



Asia Water Week 2013

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Combined vs. Separate Systems: What Works for You?

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Asia Water Week

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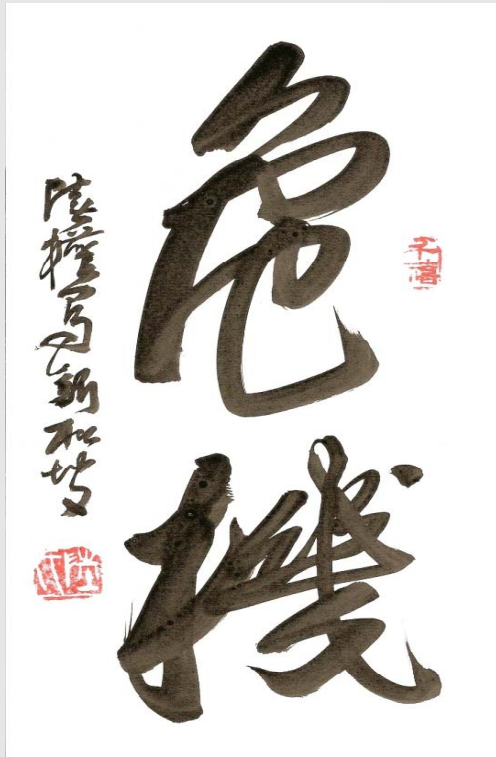


The Urban Arithmetic for 2050

- 155,000 persons per day
- 90% in developing countries
- ~90% in urban areas
- ~800,000 per week in urban settings
- X 52 weeks per year
- X 40 years



