Decisions for the Decade:
A serious game on long-term decision making
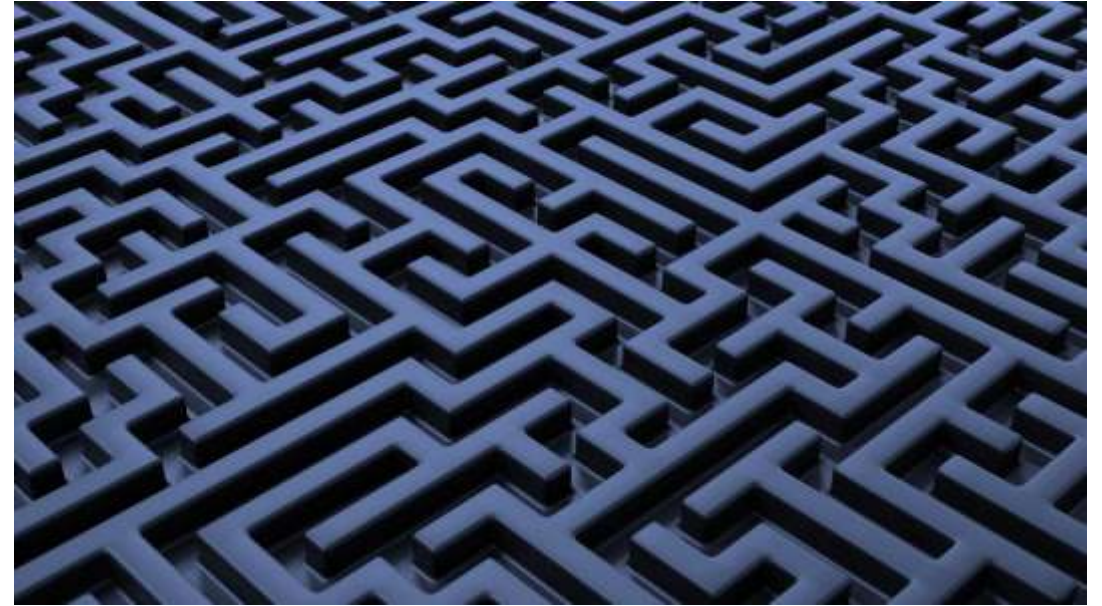
Robert Lempert

Gegham Qalajyan via Getty Images

"Serious games" can help improve risk management

Powerful methods now exist to help manage risk under conditions of deep uncertainty

Data and argument alone are insufficient for effective risk communication

Serious games provide a compelling means to help disseminate new methods for risk management
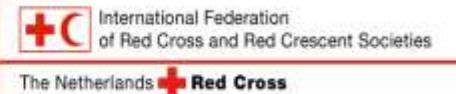
Decisions for the Decade

How do we make smart long-term decisions?
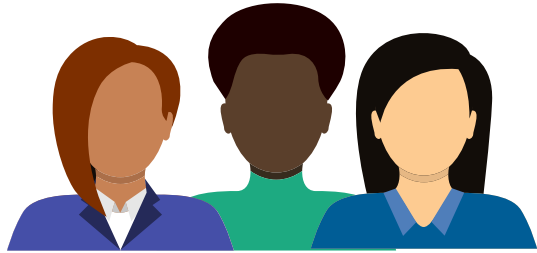
All Participate

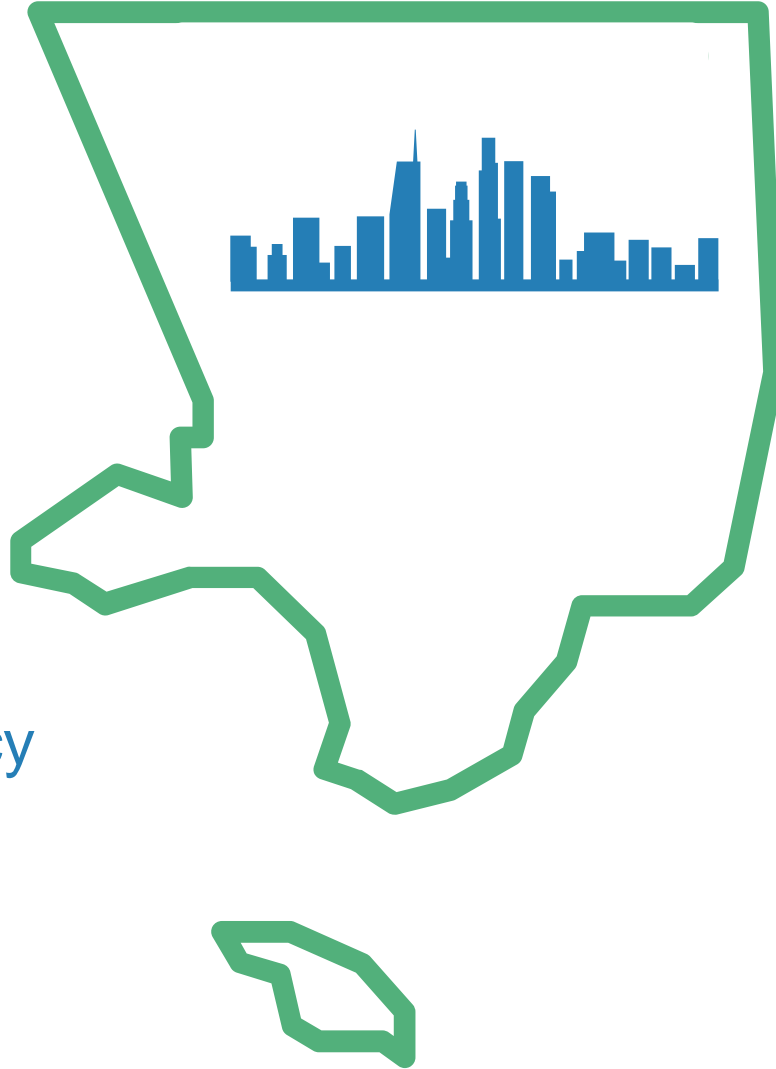(...expect confusion...)

