

A background image showing a handball game in progress. A player in a maroon and yellow striped jersey is in the foreground, reaching up with both hands to catch or throw a white and blue handball. Other players in similar jerseys are visible in the background, some looking towards the ball. The scene is outdoors on a grassy field.

# Workshop:

# Sport infrastructure development at local level

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**mulier** instituut

# Structure workshop

1. Introduction in sport system (in the Netherlands)
2. Key elements in local policies on facilitating sport
3. Distribution of sport facilities
4. Instruments to measure and prospect demands for sport facilities
5. Considerations and implications for local sport infrastructure development

# Why sport policy?

Leisure time, own responsibility?

Social right - Sport for All (market failure)

Benefits of sport for the individual and for society

Facilitate sport participation  
influence behaviour

# Relevance of facilitating sport

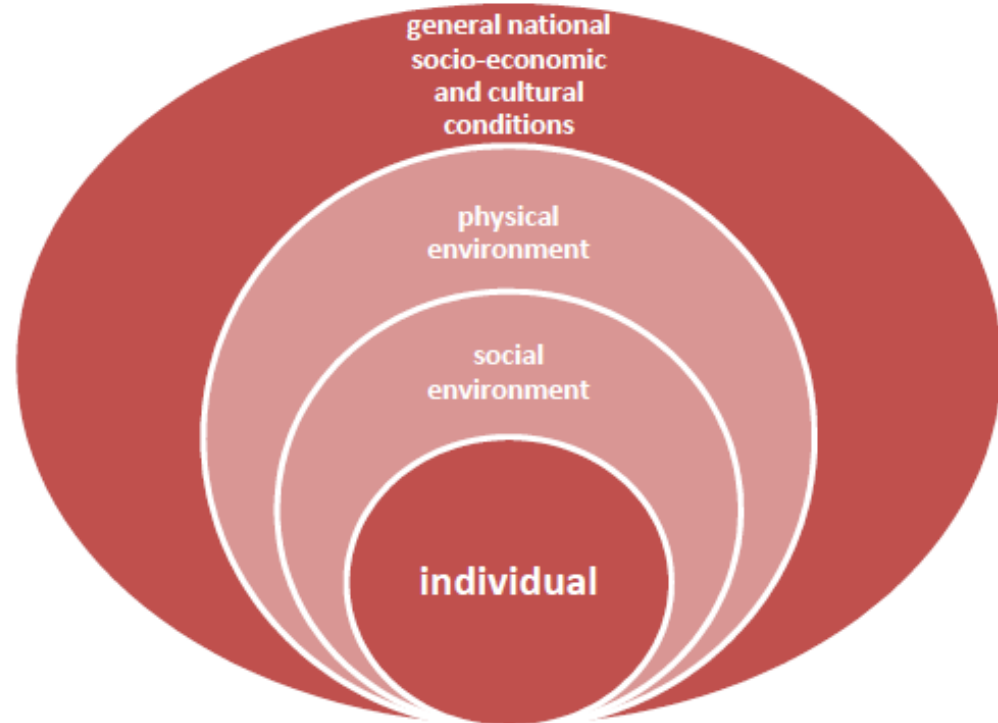
- European Sport for All Charter (Council of Europe, 2001)

*“the scale of participation in sport is dependent in part on the extent, the variety and the accessibility of facilities”.*

- Sport requires space

# Socio-ecological model (Bronfenbrenner 1979)

*“Not one factor or set of factors adequately accounts for why people act as they do”*

