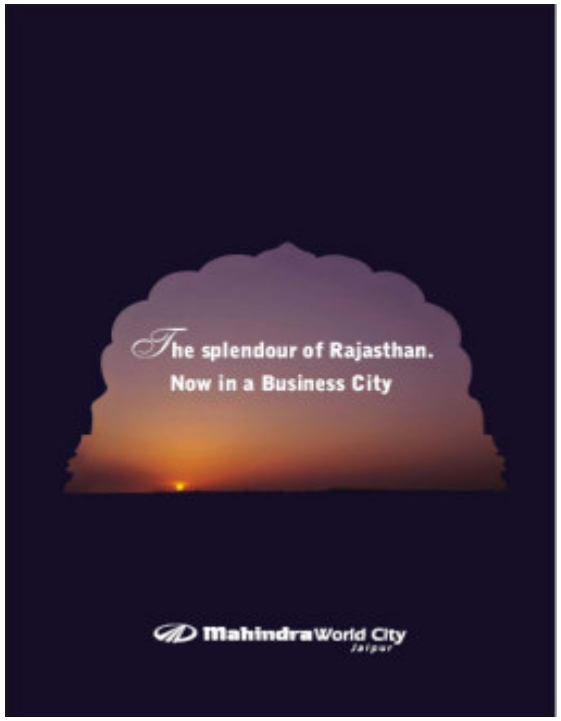
Mahindra World City, Jaipur

Green Buildings, Campuses & Township

Sanjay Sinha



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Presentation Content

1. Brief Introduction about Mahindra World City
2. Why Green Design
3. Green Design – Journey So far
4. A Sustainable Development
5. Mahindra World City–Partners for sustainable Development

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Mahindra World City–Partners for sustainable Development

Government	RICO The Industrial Catalyst
Master Planners	JURONG
Landscaping Consultants	SITE CONCEPTS INTERNATIONAL
Sustainability Partners	CLINTON FOUNDATION | CLINTON CLIMATE INITIATIVE
Kamal Cogent	Kamal Cogent Energy Sustainability Engineered
Center for Environment & development Studies	

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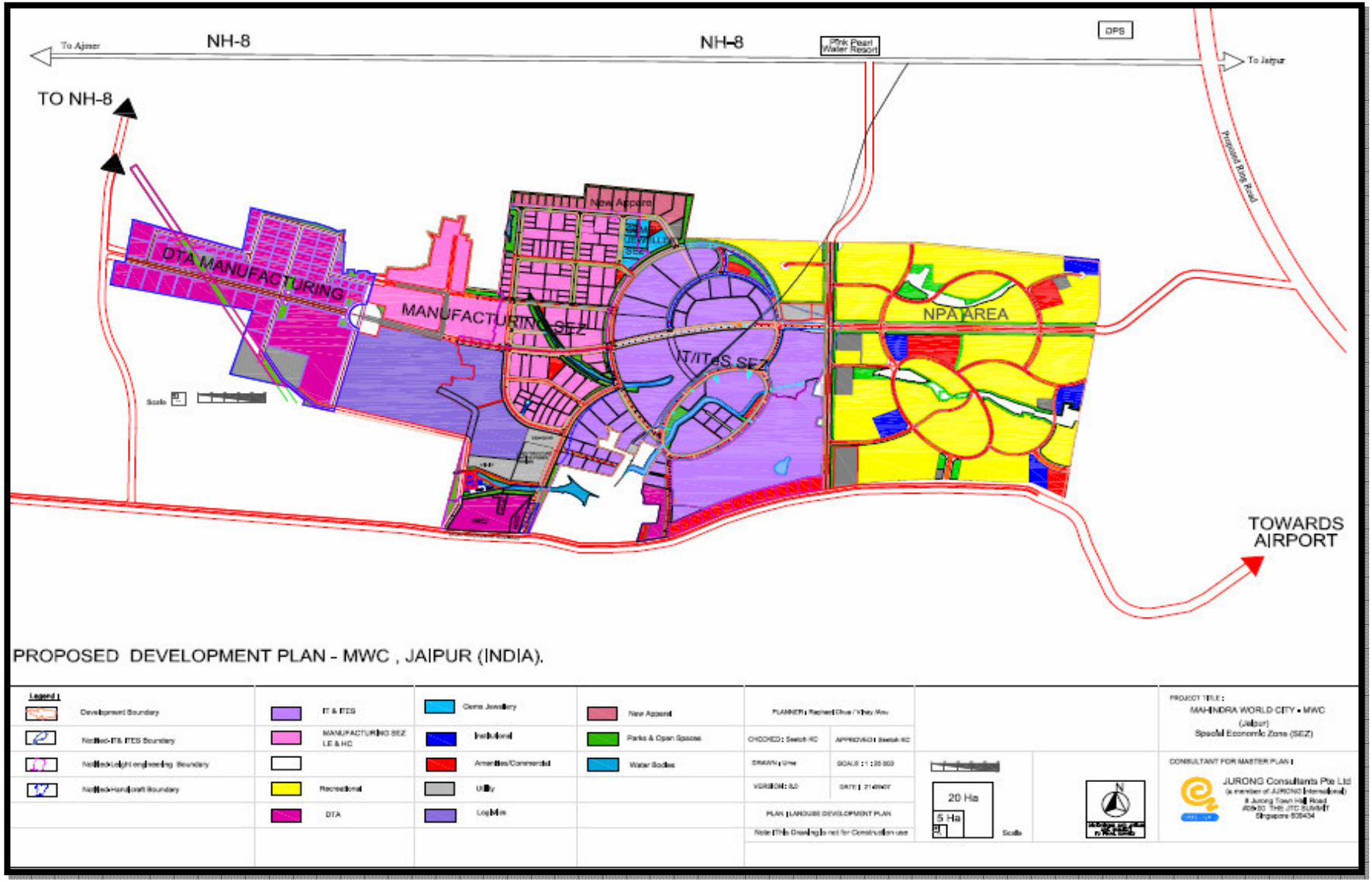
Mahindra World City - Introduction

