does not want his exceptionally critical statements disclosed under his own name.

longest three hours. Some interlocutors had to be interviewed twice due to a lack of time. The difference in the length of the interviews is, on the one hand, due to the, in part, extremely busy schedule of the participants and, on the other hand, also due to the personal involvement in each of the areas questioned and the individual willingness to supply information as well as knowledge of the situation.

All interviews were held as conversations between the interviewer and the interviewee. During the course thereof, specific and more detailed questions immediately arose in a natural manner and could be directly discussed. Although I interacted in the conversations when necessary, I attempted to ensure that I speak as little as possible to ensure that my participants were not interrupted or led in a particular direction. For the same reason, I avoided completing sentences that the participants had started. However, it was not always easy to demonstrate an involved presence and simultaneously to neither influence nor interrupt the conversation. Some interviews were less formal than others were, and particularly during these, I had to be extremely careful to maintain this strategy of limited interaction throughout. On the other hand, it was sometimes necessary to intervene verbally, for example, to direct the discussion towards specific topics or key aspects, to ask further questions at specific points to clarify ambiguous statements immediately, or to pose a direct linking question resulting from the preceding statement. Sometime the interviewee also asked me questions, in which case it was impossible to renounce interaction completely.

A conversation that was more fluid and active than the others rapidly developed in some of the interview situations. In one of the interviews, my interlocutor tended to answer my questions only directly and relatively monosyllabically, implying that I had to encourage him over and again to reveal his own experiences and opinions on the issue. In this specific case, many direct enquiries were necessary, thus my participation was much higher. The representatives of the *Pollution Control Board* represented an intensification of this type of interview, confirming the assumption that informants from the public sector are less ready to speak about their work. An elderly NGO employee was so upset by the pollution from which the Ganga is suffering and the fact that she is confined by the Tehri dam that he began to cry during the interview and we had to end the conversation and continue it at another point in time.

All participants revealed personal evaluations and assessments and appeared to have gained their – often critical – opinions by a mixture

of personal and professional perceptions. The sincerity and frankness of the majority of interviewees could be because they are all experts on the issue and that commitment or profession gives them a certain degree of autonomy allowing them to reflect critically and openly. Nevertheless, one could not overlook the fact that again the employees of the *Pollution Control Board*, although they are officially working on abating pollution, kept an extremely low profile and gave the impression that they if not wanting to conceal something, then at least did not want to speak completely open about specific topics.

The extremely diverse fields of activity and thus unequal level of knowledge in the different areas of the major issues imply that the interlocutors' statements are in part only difficult to compare. Instead, differing experiences lead to different personal backgrounds and can thus contain different perspectives, which in turn help to understand the investigated system better and more comprehensively due to the multifaceted perceptions. These factors had to be considered in the analysis of the interview material. Overall, one can however say that the participants all possessed a considerable degree of knowledge and working experience.

With only a few exceptions, the participants were very friendly, outgoing, helpful, and cooperative and spoke relatively freely about their experiences and perceptions. At the end of each interview, they all said they would be prepared for further contact should questions arise during the transcription or evaluation of the data material. Furthermore, some requested that they be informed about the course of the project.

Evaluation of the Data Material

Qualitative analysis implies ongoing examination of the data material. During the interview processes, the data is already deliberated. Subsequently, this is particularly intensively continued in the literal transcription of the interview texts. In this case, the texts produced by transcription were compared with the recordings yet again and any existing errors corrected. Ultimately, all interviews were then available in transcribed form and available as written data material for analysis.[27] The ongoing examination of the material during the interview

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[27] I have the transcripts available should anyone want to consult them.

and transcription processes implied that specific issues that promised to be of particular interest for the later interpretation could already be identified. In practice, this implies that the texts were worked through with the objective of category formation and that the data material was reduced. This procedure is described as an inductive process of decontextualization or the separation of text types[28] and results in the transcribed interview text ultimately being subdivided into major issues or units of meaning.[29] The procedure has a further objective in addition to the initial structuring, namely to break up the interview texts, to understand them, and finally to obtain a grounded theory.[30]

Firstly, summarizing or test-reducing content analysis was used to paraphrase or generalize the interview texts. This led to the formation of individual categories that were important within the frameworks of the research issue and enabled the establishment of thematic headings for the paraphrased and generalized statements. This allowed me to obtain a good overview of the entire data material, which is important for the development of a structural system for the analysis of unstructured qualitative data.

After all 26 interview texts had been structured, the existing variations could be compared with each other so that similarities and differences were discernible. The interviews were divided into coding sequences, in which the speaker is always only devoted to one issue, for this purpose. This enabled the identification of categories that played a role in the majority of interview texts.

Although the development of many of these categories was naturally already determined by the guideline, the data material being to a certain extent in some ways deductive, that is, already categorized before the material had been reviewed, further numerous unforeseen

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[28] Such as, for example, Nohl 2006.