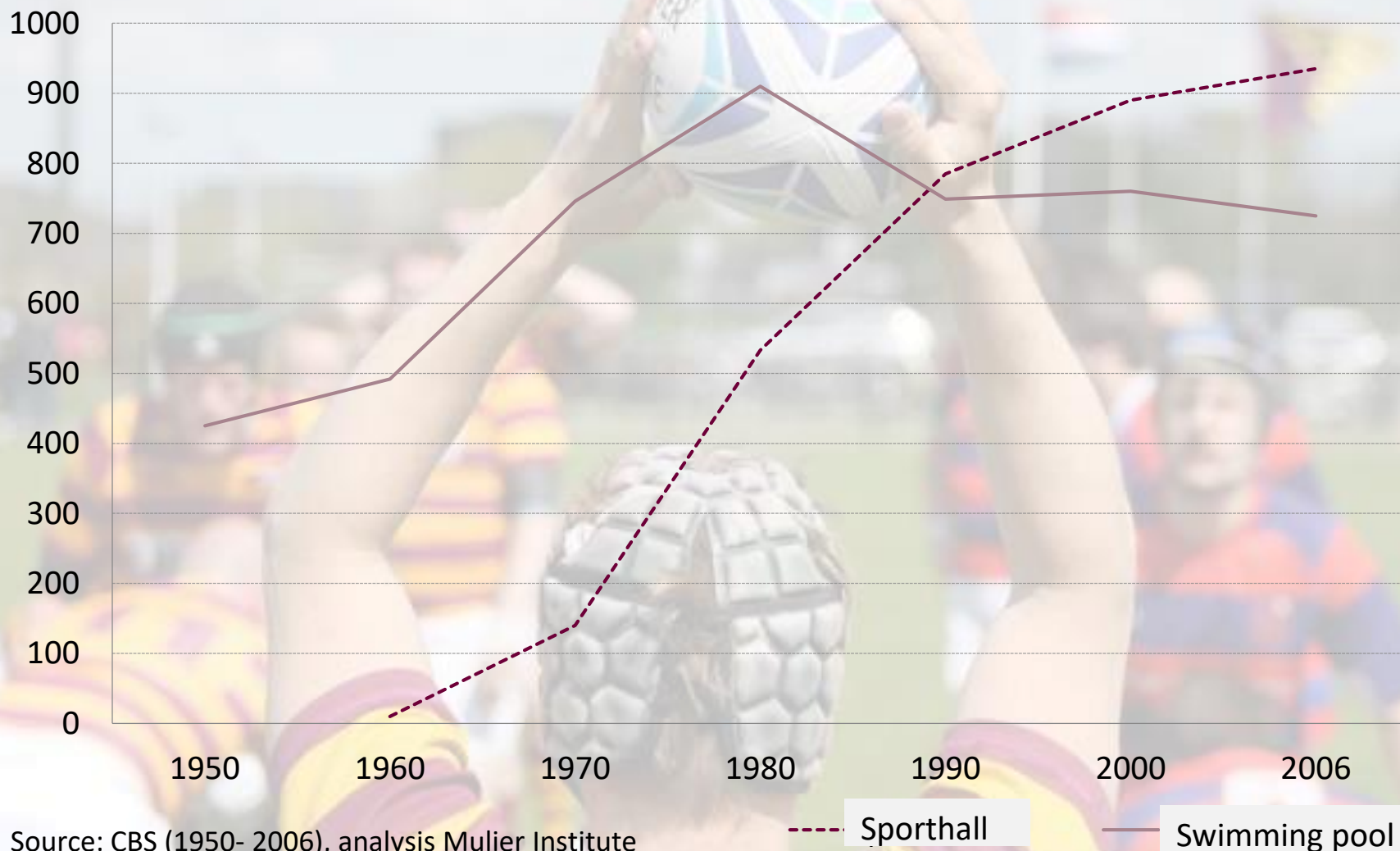


Source: Van Tuyckom 2011



# Development of sport facilities in the Netherlands

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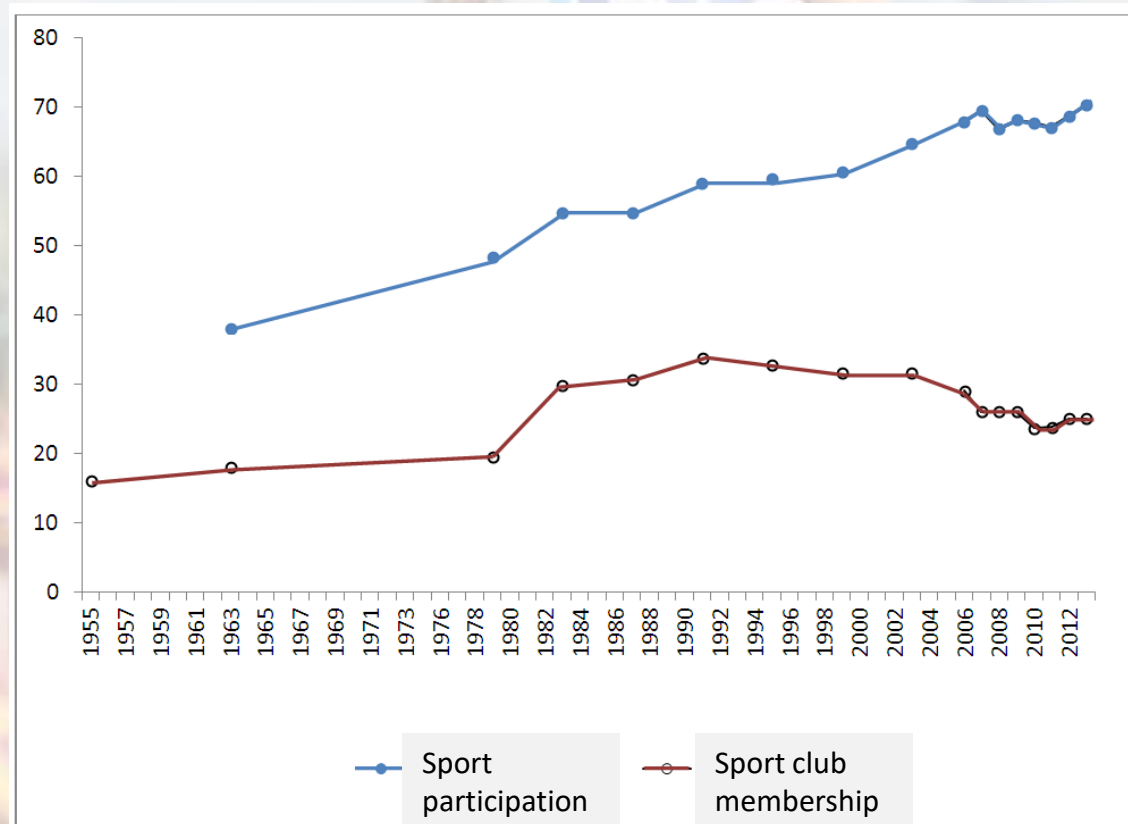
Source: CBS (1950- 2006), analysis Mulier Institute



