

**Jhuwani Environment Protection Programme**

# **Reader**



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**November 2018**

## Foreword

Dear Reader,

the Jhuwani Environment Protection Programme (JEPP) is evolving. 2018 marked the establishment of a transnational network, by founding a non-profit association in Germany and registering a Non-Governmental-Organization (NGO) in Nepal. The associations in Germany and Nepal are supported by a voluntary, highly motivated and multidisciplinary team. JEPP and its sister NGO in Nepal created a platform from which sustainable aid to one of the most problematic precarious countries in the world, Nepal, can be provided under safe conditions in the coming years.

The realization of the JEPP project builds on a set of shared and common values. First, the prosperity of the western world should be used to profit the development and aid of developing countries. Second, we ought to combine our efforts to provide people with the necessary foundations to help themselves. Third, education and enlightenment are indispensable first steps in the search for sustainable solutions to profound problems such as those on which JEPP focuses in Jhuwani. Finally, there is a collective understanding among all stakeholders of today's urgency to address environmental issues.

In the first section we begin with an analysis of the problem of plastic pollution in Nepal, taking different local conditions under consideration. The second section explains the structure of the JEPP organization, followed with an outlook at the set objectives. The fourth section reports on the implementation and pursuit of these objectives. Lastly, we look forward to the coming years by discussing future perspectives.

The following report is written for donors, supporters, interested parties and all those who would like to participate. Without you, JEPP would not be possible. We would therefore like to take this opportunity to thank you very much for your interest and, more specifically, for your support!

Yours faithfully,

A handwritten signature in black ink, appearing to read "J. Tiedje".

Johannes Tiedje

Chairman JEPP e.V.

## 1. The Problem

On the front pages of many newspapers the keywords "plastic" and "ocean" have appeared increasingly in recent years, followed by warning articles that drew attention to the problem of maritime plastic pollution. Terms such as "micro-plastic" and "nanoplastic" spread and images of floating garbage islands and deceased marine and coastal animals trapped in plastic packaging has shaped our consciousness. Today, society widely accepts the assumption that plastic pollution poses a serious threat to the environment, ecosystem and public health. But what exactly is the danger?

The processes involved in the penetration of plastic particles into living organisms have not yet been fully investigated. However, the findings to date are enough to support the hypothesis that plastic pollution will become the next major stress factor for ecosystems worldwide. Plastic particles, reduced to microscopic size, penetrate cell walls, cause inflammation and have a harmful effect on the hormonal system of countless living organisms. Plastic particles have been found to induce behavioural changes in fish when they cross the blood-brain barrier. At the cellular level, they cause changes in the genetic material and interrupt biochemical processes, which can lead to malformation and disease. The long-term effects are still being explored.

The decomposition of plastic takes place mainly by bacteria when plastic waste is exposed to the free terrestrial or maritime environment for long periods of time. Parallely, this process releases methane, which is known to be a very powerful greenhouse gas. The fastest distribution of decomposed plastic particles in the biosphere occurs in water.



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A World Economic Forum study found that 90% of the plastic in our oceans comes from only ten river systems, eight of which are in Asia<sup>1</sup>. According to this study, the Ganges, fed by tributaries from Nepal and flowing through India, carries the sixth largest amount of the world's maritime plastic waste. However, according to the Forschungsverbund Berlin, the global distribution of micro- and nano-plastics on land is between four and 23 times higher than in oceans, depending on the location<sup>2</sup>.

<sup>1</sup> <https://www.weforum.org/agenda/2018/06/90-of-plastic-polluting-our-oceans-comes-from-just-10-rivers/>

<sup>2</sup> <https://www.sciencedaily.com/releases/2018/02/180205125728.htm>

Nepal currently ranks 172 out of 180 countries in the Environmental Performance Index, a worldwide study by Yale University and the World Economic Forum that examines the quality and health of various environmental elements such as air, water and soil purity<sup>3</sup>. Data on waste management issues in Nepal is lacking<sup>4</sup> and there are hardly any studies that provide more detailed information on the extent of plastic pollution in Nepal. Given the local conditions, however, this is hardly surprising.



The gross domestic product per capita in Nepal is currently just about 6% of the world average<sup>5</sup> and in 2017, just 17.6% of the population had access to the Internet<sup>6</sup>. Road networks and other important basic infrastructures do not exist in large parts of the country. The pollution and strain on the environment is heightened by characteristics of a strongly disadvantaged developing country including difficult-to-build, hostile terrain, ubiquitous poverty, political and economic instability as well as protectionist foreign policy stances of neighbouring countries India and China, and the general overstrain and inability of local authorities to act against the background of widespread corruption.