- Joint venture between Mahindra Group & Govt. of Rajasthan through RIICO – 74:26
- **Integrated business city** spread over in 3000 acres
- Master planners: **JURONG** Consultants Pte Ltd, Singapore
- Landscaping consultants: **Site Concepts, Singapore**.

Focus sectors

- IT / ITES
- Light Engineering /Automotive/Auto Component
- Handicrafts
- Apparel
- Gems & Jewellery
- Logistics and Warehousing
- Domestic Tariff Area (DTA)
- Social Infrastructure

Mahindra World City – Master Plan



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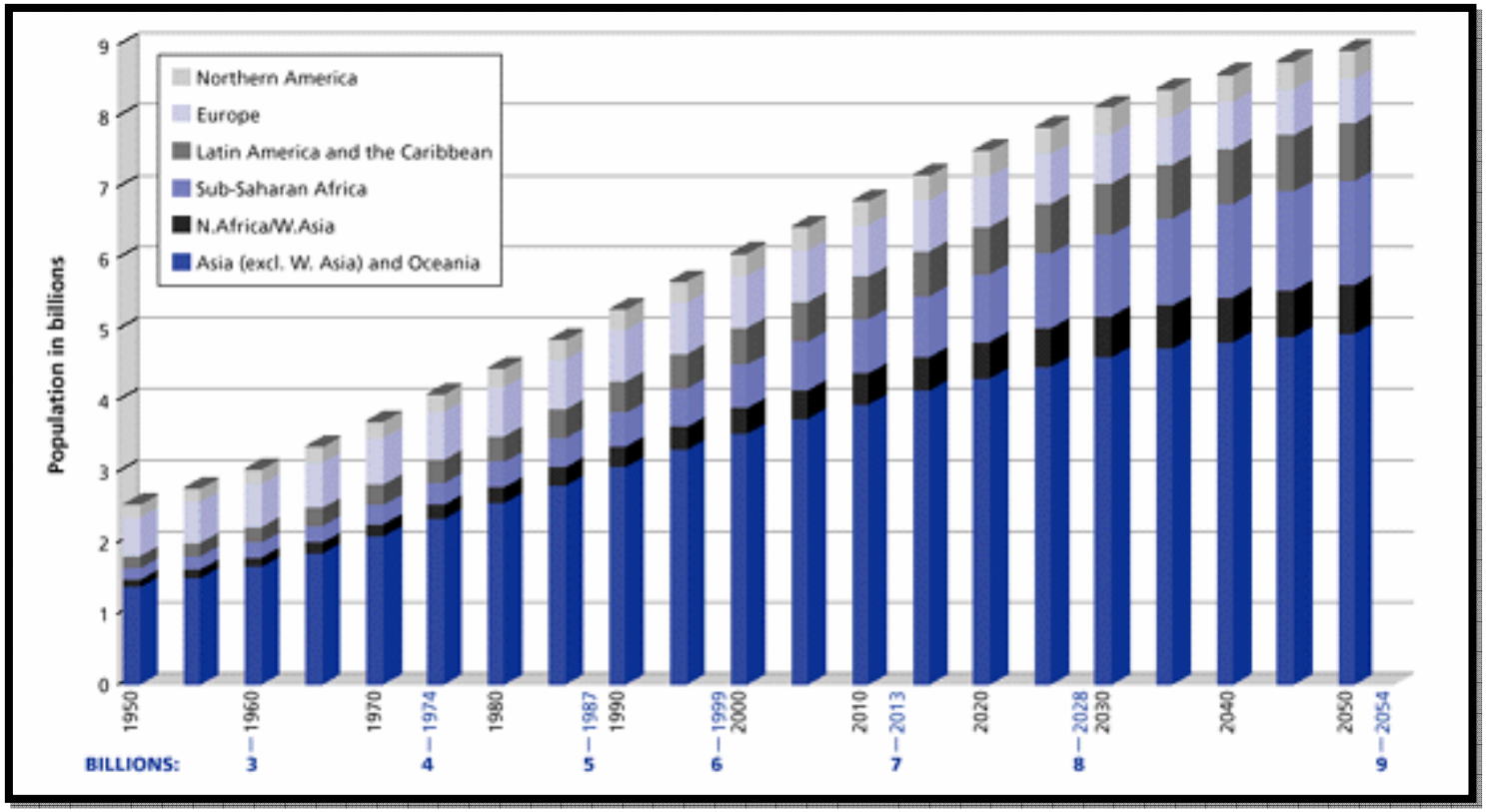
Evolve – The NxtGen IT Park