THE WORLD BANK

RED CROSS/RED CRESCENT CLIMATE CENTRE

International Federation of Red Cross and Red Crescent Societies

The Netherlands Red Cross

RAND CORPORATION

Your objective….
prepare your region for the future

The Cone of Uncertainty

Present

Multiple
Futures
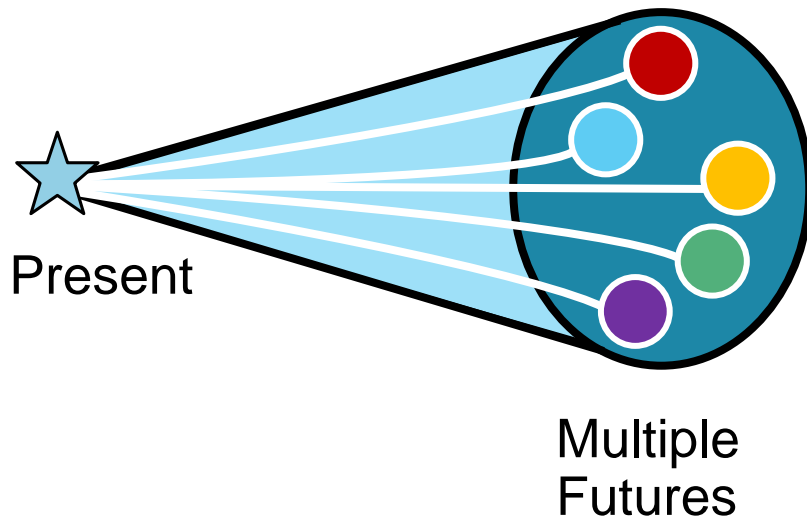
- What will the future bring?
- Will it be different from the past? In what way?
- What investment decisions should we make?
- Will we be prepared?

The Set-up

Making Decisions

Regional decisions require <u>teamwork</u>

- Use single *Region* board and brown beans

REGION BOARD

How to win

Winning Region
- **Most Prosperity**
- Tiebreaker: Region with fewest crises

If you roll a flood: lose 1 bean

Earn 1 Prosperity Point per bean, but only if no crisis

If you roll a drought: lose 1 bean

Decade	2. INVESTMENT DECISIONS				3. OBSERVATIONS	4. RESULTS	
	FLOOD Protection (0–9)	**INVESTMENT and O&M (1–10)**	**DROUGHT Protection (0–9)**	Choose **Insurance**?	**Annual Precipitation**	**# Crises**	**# Prosperity Points**
1				✕			
2				Yes / No			
3				Yes / No			
4				Yes / No			
						TOTAL:	