[29] Such as, for example, Froschauer/Lueger 2003; Nohl 2006; Bortz/Döring 2006.

[30] The research process is not linear but dialogic. The researcher asks his material questions in a similar way he would ask them of a person and receives answers that lead to his posing new questions. He asks preferably open questions. The incentive to formulate the questions is obtained when reading the protocols. The text is questioned from as many perspectives as possible and the answers subsequently analyzed using the described procedure. The dialogic procedure is a means to adjust the epistemic structure of the researcher to the structure of the phenomenon and brings it in line with itself. The thoughts on the fact are thus adapted to each other (Kleining/Witt 03.2007).

categories could be identified in an inductive manner based on the interview material.[31]

A category only materialized during the analysis of the interviews if the majority of the informants from the respective group had a similar opinion or commented on the issue. Exceptional individual opinions, which simultaneously represented an antipole, have been highlighted and identified as such.

Subsequently, the data was reduced yet again within the frameworks of the content structuring by separating them from their respective context in the interview and combining them within an overall category system. In the process, the individual paraphrases were assigned to the corresponding categories with appropriate citations. It was then possible to interpret the thus gained data on specific issues.

It was possible to commence with the data evaluation after the structuring and sorting of the data material gained. However, it is by no means the case that the processes of organization and interpretation are two entirely separate and different processes in qualitative content analysis. On the contrary, both processes are intellectually interlinked and often occur at the same time. As a result, there was a certain degree of contextual association and intellectual comparison of the major categories of the interviews with the literature results used in this study. It was thus possible to already interpret and explain the experiences during the interview processes and the subsequent structural work on the interview texts. However, a broader interpretation only took place after the summarization of the interview materiel in the major category system. Firstly, the individual categories were investigated to see whether they could be divided into major topics and subtopics to obtain an impression of the diversity of the answers, experiences and attitudes of the different participants. This approach included questioning and reviewing statements for contradictory discourses, problematic or ambiguous material being sifted out in the process. Furthermore, I compared the answers of the diverse participants to the same questions with each other to determine consistencies and differences. This is referred to as comparative content analysis.[32]

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[31] Deductive means that one is guided by theory and brings an elaborate system of categories to the to-be-investigated text material, whereas inductive on the other hand means that one sifts through the text material and searches for units of meaning (Bortz/Döring 2006:151).

[32] See Nohl 2006:50.

At this point, it must be emphasized that the answers of the 26 participants were congruent to a considerable extent. Furthermore, they were mostly identical with the information gained in the literature.

The texts used were also interpreted contextually. In this analysis, structural descriptions and statements are linked with their social, cultural, and political meaning (Nohl 2006:51; Froschauer/Lueger 2003:102-106). The objective is to identify standards or principles when and in which connection specific statements were made and how they were linked to certain events or social relationships.[33] The aim of this analysis was to interpret the responses of each participant in order to be able to develop connections between discourse, specific circumstances, religious views, and social interrelationships.

Synopsis

The discussion of the analytical results could be commenced after the interviews of the four groups of participants had been analyzed and transcribed. A new structure had to be developed for the discussion of the analytical results to enable the combination of the results of the four groups. Therefore, the categories of the individual analyses were combined in a comprehensive category system. This implied that categories within the discussion had to be taken apart and spoken material on specific issues newly combined because it is in the nature of an interview strategy that the interlocutor does not respond strictly to the questions or establishes interconnections between the individual subtopics.

The individual topics from the analysis are extremely closely interlinked and different subtopics overlap or correlate with different partial areas of the topic at diverse places. Different aspects of the topic also affect numerous partial areas, subject to the perspectives of the interviewed people. The aspects are so extensively interlinked with each other because individual subject areas change when viewed from different angles. During the review of the interviews, their results and the first categorization, this interlinking and influence, which the

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[33] During decontextualization, care had to be taken that specific statements were not taken out of their context too extensively, which would prevent an appropriate analysis. If it became apparent during interpretation of the decontextualized material that the context was unclear, I had to refer to the original interview text again and re-contextualize the statement.

individual aspects have on the perception of the interviewees, became even clearer. For example, the individual subject areas merge in the perception of the interlocutors. Therefore, individual partial aspects were separated from the categories during the discussion. These had to be mentioned under another angle of vision in the main categories. Nevertheless, all categories were used, some however left as entire categories and only discussed under the main category, others subdivided and their partial aspects and statements discussed under diverse main categories because the diverse partial aspects or angles of vision would otherwise not have been weighted enough in the original categorization. Thus, the perspective on the statements of the interlocutors had to be changed yet again.

This implied that the structure of the, in part, very detailed categories in the analysis had to be abandoned in the discussion of the results of the analysis and main categories found, in which numerous issues could be combined. (Nevertheless, it did occur that items related to two main categories then had to be subdivided into them.)