@RemcoHoekman

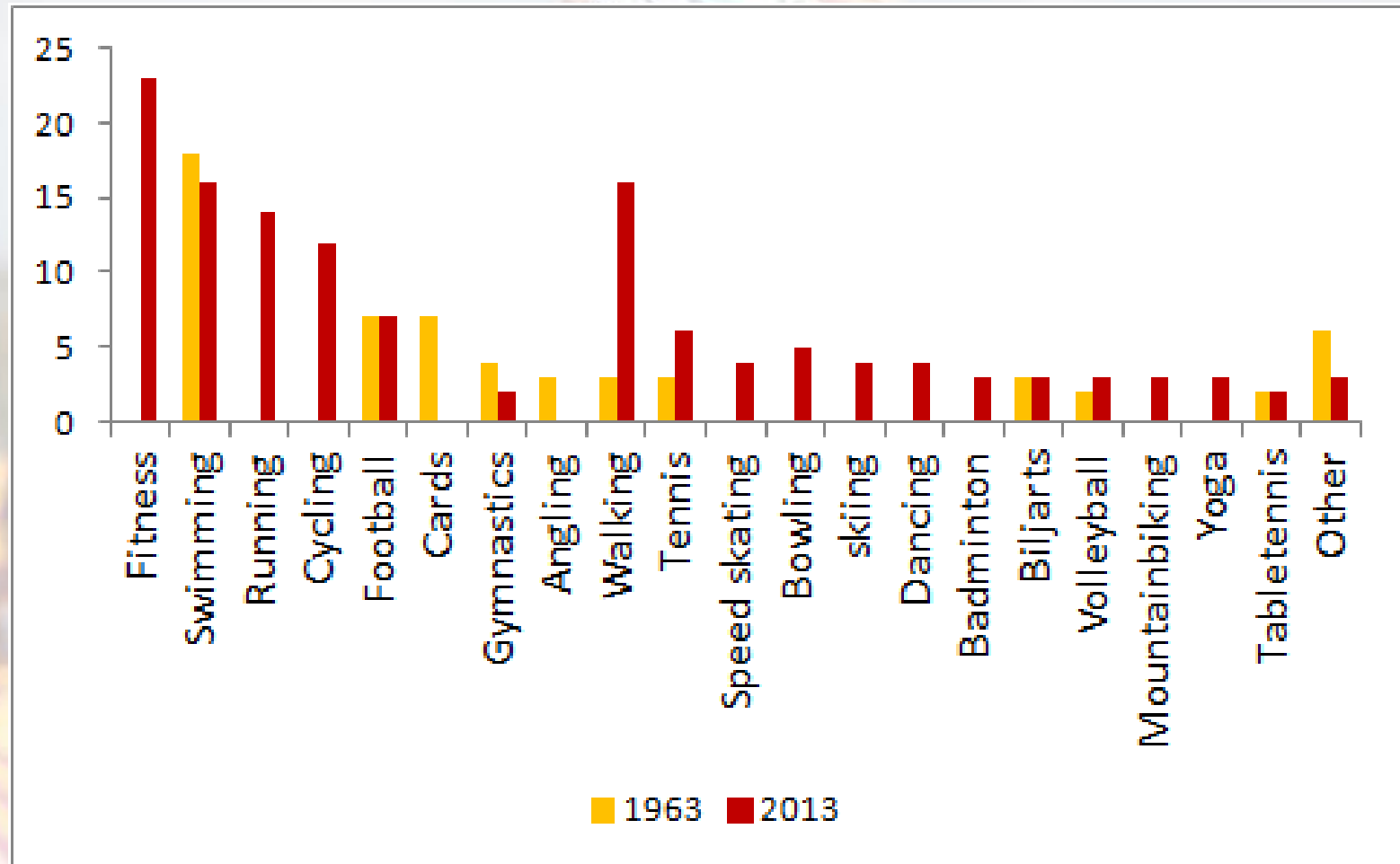
Klaipeda, Lithuania

# Increase in sport participation



Source: Breedveld (2014), *Sportparticipatie, uitdagingen voor wetenschap en beleid* (Radboud Universiteit)