25 Acre, 1.6 Million Sq. ft Built up Area

Inside Notified Special Economic Zone

- **First phase of MTP offers Super built-up area of 4,15,000 sq.ft., with large floor areas and all modern amenities like Food Court, ATM, Gymnasium etc.**
- **Deutsche Bank Anchor Client with 2 Lac sq.ft area and 2000 people**

Why Green Design



During the next century, as population doubles and resources available per person drop by one-half to three-fourths, humankind will *have to* drastically alter fundamental ways of thinking and operating in order to survive. The number one challenge that will face today's children as they enter adulthood will be how to reconcile the impact of their daily lives with the limitations of our global ecosystems.

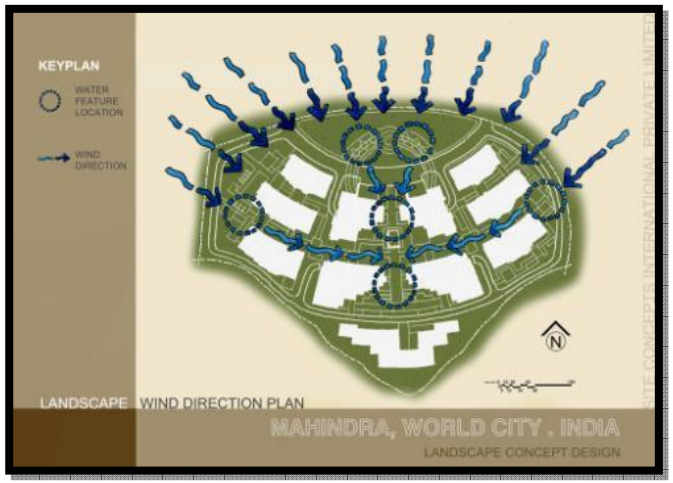
Approach for Green Design

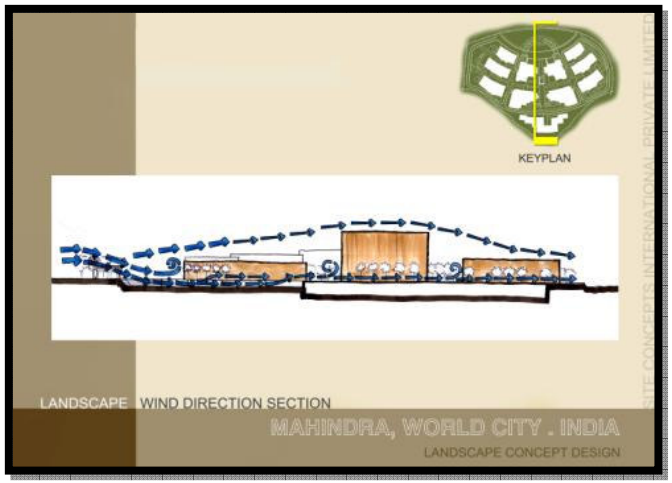
Green design based on MUM concept

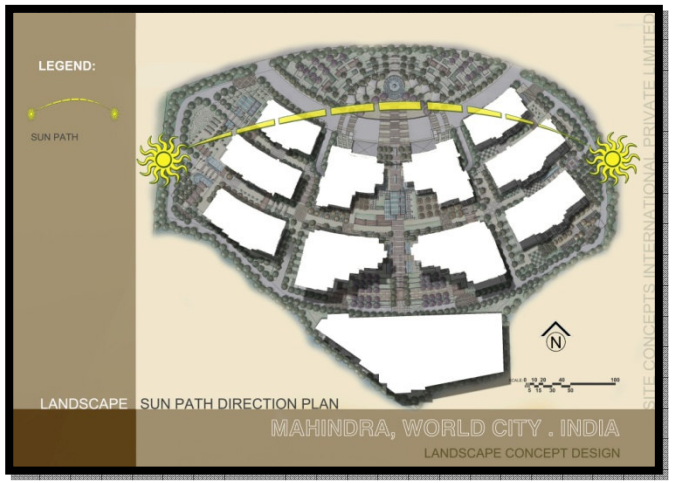
- **M -→Minimize** demand on non-renewable resources
- **U--→Utilize** renewable resources.
- **M-→Maximize** reuse and recycling resources

