

## **The Lunar Environmental Assessment Plan (Leap): A Step Towards Protection**

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The natural environment of the Moon remained undisturbed by humanity from its creation until September 1959, when the space probe Luna 2 crashed onto the surface [1]. This attempt to further our knowledge as a 'first step' towards sending humans to the Moon and eventual colonisation, left man-made pollution in its wake. Since then, large quantities of waste have been left on the surface of the Moon including the Lunar Prospector probe in recent months. With this in mind, it could be argued that significant damage has already been allowed to occur.

Protection of the Earth's environment has become a high priority. For generations, humankind has used and abused its resources and is now paying a high price. The potential dangers of space debris surrounding the Earth are only now being addressed through legislation. All this stems from a lack of forethought caused by ignorance or profit. Therefore, concern should be shown to preserve the Moon's natural environment before more damage is caused. Although there will be a need to alter the Moon's natural structure so that humans can colonise, this should be done using careful planning and design. A Lunar Stationed Biosphere (LSB) should be approached in a systematic way using urban planning, where, not only are the functional aspects of the residency considered, but also the cultural and social side of society too. The urban plan will consider all aspects of design and construction to ensure the optimisation of facilities and to secure the Moon's original structure. To achieve this, there is a significant need to develop an environmental plan as a method of reducing further damage as well as act as a supplement for existing treaties and agreements [2] [3].

One concept for achieving this could be the Lunar Environmental Assessment Plan (LEAP). This would be an important element of urban development planning by providing an objective viewpoint and analysis of the impact of human development on the Moon. Its function would be similar to that of the National Environmental Policy Act of 1969 [4] through (a) identifying problems and considerations prior to implementation of a project, (b) minimising mistakes, and (c) reducing costs. These controls would act as damage limitation measures, by preventing problems rather than having to cure them.

The environmental issues currently being addressed on Earth should be considered in relation to daily living on the Moon. Evaluation of the possible detrimental consequences of this and commercial activities, and enforceable procedures or legislation to counter them may ensure that the special character of the Moon is protected.

## References

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