



NEW TOWN DEVELOPMENT IN TEHRAN-KARAJ (Iran)

PROJECT IN BRIEF



Facts on Tehran-Karaj (Iran):

Population: 12.2 Million (2012)
Population Growth Rate (2010-2015): 2.52 %
Level of urbanisation 2010 (Iran): 70.8 %
Human Development Index (Iran Rank): 89

CONTEXT

The enormous increase in population in threshold and developing countries in relation to rapid urbanisation, as well as rising living standards, pose significant challenges to the affected regions in terms of energy supply and climate protection. However, these rapidly growing regions also offer a great potential for shaping sustainable urban development.

Particularly in Iran, these developments are strikingly manifest. The Tehran-Karaj region forms

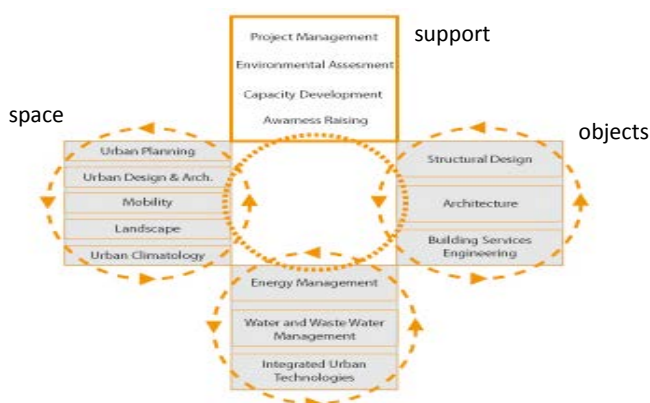
one of the fastest growing urban agglomerations in the Middle East and is a major regional contributor to climate change. There is a demand for the construction of 1.5 million new housing units per year in a country that will be particularly affected by the effects of climate change. With the construction of new settlements, consumption of energy, commodities, and resources is rising dramatically. The related harmful climatic effects intensify global and regional risks.

OBJECTIVES

The Young Cities project is a German-Iranian applied research project that aims to develop solutions and strategies for a sustainable, energy-efficient and resilient urban development in arid and semi-arid regions as a contribution to significant CO₂ reduction. The focus lies on contemporary, formally-planned, mass housing, within the framework of the case study of Hashtgerd New Town in Tehran province.

The project intends to decrease CO₂ emissions by reducing energy consumption within the principles

of sustainable urban development. The aim is to help to reduce the consumption of other valuable environmental resources, primarily water, but also soil and air. These aspects are complemented by taking into account economic and social ambitions including social issues, efficient and flexible management, public participation, environmentally-conscious consumer behaviour as well as encouraging a positive local identity.



Project Structure (TU-Berlin)



New Quality pilot project – construction site (BHRC)

APPROACH

To implement the goals and objectives of the project, an integral, interdisciplinary approach to urban development was chosen, ranging across different levels and scales:

- Space – urban structure down to the sub-neighbourhood level
- Networks – infrastructure networks of energy, water, mobility
- Objects – buildings with a variety of different uses

The social and economic conditions of the project are addressed by the further dimension of cross-sector approaches. This part of the approach focuses on high-potential fields of action for sustainable development such as:

- Rising the qualification levels of the construction workers for better construction quality, thus lowering energy demand of the buildings,
- The participation of the inhabitants and the raising of awareness on environmentally-friendly behaviour.

The Young Cities project is committed to Action Research based on the method of 'research through design': the verification of research hypotheses through planning, implementation, and realisation of pilot projects forms an integral part of the project. One area, thirty-five hectares in size, located in Hashtgerd New Town, seventy kilometres west of Tehran, has been chosen as the central demonstration site for the development of an energy-efficient neighbourhood, called the 'Shahre Javan Community'

SOLUTIONS

- Detailed master plan for a 35 ha. pilot area; the Shahre Javan Community in Hashtgerd New Town
- 'New Quality Building' with 16 housing units, inaugurated in July 2010
- Manual for a climate-responsive and sustainable urban development
- Manual for integrated urban planning in semi-arid and arid regions
- Conceptual designs for energy-efficient residential and commercial buildings
- On-site vocational education and training for construction workers
- Public transport concept
- Wastewater concept
- Ecological assessment model
- Implementation of environmental compensation areas.

CONTACT

Project:
Young Cities - Developing energy-efficient urban fabric in the Tehran-Karaj region
Web: www.youngcities.de

Rudolf Schäfer
Technische Universität Berlin, School of Planning, Building, Environment
Email: rudolf.schaefer@tu-berlin.de
Web: www.planen-bauen-umwelt.tu-berlin.de

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