Objectives of the Presentation

The objectives are to Outline:

- KFUPM *Land Use Map* using the GIS Based Digital Master Plan

- KFUPM *Support Services* Land Use Statistics
KFUPM PAST, PRESENT & FUTURE

Purposes of a Master Plan

- A **guide** for future development.

- The **development** of campus and its facilities.

- **Align** campus development with the University's educational **Strategic** Plan.
Comparison of Aerial Photographs

1976 1998

Student Housing
Academic/Research
Faculty Housing
Staff Housing
Commercial
Support Services
Main Mosques
School
Community Services
Labor Housing

FINAL LAND USE MAP FOR KFUPM (2005)
<table>
<thead>
<tr>
<th>S. No</th>
<th>Zoning Areas</th>
<th>Proposed % of land use of Total Campus Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Academic/Research</td>
<td>38</td>
</tr>
<tr>
<td>2</td>
<td>Student Housing</td>
<td>12</td>
</tr>
<tr>
<td>3</td>
<td>Faculty Housing</td>
<td>29</td>
</tr>
<tr>
<td>4</td>
<td>Support Services</td>
<td>9</td>
</tr>
<tr>
<td>5</td>
<td>Labor Housing</td>
<td>1</td>
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<tr>
<td>6</td>
<td>Staff Housing</td>
<td>1</td>
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<tr>
<td>7</td>
<td>Commercial</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>Recreational</td>
<td>5</td>
</tr>
<tr>
<td>9</td>
<td>Education Services</td>
<td>4</td>
</tr>
</tbody>
</table>
Percentage of Land Use Excluding US Consulate

- 38% Academic/Research
- 29% Faculty Housing
- 12% Student Housing
- 9% Support Services
- 5% Recreational
- 4% Educational Services
- 4% Schools
- 3% Staff/Labor Housing
- 2% Commercial

Percentage of Land Use Including US Consulate

- 34% Academic/Research
- 26% Faculty Housing
- 11% Student Housing
- 9% Support Services
- 6% US Consulate
- 5% Recreational
- 4% Educational Services
- 3% Staff Housing
- 2% Commercial
Fig 1. Showing the Boundary of KFUPM campus with the surroundings

Fig 2. Showing the Land Use Zones in the Campus
Fig 3. Showing the Road Centerline for the entire Campus

Fig 4. Showing the Power Network Grid Line for Students Housing
Fig 5. Showing the Power Network Grid Line for the Entire Campus

Fig 6. Showing the Power Network Grid Line for the Support Facilities
Fig 7. Showing the Details of Power Network Grid Line

Fig 8. Showing the Details of Utility Components
Fig 9. Showing the Details of Water Network in Farooq Courts

Fig 10. Showing the Details of Sewer Network in Doha Courts
Fig 1. Showing the Details of Power Network in Farooq Courts

KFUPM Buildings Footprint Map
**KFUPM boundary, road centerline and parking areas Map**

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**Conceptual Zones of KFUPM Central Park**

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Map Showing Green Areas on KFUPM Campus

Pedestrian Walkways Network Map
The labor lines are phased out to accommodate New Storehouse Facility

Total Area of Support Facilities Zone = 131,157 Sq.m

<table>
<thead>
<tr>
<th>Area</th>
<th>Area</th>
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<tbody>
<tr>
<td>Built Area of Support Facilities</td>
<td>81,734 Sq.m</td>
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<tr>
<td>Parking</td>
<td>12,958 Sq.m</td>
</tr>
<tr>
<td>Mosques</td>
<td>1,098 Sq.m</td>
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<tr>
<td>Green Areas</td>
<td>18,930 Sq.m</td>
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<tr>
<td>Labor Lines (New Storehouse Facility)</td>
<td>9,102 Sq.m</td>
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<tr>
<td>Total Area Occupied in this Zone</td>
<td>123,822 Sq.m</td>
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<tr>
<td>Area Remaining</td>
<td>7,335 Sq.m</td>
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</table>

Areas Calculated based on the GIS data available. Roads are not included.
Advantages of the *GIS Based Master Plan System*

- Comprehensive Control System.
- High Cost-Performance.
- Support Client/Server.
- Real Time Decision Making.
- Universal impact System
- Early Warning Mechanism
- Reserve Output to needed stations through Block Allocation Method

Thank You