<sup>3</sup> <https://epi.envirocenter.yale.edu/>

<sup>4</sup> <https://unstats.un.org/unsd/envstats/qindicators>

<sup>5</sup> <https://tradingeconomics.com/nepal/gdp-per-capita>

<sup>6</sup> <http://data.un.org/>

Politically, Nepal is divided between the social-democratic *Nepali Congress* and the left-extremist, communist *Maoists*<sup>7</sup>, who played a concise role during the 1996-2006 civil war. On its way from a Hindu monarchy to a secular republic, Nepal saw 26 different governments in 27 years and is thus considered politically highly unstable<sup>8</sup>.

The waste situation in Nepal currently lies between two problem areas that continuously counteract the implementation of sustainable solutions. On the one hand, there is the civilian population to which a responsible waste management is still completely foreign. No matter whether in the countryside or in the city, waste is left directly where it arises. This behavior has existed for much longer than the emergence and distribution of plastic products. However, careless dispersion of waste in times before plastic did not induce comparable environmental hazards.



*Pashupatinath, Kathmandu 2018*

The second problem is the aforementioned lack of competence and inefficiency of the local authorities. The village of *Jhuwani* is located in the south of the country and belongs to the community of *Ratnanagar*, with a population of approximately 80,000 people. It is located in the Terai, the lowland

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<sup>7</sup> <https://thediplomat.com/2017/11/can-nepal-find-political-stability/>

<sup>8</sup> <https://www.theguardian.com/global-development/2017/nov/24/nepals-elections-finally-bring-stability>

in southern Nepal, with one of the highest amounts of waste per household generated<sup>9</sup>. If waste is collected in Ratnanagar and transported away by the local government, it is disposed of in a landfill approximately eight kilometers from Jhuwani, at the eastern border of the Tikauli Jungle, an offshoot of the Chitwan National Park. The landfill is about 10,000 m<sup>2</sup> in size and consists of unsorted, wild mountains of waste in the open countryside. The environmental damage caused by this is devastating.

No detailed field study is required to recognize the seriousness of the situation. If one considers the general conditions when considering the problem of plastic pollution in Nepal, an overall situation emerges in which one can assume that the problems can hardly be solved without external help.



*Landfill Site Ratnanagar 2018*

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<sup>9</sup> <https://www.adb.org/sites/default/files/publication/30366/solid-waste-management-nepal.pdf> S.8

## 2. The Organization

This year, the Jhuwani Environment Protection Programme was registered in the German register of associations as "JEPP e.V." and recognised as a non-profit organisation<sup>10</sup>. Eight founding members attended the founding meeting in Mainz. A board consisting of chairman (Johannes Tiedje), deputy chairman (Mirjam Buck) and treasurer (Nik Herbers) was elected.



*Founding members from left to right: Jürgen Tiedje, Sabine Tiedje, Stefano Dastoli, Johannes Tiedje, Nik Herbers, Mirjam Buck, Daniel Hofmann, Moritz Tiedje*

Today, JEPP e.V. counts 12 members. Each member volunteered to help build JEPP and to collectively find sustainable solutions to the problem of plastic pollution in Nepal. Specific responsibilities were assigned to individual members and working groups were set up.

On October 14<sup>th</sup>, 2018, the associated NGO registered under Nepalese law in Barathpur, Nepal.

The maintenance of a non-profit NGO in Nepal costs about 185€ a year for accounting costs. The organizational purpose was taken over by the German association statute in translated form. This includes the promotion of popular education as well as nature and environmental protection.

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<sup>10</sup> [www.handelsregister.de](http://www.handelsregister.de) VR:84124



From left to right: Ramchandra Mahato, Johannes Tiedje, Sangita Chapagain, Suraj Chaudhary, Sagar Mahato, Hari Shrestha



Founding members JEPP Nepal:

1. Ramchandra Mahato (President)
2. Suraj Chaudhary (Vice-President)
3. Sangita Chapagain (Secretary)
4. Rabina Chaudhary (Treasurer)
5. Hari Shrestha
6. Ajaya Chaudhary
7. Sagar Mahato

### 3. The Goals

The following objectives have been set:

#### Objectives October 2018

The aim of the JEPP association is to visibly reduce environmental pollution from careless disposal of plastic waste in (the country of) Nepal. This includes:

1. A reduced consumption of disposable plastic products.
2. A reduction of the annual amount of waste disposal in the open countryside.
3. A reduction in the annual amount of waste incineration.
4. Waste storage and separation in private households.
5. Use of old and new infrastructures for sustainable waste management.

The implementation of the above mentioned points requires a change in the behavior of the local population. This comprises two areas: **Education and awareness-raising work** and **technical solutions, material aid and the creation of infrastructures**.

