

Rittikrai Bhavabhutanonda Namahasarakham 2010: Groundwater Allocation Model for Industrial Sector in Bangkok Groundwater Crisis Area. Doctor of Philosophy (Sustainable Land Use and Natural Resources Management), Major Field: Sustainable Land Use and Natural Resources Management, Interdisciplinary Graduate Program. Thesis Advisor: Associate Professor Kobkiat Pongput, Ph.D. 383 pages.

The objectives of this research composed of defining the method and rules of groundwater allocation in Bangkok; that conform to groundwater knowledge principle, land use and fairness. From this result, the groundwater allocation model for industrial sector and the groundwater allocation plans for industrial sector in Bangkok were established.

The result of research showed that the methods and rules of groundwater allocation in Bangkok based on the basis of the potential of groundwater source, demand of using groundwater for all of groundwater users. Including, according to sustainable land use and people participation, transparency, fairness, moderation, reasonableness and immunization were defined. The methods were considered such as defining the groundwater allocation area, safe yield of using groundwater, groundwater situation, the risk area of groundwater using, the size of sub-groundwater allocation area and quantity of groundwater for allocation. All of these concerned groundwater allocation methods was developed to be the groundwater allocation rules that to be used for defining the activities and the process of groundwater allocation with an accord of groundwater act 1977. Then the groundwater allocation model for industrial sector in Bangkok groundwater crisis area was established. This allocation model was commented and suggested by experts and some of industrial groundwater users also made an opinion all about these. This allocation model was tested by using in Bangkok area in term of technical groundwater allocation. More over, the groundwater management program, that relates to land use, also was defined. And for the totally view of the real use situation, groundwater allocation plan for industrial sector in Bangkok area was done for proving the result of this research that can be met the objectives.

---

Student's signature

---

Thesis Advisor's signature