# ... change in participation

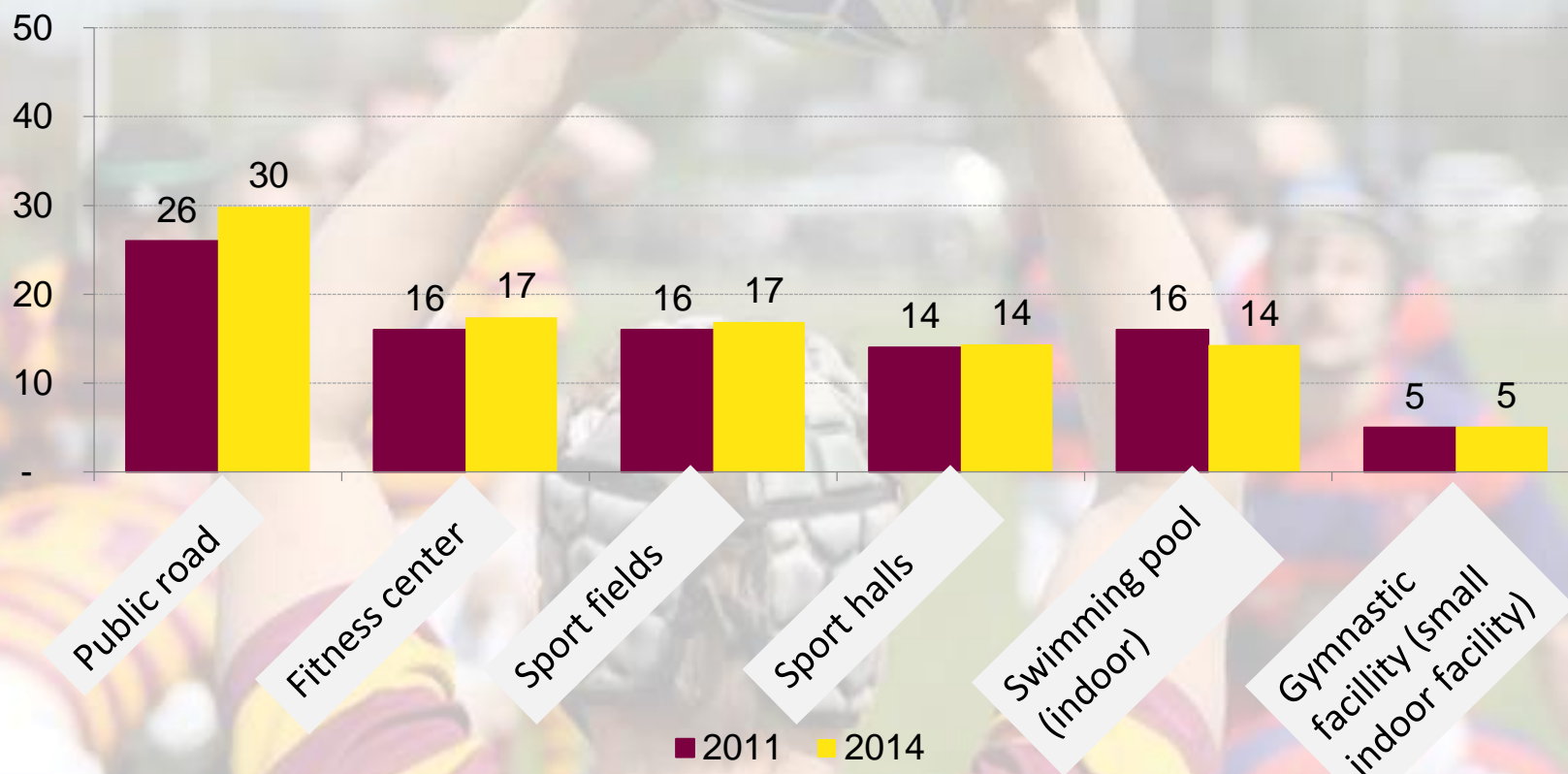


Source: K. Breedveld (2014), *Sportparticipatie, uitdagingen voor wetenschap en beleid* (Radboud Universiteit)



# Facility use for sport practices

Use of types of facilities for sport participation, 2011 and 2014, Dutch population, 6-79 years old (in percentages)



# Dutch context

## No legal obligations for sport - division of responsibilities to governmental levels

- Municipalities: responsible for facilitating sport
- Provinces: supporting local programs
- National: national sport infrastructure, monitoring developments, initiate new initiatives

## Sport as an instrument - societal value of sport

Prevention / health / youth / education / integration / etc.

## Coördinating government

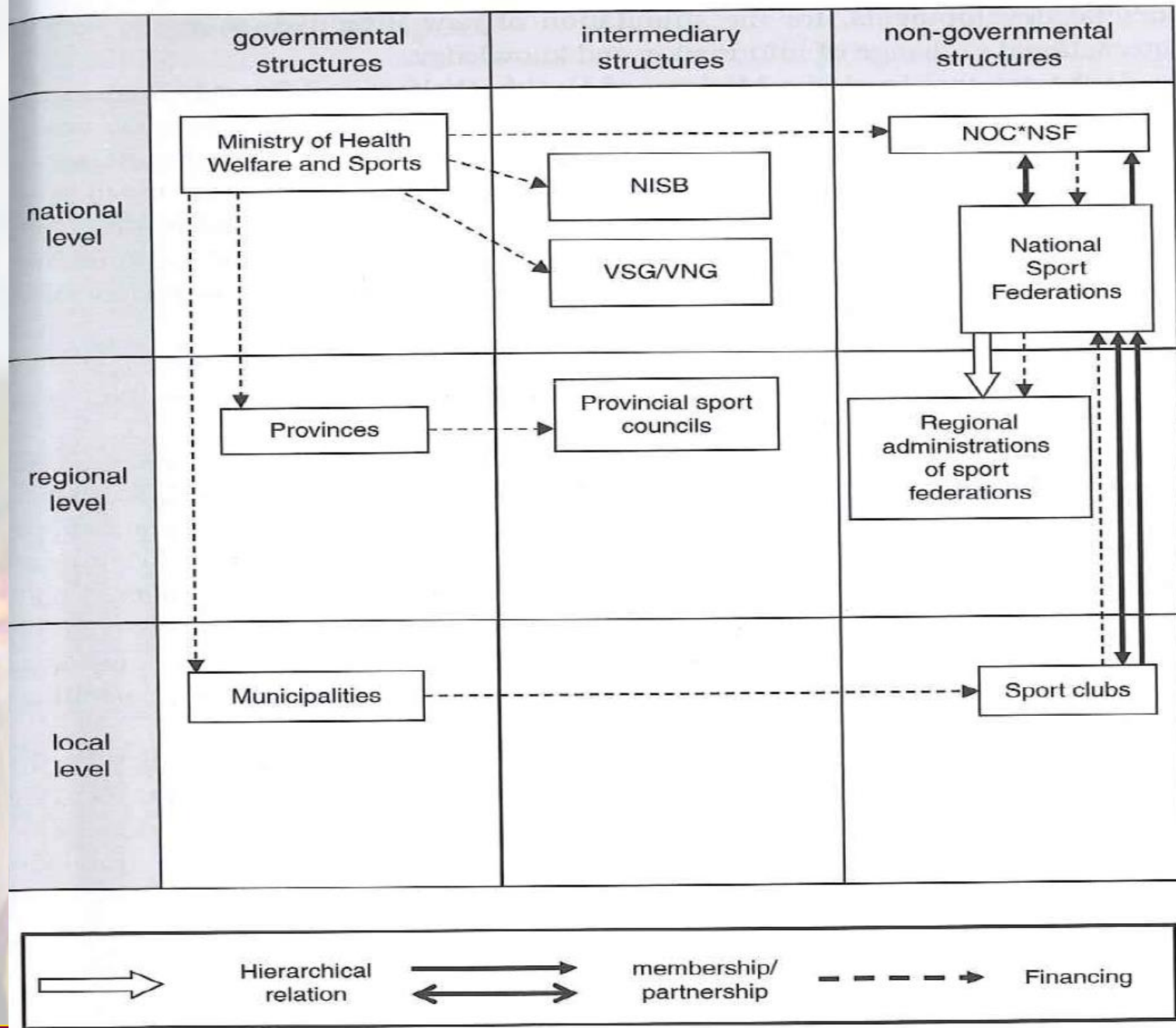
Sport policy result of cooperation policy partners

Social system: co-creation, participation society, added value of sport

## Historical development explains current situation

# Dutch sport system

Based on Hoekman & Breedveld (2013).



# Sport in the Netherlands

Participation in sports and physical activity 2013  
Comparing the Netherlands to the European Union (%)



# Understanding local sport policy

## Changing discourse in local sport policy

Focus on instrumental value of sport

Health of population as main objective rather than sport participation

## Sport budget mainly dedicated to sport facilities

Do sport facilities contribute to sport participation?

How can we improve the utilization of sport facilities, or the costs involved?