The second reason, which made the development of this main category system necessary, was that not all categories could be included in all analyses. This was most clearly discernible in the analysis of the interviews with the journalists. They, in contrast to the other interlocutors, spoke extensively about their personal work situation. The representatives of the authorities on the other hand were the only group that refused to answer some questions.

Field Description

I selected Varanasi (Banaras) for the data collection because I was of the opinion that the discussion about the possible interactions between the religions significance and the ecological pollution of the Ganges would be reflected exceptionally clearly in this city that is so very sacred to Hindus.

Varanasi – also called Kashi by believers – is considered the city of light.[34] It is closely linked to Shiva and is one of the oldest, permanently inhabited cities in the world (Parry 1994:11). It has been at the centre of the Hindu belief since the 6th century B.C. (Eck 2006:21).

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[34]   Kashi is believed to be the city that illuminates in divine splendour (Hertel/ Humes 1998:1).

Hindus come to Banaras to perform an entire range of lifecycles but also everyday rites. Death rites are extremely important in this respect (Parry 1994:1). Many elderly people come to Varanasi to die there in special hospices because everybody who dies there is blessed by Shiva's blessings and attains *Moksha,* that is, his soul finds redemption. A ritual bath in the Ganges in Varanasi is considered particularly purifying and auspicious because the river bends and flows northwards back towards its source for a short period in the city, before recommencing its actual route eastwards (Hertel/Humes 1998:3).

The Municipal Corporation of Varanasi (the *Nagar Nigam*) was established in 1860. The city developed a modern infrastructure towards the end of that century (Uttar Pradesh Jal Nigam n.d.). As a, in comparison to other Indian cities, relatively slowly growing metropolitan centre (Parry 1994:33) without a larger concentration of industrial enterprises, some problems which are virulent in other Indian cities, such as the relatively large-scale unplanned construction of settlements and extensive industrial pollution, have a less dramatic impact.[35] The environmental problems in Varanasi are nevertheless similar to those in most other large Indian cities: seasonal water shortage, water and air pollution as well as waste lying around in the streets of the town.

The *Jal Nigam*, the waterboard, a subdivision of the *Nagar Nigam*, maintains both the water supply and the wastewater system. This authority was founded by the Federal Government of Uttar Pradesh in 1975 and operates under the *Uttar Pradesh Water Supply and Sewerage Act* of 1975. The densely populated urban centre of Varanasi, with its old water pipes and sewage lines, was a particular challenge for the *Jal Nigam.* The main tasks of the *Jal Nigam* are the planning, preparation, and implementation of water supply and wastewater disposal projects together with their financing, control as well as the maintenance of existing facilities.[36] In return, the *Jal Nigam* has the right to inspect all

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[35] A modern infrastructure with electricity, water pipes, roads, railway lines, and a wastewater disposal system was introduced in Varanasi at the end of the 19th and beginning of the 20th centuries. Many of my interlocutors are of the opinion that the sewage pipes were still the same as those way back then and that the majority dated back to the 1920s.

[36] Due to power failures or maintenance problems with the wastewater treatment plants, wastewater is often only partially treated or not treated at all and discharged into the Ganges via so-called bypass drains – "escape valves that officials and industrials use to give the appearance of functioning treatment units" (Alley 2002:3).

wastewater treatment plants – regardless of who the operator of the systems is. The *Jal Nigam* may handle its finances relatively freely. It can allocate its budget freely, determine its expenditures independently and grant credits or advances (Uttar Pradesh Jal Nigam n.d.).

A further authority also concerned with the treatment standards of the wastewater is the *Pollution Control Board* in Varanasi. It was also founded in 1975. Its tasks are to monitor the water *(Water Prevention and Control of Pollution Act)* and the air *(Air Prevention and Control of Pollution Act)* and to maintain the *Environment Protection Act* (Uttar Pradesh Pollution Control Board n.d.).

Although Varanasi has a relatively small population, the city has three universities,[37] each of which focuses on Sanskrit and Hindu philosophy. Furthermore, numerous traditional schools teach the sacred scripts under the guidance of Brahmin gurus and the recitation of the holy texts of the Vedic Mantras (Parry 1994:33-34).

Not only do the manifold newspaper publications highlight specific local issues making the religious specialities of their city evident to the inhabitants of Varanasi.[38] They are also reminded that they live in a particularly sacred town by the daily purifying baths, the numerous temples, the festivities in which the Ganges plays an important role, the streams of pilgrims, and the large number of rite specialists, features that cannot be overlooked in Varanasi. The discourse about the religious significance of the Ganga and the water pollution of the Ganges – its extent, impact, areas of influence, and facets – is lively and controversial, not only in the newspaper articles but also at the different ghats.

[37] *Banaras Hindu University* (BHU) is the largest of these three universities.
[38] See Stahlberg 2002.