

## Recent trend and future progress of Green Geo-technology

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"Green geo-technology" is a new word and the definition of this word is briefly described as:

"A academic field to develop techniques to maintain good geo-environment and to utilize more effectively geo-materials (rock and soil)". In recent, many new academic fields having the name of "green", such as, green chemistry, green technology, green architecture and so forth have been proposed to develop the techniques for reducing carbon dioxide effluence and saving energy and for the construction of sustainable society. It is also important in the geo-technology field to accelerate the researches in this direction to develop techniques harmonizing with geo-environment and the construction of the sustainable society by using natural geo-materials. In this paper, recent trends of the green geo-technology is introduced with referring some researches recently carried out in the world. Then, the future progress of this field is discussed.

From ancient age, huge numbers of houses have been constructed by using lammed earth, cob and mud brick. In recent, modernized houses with using those materials are proposed to be constructed, because those materials are more eco-friendly. And several types of earthquake resistant design of earthen houses have been also proposed on the basis of many lab. and in-situ tests. After the brief introduction of these researches, our researches to reduce the salt weathering of those materials, that were performed in Central Asia is presented. It was clearly found that the prevention of moisture flow from basemaent was the most important key to reduce the salt weathering.

The disposal site for hazardous waste such as the high level radio-active waste, storage facilities of carbon dioxide and oil and so forth in underground has been planned and/or constructed in many countries. The most important point in the construction is to maintain the good geo-environment condition. For example, the pollution of groundwater around those facilities should be carefully avoided. The techniques how to maintain the geo-environmental conditions over a long period of time is also an important item in the green geo-technology. The long-term geometrical change of ground surface due to erosion and sedimentation, climate change and etc. should be taken into account to some extent, although the prediction of long-term changes are very difficult. Recent research works on the long-term maintenance of geo-environmental condition is reviewed in the paper.

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