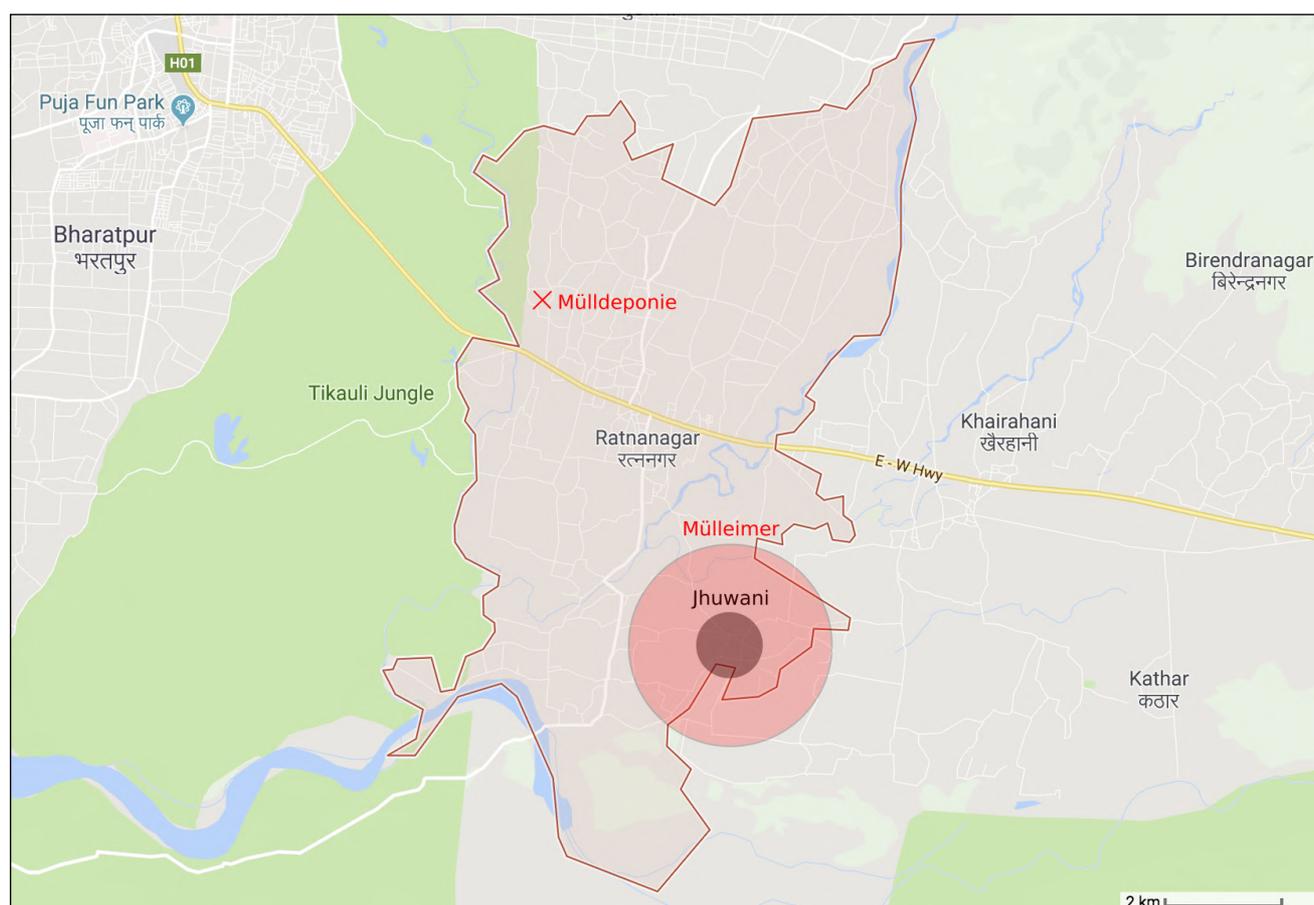
The distinction between long-distance and short-distance objectives lies in the size of the area to which the two areas of implementation relate.

1. Stage: Jhuwani village, Ratnanagar 44200. Population: approx. 3,000
2. Stage: Community Ratnanagar. Population: approx. 80,000
3. Stage: District Chitwan. Population: approx. 600,000

## 4. The Implementation

Activities conducted in 2018 included garbage collection, distribution of garbage baskets and workshops at schools. The activities were carried out with the involvement of the public, in particular newspapers and television<sup>11</sup>. In Germany, too, JEPP has been able to attract the attention of the public and news outlets<sup>12</sup>.