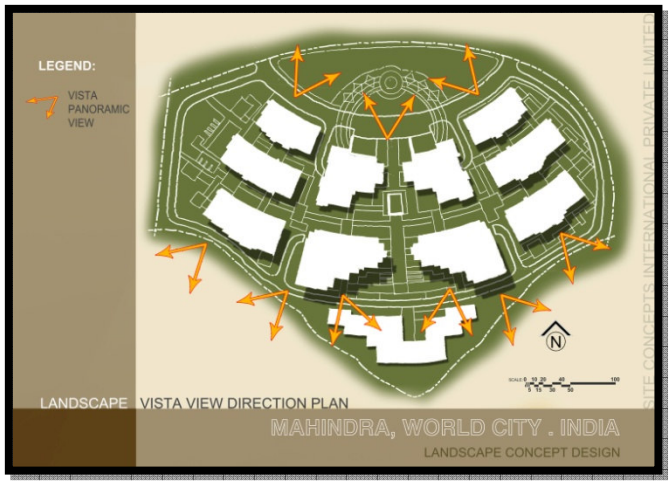
Green Design – Journey so far

- Passive cooling system in campus planning and design based on actual climatic analysis on last 30 years of data









Green Design – Journey so far

❖ Site planning

- ❑ Conservation of Top Soil
- ❑ Restore defunct water bodies over 18Ha, 300ML
- ❑ Water harvesting thru seasonal Nalla, fish seeding
- ❑ Plant deep rooted trees of local species
- ❑ Preserve / transplant existing tress
- ❑ Buildings with green or high SRI roof
- ~~❑ Surface impoundment and water harvesting capacity of approx 250-300 ML on 18 HA.~~

Green Design – Journey so far

❖ Energy Optimization

- ❑ BEE star rated lighting fixture.
- ❑ LED based Street lighting luminaries.
- ❑ External lighting, STP/WTP powered thru Solar power.
- ❑ Astronomical timer for dusk to dawn operation.
- ❑ SCADA controlled Hydro-censor based water supply
- ❑ Water Cooled Chillers for district cooling
- ❑ VFD & VAV controllers in HVAC system for enhanced COP

Green Design – Journey So far

❖ Optimize Water Consumption

- ❑ Harvest Rain water (300ML)
- ❑ Recycled water for non-potable applications
- ❑ Install water efficient fixtures/drip irrigation
- ❑ **66%** of total water need met through recycled water

❖ Plantation

- ❑ Nursery with Polynet & Shade House
- ❑ Deep Rooted, large foliage trees of local species
- ❑ Community Tree Plantation
- ❑ Final development to have more than **1,00,000 trees**

Jan 2007

Site Condition

Soil pH Value : 8 to 8.83

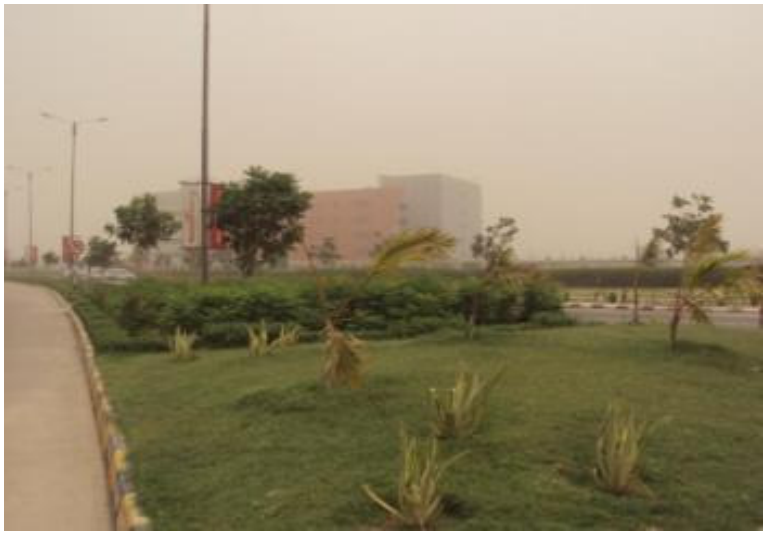
Water pH Value : 8.2

Fluoride Content : 3.8 (permissioble-1.0-1.5)

Alkalinity : 1088 mg/ml (200-600)

TDS : 2680 mg/ml(500-2000)

Jan 2010



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Jan 2011

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Target for Jan 2017

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Mahindra World City–Partners for sustainable Development

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