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CRISIS

=

DANGER + OPPORTUNITY



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The Decision Space

Level of
Integration

Highly Centralized,
Highly Integrated

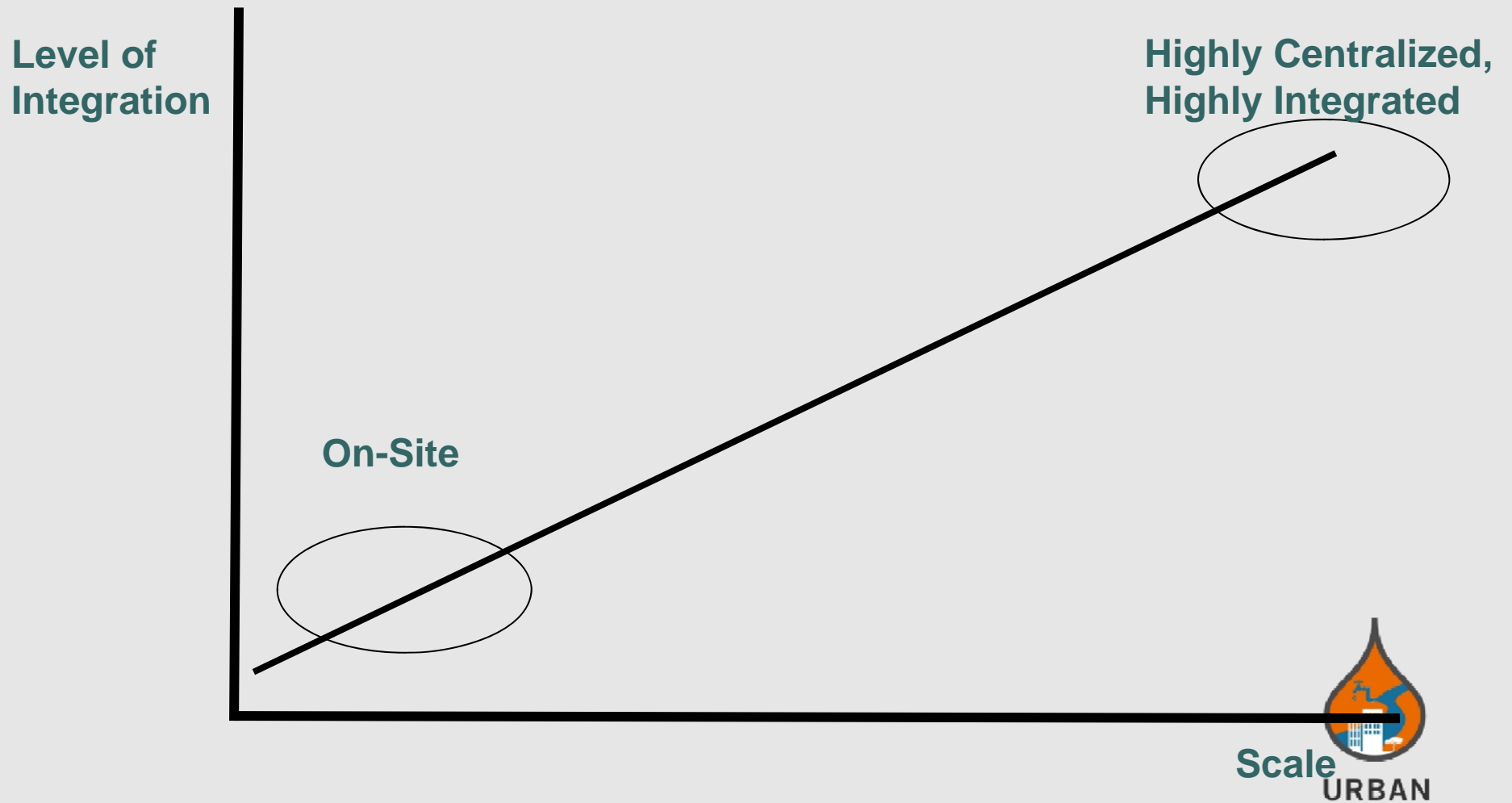
On-Site

Scale

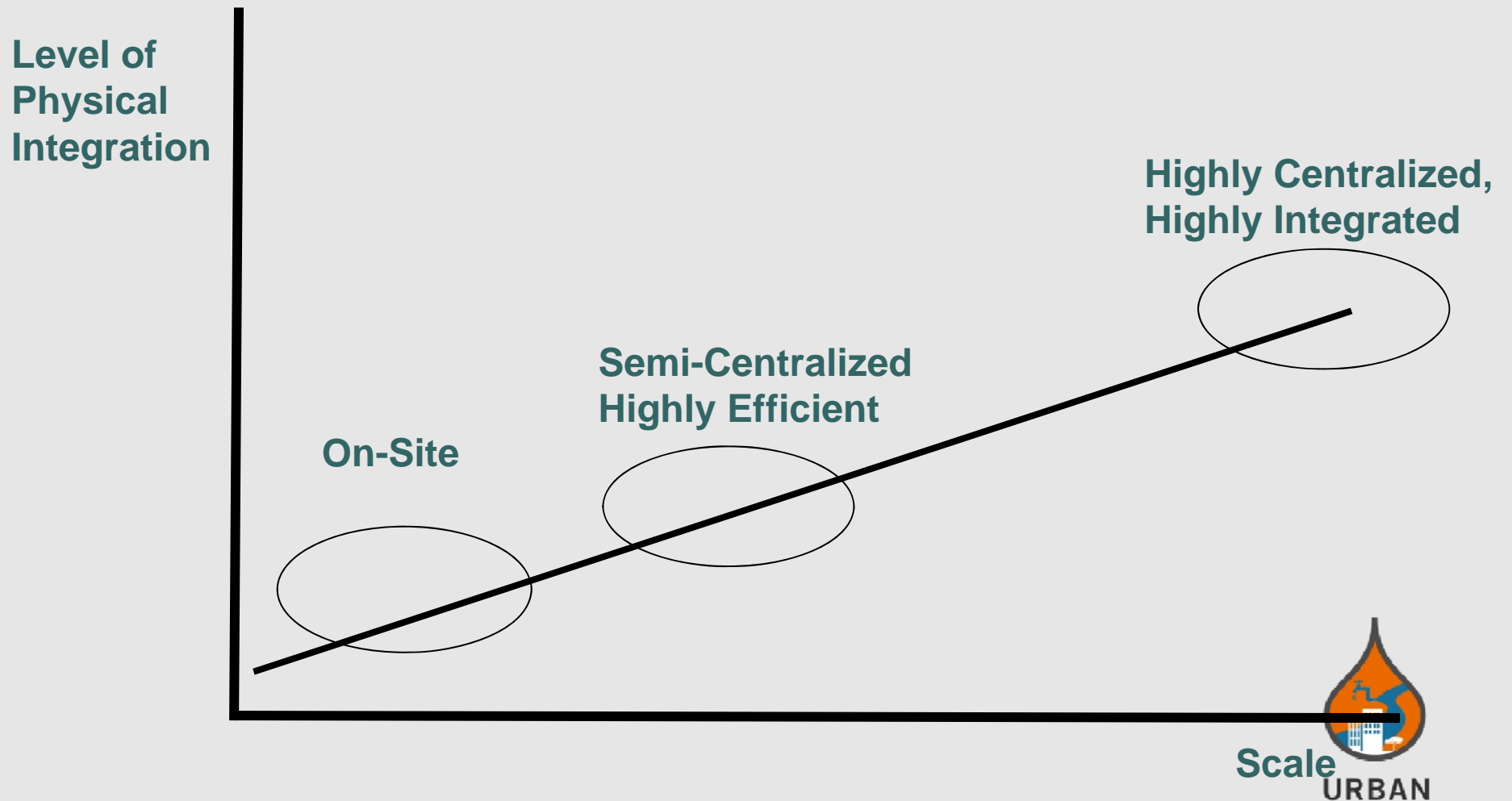


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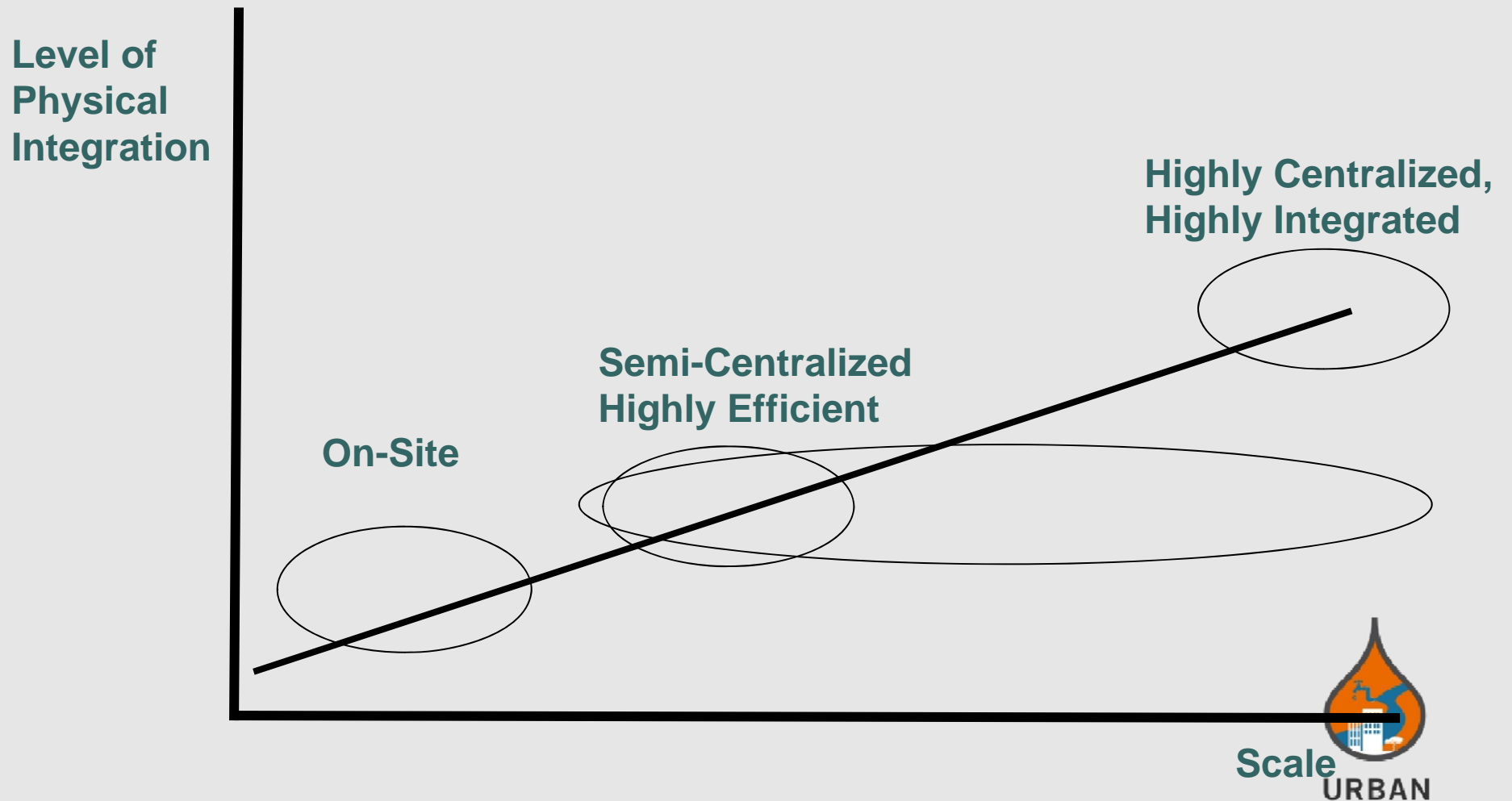
The Decision Space



