

# 容受力分析的回顧與展望都市成長管理的生態經濟觀<sup>\*</sup>

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## Retrospect and Prospect of Carrying Capacity Analysis: Ecological Economics and Urban Growth Management

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### 摘要

容受力觀念係源自於生態系統管理，估算一地區所能承受某一種生物的數量。利用此觀念所推計人類在地球的容受力，常受到社會科學家的質疑，主因不同地區文化背景不同，對生活水準與資源利用方式亦具差異性。都市規劃專業應用容受力觀念分析自然與實質環境對都市發展的限制，在1970年代被廣泛地接受應用且未引起大的論爭。本文首先介紹容受力的理念緣起與方法，並論述其應用在都市成長管理之缺失：(1)都市發展階段模糊化；(2)未考慮都市與其他地區之關係；(3)未正視人類與自然環境的共生關係；以及(4)容受力與永續發展間的關係未明確化。然後，討論新進被提出的「生態足跡」觀念的特色與缺失。最後，本文由生態經濟觀點，展望都市成長管理應用容受力的架構以及可行的分析內容與方法。雖然容受力分析存在許多不確定性，但在都市規劃專業仍有必要持續地計算容受力，並探討都市發展與都市永續性之關係。

關鍵詞：容受力分析，都市成長管理，生態足跡，生態經濟，都市永續性

### ABSTRACT

"Carrying Capacity" concept was initially practiced in the field of ecosystem management, but its application to human beings were frequently rejected by social scientists for its failure to include the variation of standard of living and level of technology. However, carrying capacity concept has been widely applied for urban growth management since 1970's. This paper describes the origin and methods of carrying capacity for urban planning; four aspects of drawbacks are also discussed: (1) stage of urban development is not identified; (2) relationship between city and other areas is ignored; (3) symbiosis between human society and natural environment is not incorporated; and (4) the correlation between carrying capacity and urban sustainability is not clearly defined. The merits and drawbacks of the recently advocated "ecological footprint" is also discussed. On the basis of urban ecological economic system, the prospect of carrying capacity analysis is suggested. Despite the uncertainty exists for carrying capacity analysis, it is emphasized that carrying capacity analysis be continuously applied to address its relationship with sustainable urban development.

Keyword: carrying capacity, urban growth management, ecological footprint, ecological economics, urban sustainability.

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