## Austerity

Limited influence on sport budgets, contrary to the eighties

Increased emphasis on effective and efficient sport policy

More attention for utilizing the market or 'civil society'

Sport profits from naturalized belief in goodness of sport



# Content local sport policy

Effective and efficient policies on sport infrastructure

optimal use of sport facilities

utilizing the present 'local sporting capital'

continuous development of the local sport infrastructure

Bigger role for voluntary sport clubs

Important local partner

More responsibilities: policy projects and running/operating sport facilities

Utilizing the instrumental value of sport

Connect with other policy domains

Attention for specific target groups

Initiating new programs and cooperation

# Policy on sport facilities



Quality /  
modes of  
operation



Capacity /  
distribution



Fees

# Good distribution in NL

Table 2. Analysis of variance, all sport facilities by area level urbanity and deprivation.

	Mean number of facilities per 10.000 inhabitants	Mean distance (metres) to nearest facility	Mean number of different types of facilities
Categories of urbanisation			
1 – extremely urbanised	3.49	419	2.1
2	5.22	543	2.9
3 – moderately urbanised	6.07	629	3.5
4	8.59	722	4.4
5 – not urbanised	11.38	912	2.5
Total	6.68	630	3.1
	$F = 45,325;$ $p < 0.001$	$F = 334,433;$ $p < 0.001$	$F = 179,428;$ $p < 0.001$
Deprivation score quintile			
1 – most deprived	5.89	544	2.9
2	6.95	654	3.4
3 – middling	7.46	645	3.5
4	6.97	673	3.1
5 – most affluent	5.70	632	2.7
Total	6.55	624	3.1
	$F = 12.599;$ $p < 0.001$	$F = 27.030;$ $p < 0.001$	$F = 22.826;$ $p < 0.001$

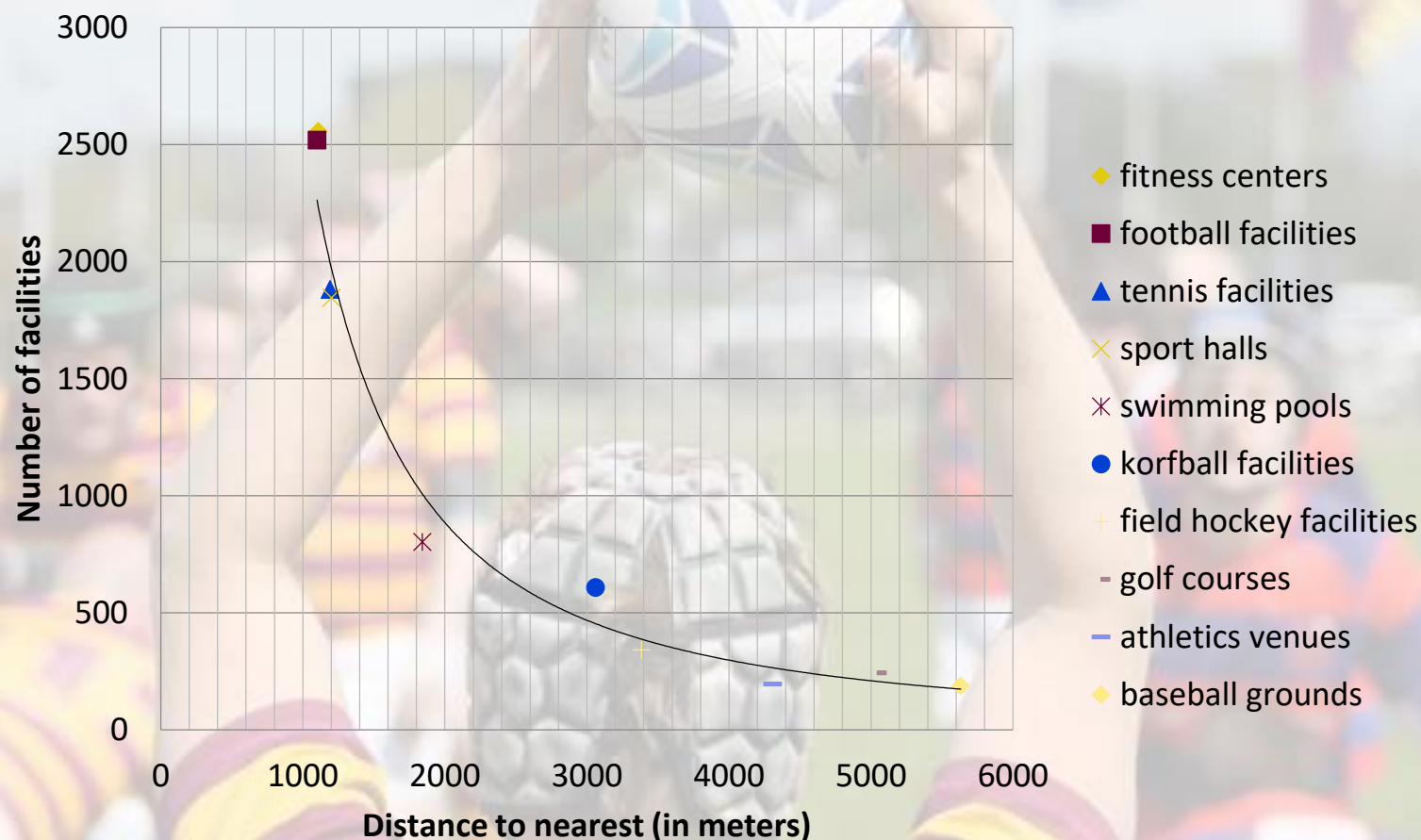
Source: Hoekman et al. (2016) Landscape of sport facilities in the Netherlands

# Distance to sport facilities

Distance in km to nearest sport facility, average per type of facility for Dutch population.

	fitness	golf	hockey	korfball	sporthall	tennis	football	Swimming pool
Netherlands	1,5	6,3	4,4	4,1	1,6	1,6	1,6	2,3