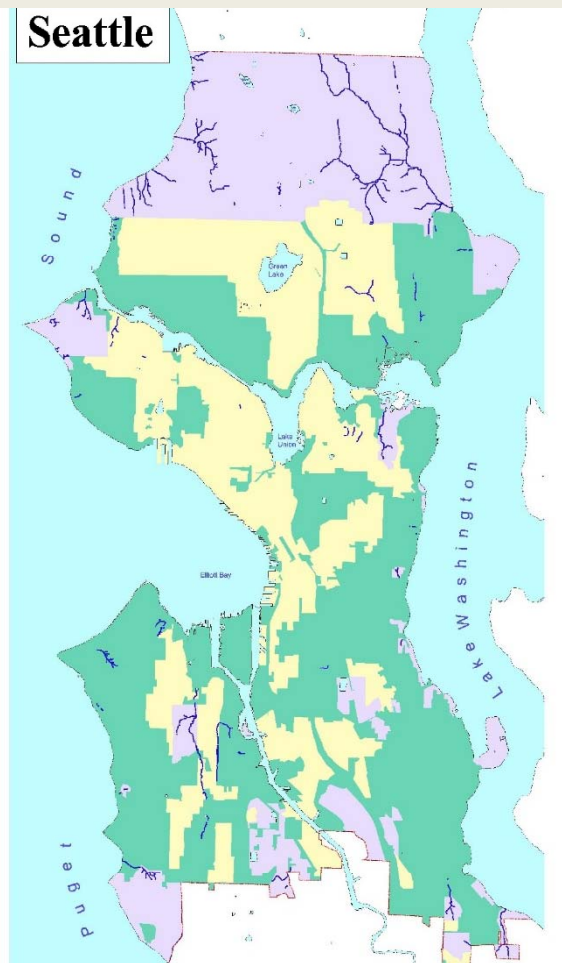
The Decision Space






The Decision Space



Three Types of Systems



-  Ditch and Culvert
-  Combined Sewer
-  Storm Drain



Evolution of Policy

1987	Formed drainage utility following 100-year storm
1995	Stormwater plan begins guiding water quality program
1996	City's role in landslide prevention strengthened
2001	Shift to natural systems underway



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Major Issues

- Control
- Costs
- Efficiency
- Capacity
- Other constraints