Steps of the Game

1 Receive scientific information

2 Make decisions

3 Record observations

4 Tally results

Steps of the Game

1 Receive scientific information

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Annual Rainfall Chart
Downtown Los Angeles
Seasons 1877-2021
Dotted red line is average for all seasons.
Measurement is in inches.
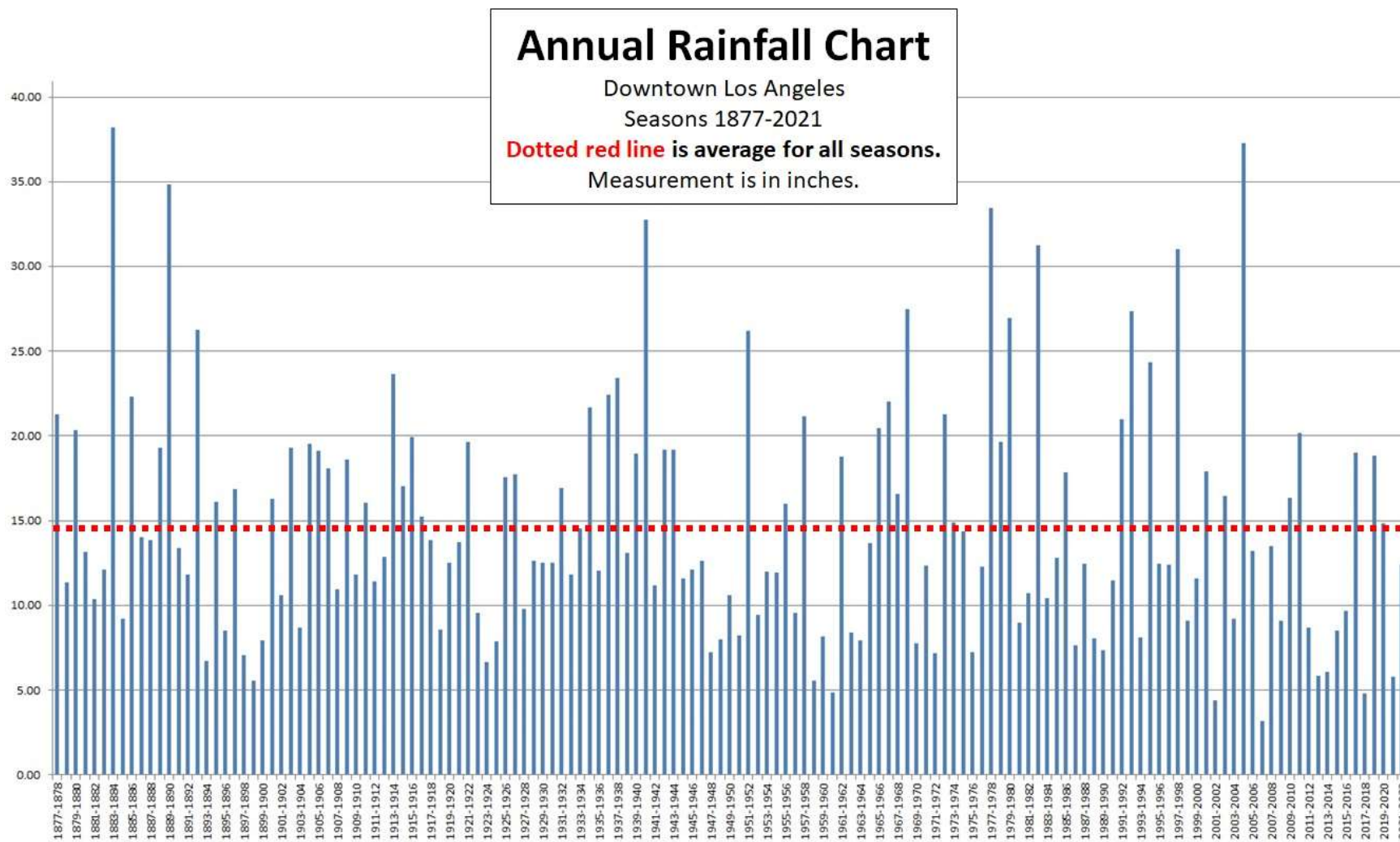
Your source of information

? = **Flood** ☂️

? = **Drought** 🌵

2 Make decisions

Allocate resources for each decade (10 beans total)

Decade	2. INVESTMENT DECISIONS			Choose Insurance?	3. OBSERVATIONS	4. RESULTS	
	FLOOD Protection (0–9)	INVESTMENT and O&M (1–10)	DROUGHT Protection (0–9)		Annual Precipitation	# Crises	# Prosperity Points
1							
2				Yes / No			
3				Yes / No			
4				Yes / No			
						TOTAL:	

2 Make decisions

Decade	2. INVESTMENT DECISIONS			Choose Insurance?	3. OBSERVATIONS Annual Precipitation	4. RESULTS # Crises	# Prosperity Points
	FLOOD Protection (0–9)	INVESTMENT and O&M (1–10)	DROUGHT Protection (0–9)				
1	0	9	1				
2				Yes / No			
3				Yes / No			
4				Yes / No			
						TOTAL:	

2 Make decisions

Decade	2. INVESTMENT DECISIONS			Choose Insurance?	3. OBSERVATIONS	4. RESULTS	
	FLOOD Protection (0–9)	INVESTMENT and O&M (1–10)	DROUGHT Protection (0–9)		Annual Precipitation	# Crises	# Prosperity Points
1	1	8	1				
2				Yes / No			
3				Yes / No			
4				Yes / No			
						TOTAL:	

