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“Agricultural development within the rural-urban continuum”

## Strategies for Urban Agriculture in Bhaktapur, Nepal: Two Studies - One Topic

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### Abstract

Two autonomously written master thesis were combined to link pedological findings with a design approach of Urban Agriculture (UA) as a current tool of open space planning and as a contribution to a sustainable form of agriculture in Bhaktapur/Nepal. The combination of the two studies made it possible to get a profound knowledge of the prevailing urban development processes as well as of the nutrient management of urban farmers in the investigation area. Through the final work, the design of a „Agri-Cultural-Forum“ (ACF), the discussion moved from a theoretic and abstract planning level to a site specific and spatial solution.

The pedological thesis investigated the nutrient management of small urban vegetable farms via questionnaires and soil analyses. The study determined that fertiliser input (>70 % chemical) greatly exceeds the demand of the crops and leads to high N ( $\bar{O} = 380 \text{ kg ha}^{-1} \text{ a}^{-1}$ ) and P ( $\bar{O} = 290 \text{ kg ha}^{-1} \text{ a}^{-1}$ ) surpluses. In contrast, potassium shows a balance deficit of  $-90 \text{ kg K ha}^{-1} \text{ a}^{-1}$ . Soil analyses confirmed the interview results and found an excessive P supply and a K deficiency of the soils. An acidification, due to high nitrification rates, is indicated by very low pH (3.9 — 6.2;  $\bar{O} = 5.0$ ). The excessive chemical fertiliser usage can result in a degradation of the soils and could be explained by a lack of agricultural advisory services for urban farmers in Nepal.

Therefore the second thesis developed a design strategy for the investigation area with the „Agri-Cultural-Forum“ as a spatial component of it. The strategy „Design for Rurban Interaction“ outlined UA as a tool for the urban-rural linkages, the rurban sphere, by unleashing socio-economic and cultural growth. In that context the ACF was designed as a multifunctional space, that is a part of a bigger rurban network, where free and independent training facilities, the conservation of traditional knowledge, the support of organic nutrient management and the exchange of knowledge and experiences between the farmers and other professionals will be organised

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