## Distance to sport facilities



Source: Hoekman et al. (2016) Landscape of sport facilities in the Netherlands



# Importance of database for sport facilities

- Importance of sport facilities as policy instrument
- Study on knowledge infrastructure on sport illustrated lack of information on presence of sport facilities
- Official key indicator of national sport policy

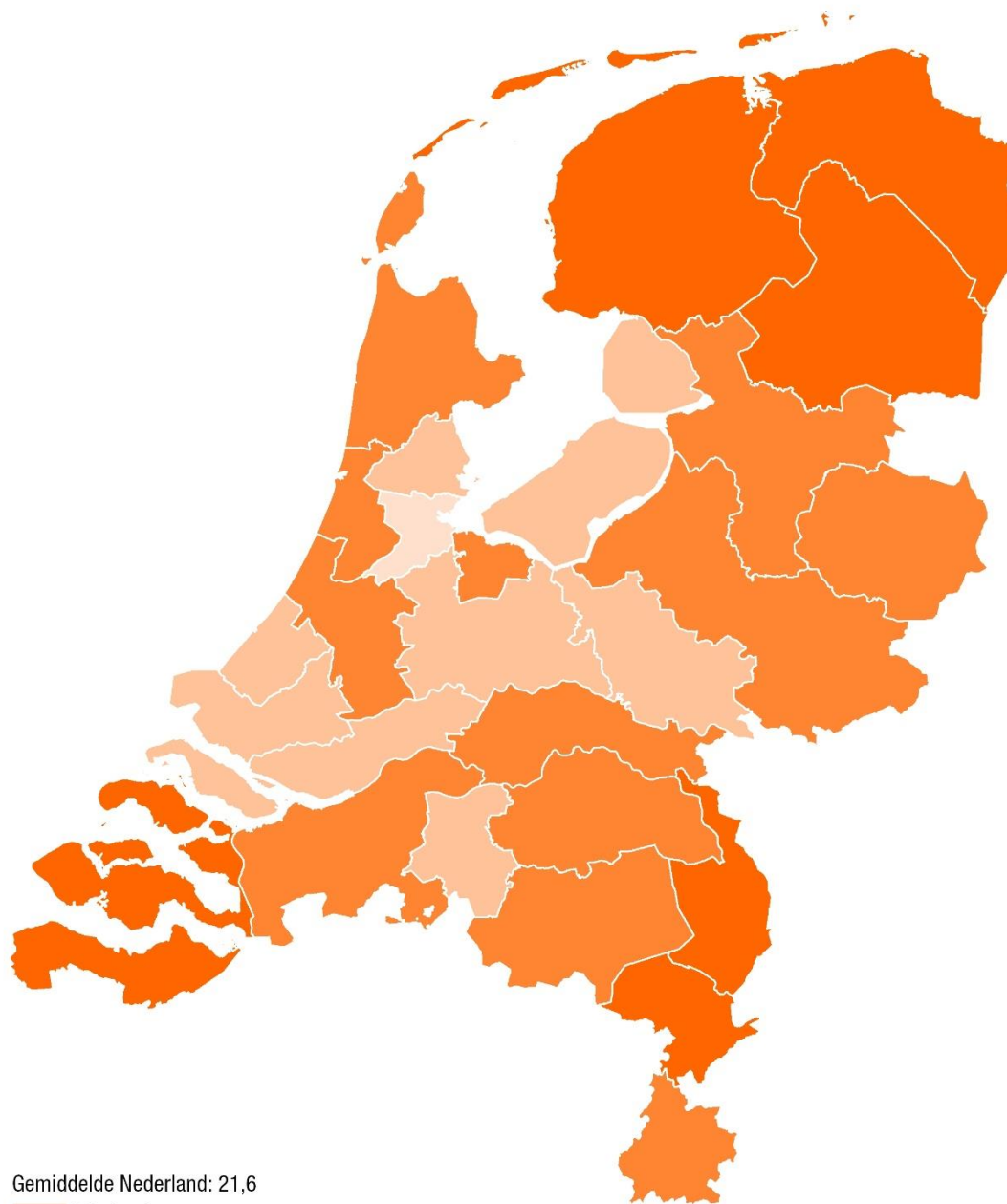
# Content database

- Over 20.000 sport facilities in database (nearly all)
- Linked with database of sport providers

All facilities	Some of the facilities
Address information	Number of fields/lanes/pitches
X-,Y-coördinaten	Accessibility (swimming pools)
Type of sport	Sport provider (VSCs)
Indoor/outdoor	Surface
Type of facility	Facility operator
Date of entry	Year of foundation
...	...

# Core indicator

## Sport facilities



Gemiddelde Nederland: 21,6

-  Minder dan 15
-  15 tot 20
-  20 tot 25
-  25 of meer

Bron: Databestand SportAanbod (DSA), 2015.  
Analyse & kaartvervaardiging: Mulier Instituut, 2016.

# Capacity issue

## tool to calculate current and future need

### Onderdelen

- Current supply
- Occupation rate and current demand
- Trends and developments and future demand
- Policy implications

### Insight in demand

- Outdoor sports
- Indoor sports
- Swimming pools
- Public space

# Approach

Utilizing planning instruments and accepted guidelines

Bandwidth for future perspective (min - max)

Benchmarking

Core indicators

Analysis of occupation rates

Calculate travel distances and catchment areas

User surveys



# Outdoor sports - norms / guidelines

Example of study in municipality of Veldhoven (45.000 inwoners)