The cooperation with *Clean City*<sup>13</sup>, established this year, is particularly significant. Together, the Ratnanagar landfill site was visited and a joint strategy for the sustainable reduction of plastic pollution



Ratnanagar Municipality. Source: Google Maps

<sup>11</sup> <http://www.himalayakhabar.com/detail/68545.html> ; <https://echitwanpost.com/74631/> ; <http://www.avasstv.com/i.../news-main/1698-2018-10-07-14-32-57> ; <http://www.himalayakhabar.com/detail/67457.html>

<sup>12</sup> <https://www.finanznachrichten.de/nachrichten-2018-05/43873472-umweltschutz-in-entwicklungslaendern-wie-aufklaerung-nachhaltig-wirkt-zeigt-das-jhuwani-environment-protection-programme-in-nepal-007.htm>

<sup>13</sup> <http://cleancitycooperative.com>

in the region was developed. Clean City will focus on sealing the landfill and developing and promoting recycling opportunities.



*Awareness Team von links nach rechts: Sushila Dhamala (CC);  
Maila Dhale. Johannes Tiedie. Khaendra Mahato (JEPP)*

JEPP, on the other hand, will be carrying out educational work throughout the Ratnanagar municipality with a newly established local *Awareness Team*. This primarily includes visits to over 30 public schools. In the coming two years, over 350 schools in the entire Chitwan district will be targeted. A school workshop includes several short contributions on plastic pollution, dance and music, and a final garbage collection. For this purpose Ramchandra, a member of the National Teacher Association<sup>14</sup>, is establishing contacts with these schools.

In addition, the team will organize garbage collections, plays for children and many other educational cultural activities for the local population. Maila and Khaendra are employed on a part-time basis for this purpose. They receive a starting salary of 60€, which is above average for Nepalese conditions. A monthly fee of 100€ is provided for material costs.

Finally, garbage containers are being placed at public places. So far, 105 waste bins have been installed in the area, though this concerns only a fraction of Ratnanagar. The garbage baskets are made of metal, manufactured locally and cost approximately 16€ per piece. The distribution is carried out in presence of the press and guests of honor, in an attempt to attract a maximum of public attention.

<sup>14</sup> <https://www.ntanepal.org/>



Distribution of Waste Bins in Jhuwani 2018





Workshop at the Chitrasari School, Ratnanagar 2018



## 5. The Perspectives

JEPP will be continuously evolving. The task is important and the need for action is great. As soon as the opportunities arise, the project will expand. More people must be reached, and more areas have to be supported. We are currently still at the first step: creating awareness within the population. However, concrete solutions to the waste problem have yet to be found. Much lies ahead of us.

It is important to create framework conditions that can guarantee the long-term existence of the project. A network of trustworthy and reliable people is essential for this. Financing is just as essential. JEPP's educational work is still completely dependent on donations. In order to become more independent, a form of financial profit making must be established in the project. JEPP would thus become a hybrid of a public- and profit-oriented organization, following the example of other companies in the development/aid sector that have already internalized such a model<sup>15</sup>.

There are numerous ways of combining the project objectives with economic viability. Concrete ideas have already been developed in discussions with the Himalayan Climate Initiative (HCI)<sup>16</sup>, an important cooperating local organization: JEPP plans to open a production facility for reusable and/or biodegradable packaging and containers that would subsequently be offered for sale. This would create jobs for (the local population) local people. The time for this seems favorable, as according to HCI a ban on plastic bags is now imminent in the southern district of Chitwan and following a ban implemented in Kathmandu some years prior<sup>17</sup>. Bags from old clothes and paper bags from old newspapers would be among the first products (of this production facility).

The sorting out and recycling of plastic waste consisting of polyethylene terephthalate (PET) would be another possibility to create a profit for JEPP. PET waste can be converted with little technical effort into PET flakes that are 100% recyclable and can be used to make furniture, textiles and many other products. The implementation possibilities for this are currently still being examined.

The core activity of JEPP, its educational work, will soon find application through various types of workshops, TV commercials, posters, online campaigns, public events and many other things aimed at mobilizing the general population in the fight against plastic pollution. Statutes, concepts and objectives will be regularly re-evaluated and revised to make the service as efficient, sustainable and community-based as possible.

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<sup>15</sup> <https://www.forbes.com/sites/hbsworkingknowledge/2013/08/12/entrepreneurs-and-the-hybrid-organization/#2a5bc39b62ae>

<sup>16</sup> <http://www.himalayanclimate.org/>

<sup>17</sup> <https://kathmandupost.ekantipur.com/news/2015-04-15/valley-announced-plastic-bag-free-zone.html>

We ask for your financial support in order to keep the project alive. For all donations, receipts are issued. Even small contributions can make a big difference! Donations can be made to the following bank account:

**JEPP e.V.**  
**Volksbank Darmstadt**  
**IBAN: DE97 5089 0000 0071 7218 09**  
**BIC: GENODEF1VBD**

A big thank you to all our supporters and hopefully we will be able to keep you informed about our news in the future, Namaste!