3 Record observations

10 rolls = 10 years of precipitation
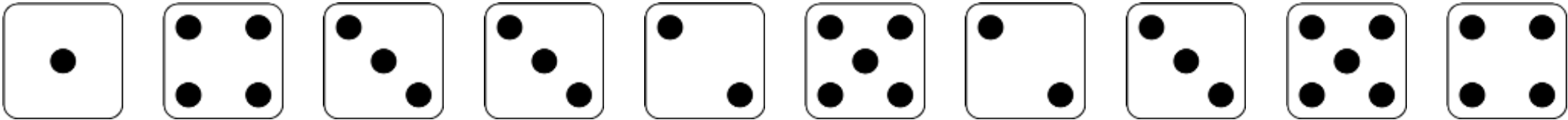
3 Record observations

10 rolls = 10 years of precipitation

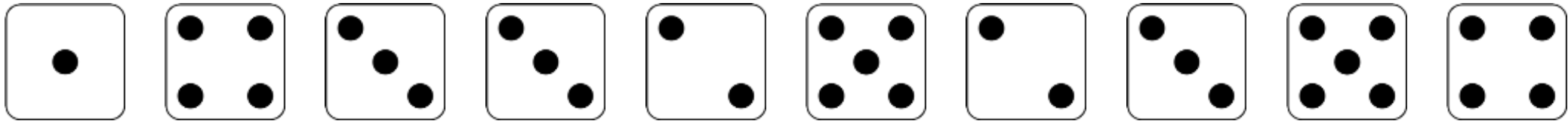| Decade	2. INVESTMENT DECISIONS				3. OBSERVATIONS	4. RESULTS	
	FLOOD Protection (0–9)	INVESTMENT & DEVELOPMENT (1–10)	DROUGHT Protection (0–9)	Choose Insurance?	Annual Precipitation	# Crises	# Prosperity Points
1	0	9	1		*1, 4, 3, 3, 2, 5, 2, 3, 5, 4* **One Drought**		
2				Yes / No			
3				Yes / No			
4				Yes / No			
					TOTAL:		

4 Tally results

We get 9 Prosperity Points for the remaining beans!

Decade	2. INVESTMENT DECISIONS			Choose Insurance?	3. OBSERVATIONS Annual Precipitation	4. RESULTS # Crises	# Prosperity Points
	FLOOD Protection (0–9)	INVESTMENT and O&M (1–10)	DROUGHT Protection (0–9)				
1	0	9	1				
2				Yes / No			
3				Yes / No			
4				Yes / No			
						TOTAL:	

But what if we had a second drought?

Decade	2. INVESTMENT DECISIONS			Choose Insurance?	3. OBSERVATIONS	4. RESULTS	
	FLOOD Protection (0–9)	INVESTMENT and O&M (1–10)	DROUGHT Protection (0–9)		Annual Precipitation	# Crises	# Prosperity Points
1							
2				Yes / No			
3				Yes / No			
4				Yes / No			
						TOTAL:	

4 Tally results

Each shortage of protection is a new crisis!

⚠️ ⚠️

Not enough protection means…

…a social and environmental <u>crisis</u>

…and <u>0 Prosperity Points</u>!

Decade	2. INVESTMENT DECISIONS			Choose Insurance?	3. OBSERVATIONS	4. RESULTS	
	FLOOD Protection (0–9)	INVESTMENT and O&M (1–10)	DROUGHT Protection (0–9)		Annual Precipitation	# Crises	# Prosperity Points
1							
2				Yes / No			
3				Yes / No			
4				Yes / No			
						TOTAL:	

4 Tally results

If one drought occurs:

Region 1 🫘 x9   🫘 x1   0   💲x9

Region 2 🫘 x2   🫘 x8   ⚠️x2   0

Decade	2. INVESTMENT DECISIONS			Choose Insurance?	3. OBSERVATIONS	4. RESULTS	
	FLOOD Protection (0–9)	INVESTMENT and O&M (1–10)	DROUGHT Protection (0–9)		Annual Precipitation	# Crises	# *Prosperity Points*
1				✕			
2				Yes / No			
3				Yes / No			
4				Yes / No			
					TOTAL:		

Repeat steps 1 through 4

1 Receive scientific information

2 Make decisions

3 Record observations

4 Tally results

Key Rules

Simplification of reality
No challenging the rules!

Decisions are collaborative
But only within your region!

We will play 4 decades of decision making
Each round is 10 years

Winning the game

The Winning Region has:

- *Most Prosperity Points*
- *Tiebreaker: Region with fewest crises*

There are prizes!!!

Let's Play!!!

One last task..

In your groups, identify:

- One thing you learned from the game, and

- One thing you felt

Thanks for playing Decisions for the Decade!

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