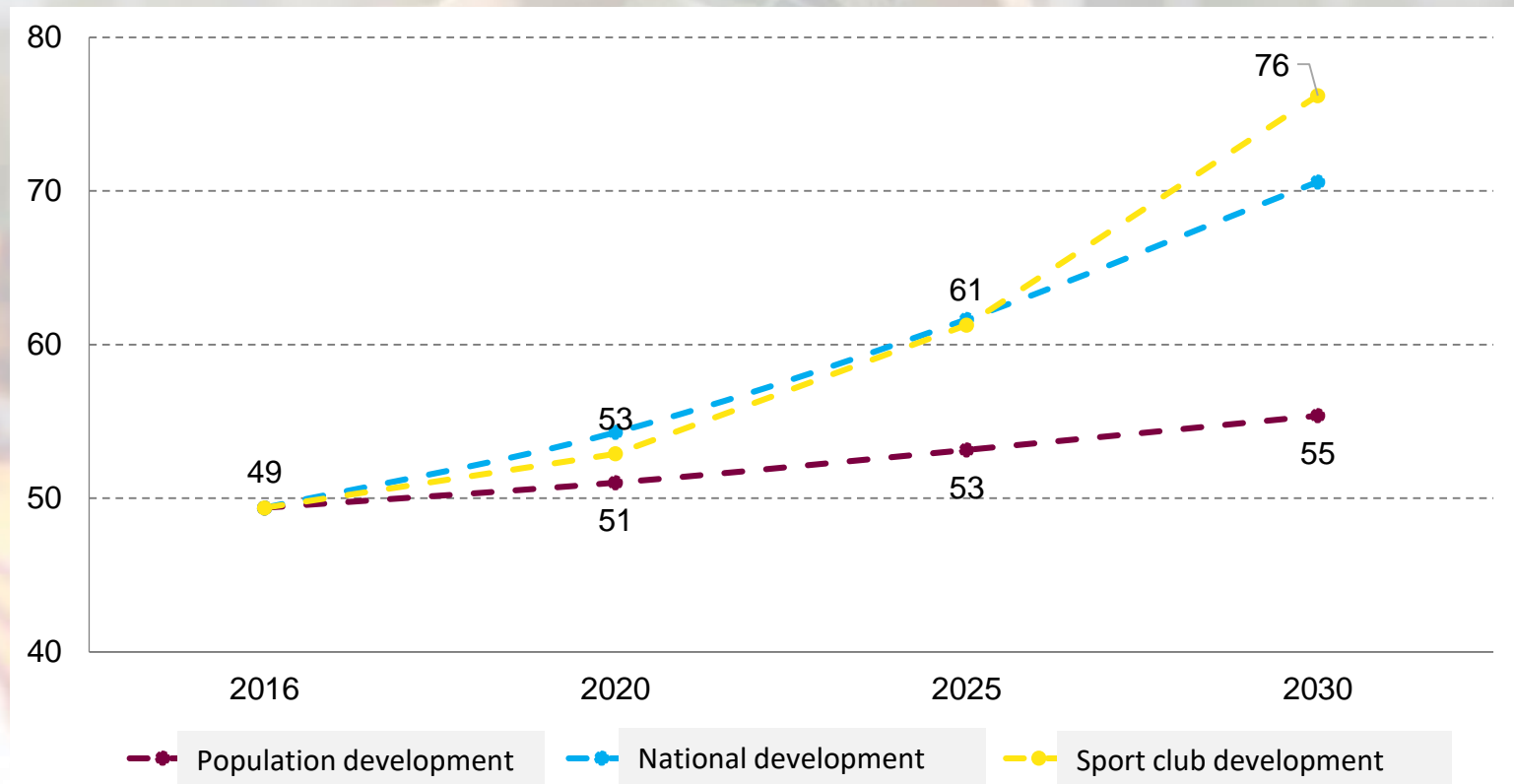
Needs assesment football club, season 2016/2017

	No. Teams		Needed no. Match pitches		Indication year use in hours	
	No. teams	No. Standardized teams	Organisational	Technical	Matches	Practice
<b>Saturday</b>	23	11,9	2,1 (3)	1,7 (2)		
<b>Sunday</b>	8	8,0	1,2 (2)	1,1 (1)		
<b>Total</b>	31	19,9	2,1 (3)	2,2 (2)	558	1.095

# Outdoor sports - future perspective

## Example research Veldhoven

Bandwidth (future) needed no. Standardized teams fieldhockey



# Example: Indoor sports facilities

- Optimization of presence and use of indoor sport facilities
- Standard multi-sport facilities (i.e. no sport specific facilities)
  - Suited for physical education in the Dutch system
- Distinguish three types of indoor sports facilities:  
*large, medium & small*

# Types of indoor sports facilities

Large (44 x 24)

Medium (28 x 22)

Small (21 x 12)

# Planning Instruments

- Dutch Planning Statistics (*Planologische Kengetallen*)  
Development standards (i.e. number of inhabitants per facility)

Large indoor sports facility: 1 facility per 15.000 – 20.000 inhabitants

Medium indoor sports facility: 1 facility per 10.000 - 12.500 inhabitants

Small indoor sports facility: 1 facility per 3.000 inhabitants (based on legislation task for physical education)



# Dutch Sport Facility Database

- Over 20.000 sport facilities  
Covers almost all facilities in The Netherlands

Table 1 – Number of indoor sports facilities in The Netherlands (DSA, 2016)

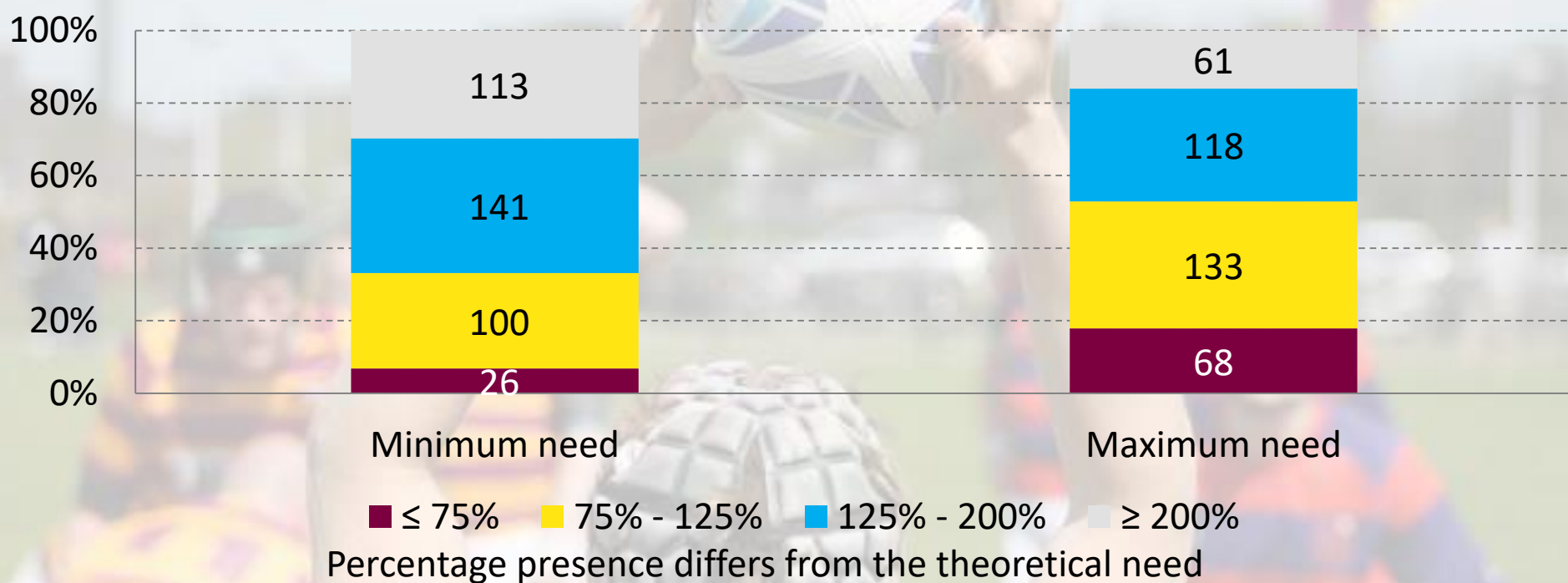
	Large facilities	Medium facilities	Small facilities
N	1,841	689	4,100
Actual presence	<i>1 per 9.000</i>	<i>1 per 25.000</i>	<i>1 per 4.000</i>
Guideline / norm	<i>15.000-20.000</i>	<i>10.000-12.500</i>	<i>3.000</i>

# Dutch Usage Statistics

- Dutch Sports Federation Guideline (*NOC\*NSF*)  
Minimum desired sport usage on a annual basis:  
 $35 \text{ weeks} * 40 \text{ hours} = 1.400 \text{ hours}$
- Association of Dutch Municipalities Guideline (*VNG*)  
Minimum desired usage on a annual basis (including physical education)  
 $40 \text{ weeks} * 40 \text{ hours} = 1.600 \text{ hours}$

# Dutch Planning Statistics

Figure 1 – Number of Dutch municipalities and the ratio between indoor sports facilities presence and theoretical need (DSA, 2016)



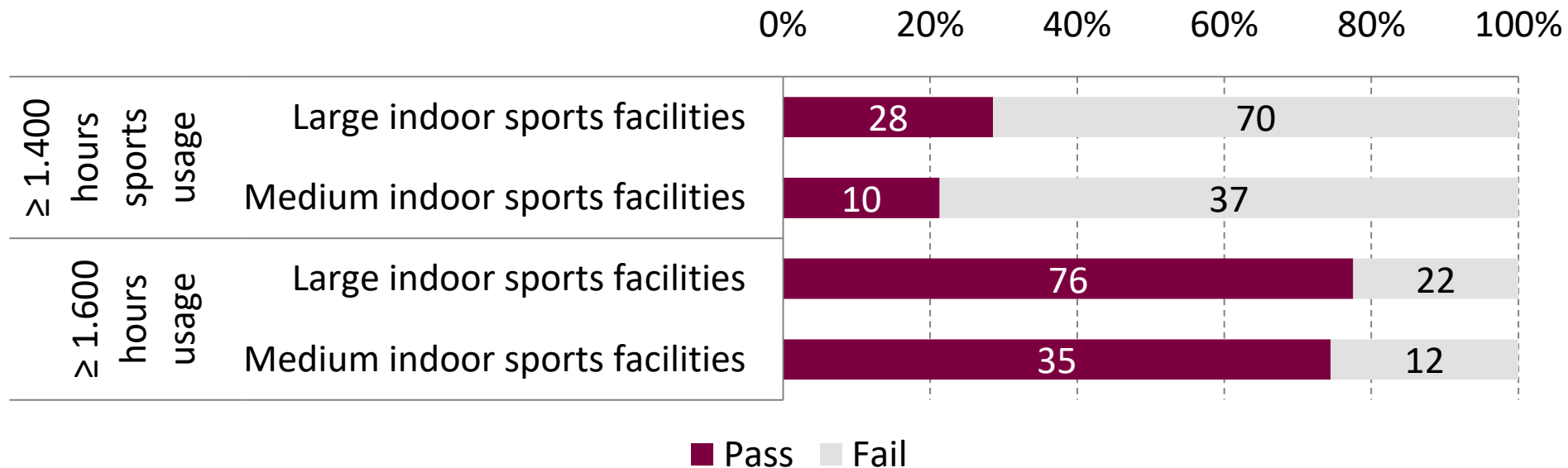
- The presence of indoor sports facilities in the majority of Dutch municipalities exceed the theoretical need

# Benchmark Usage Sport Facilities

- Contains usage data indoor sports facilities from 30 Dutch municipalities  
98 large indoor sports facilities, 47 medium facilities & 233 small facilities
- Contains the date, time, user & activity from every usage

# Usage guidelines

Figure 2 – Number of indoor sports facilities that meet the guidelines



- The greater majority of the facilities do not meet the guideline from the Dutch Sports Federation

A significant amount also doesn't pass the Association of Dutch Municipalities guideline



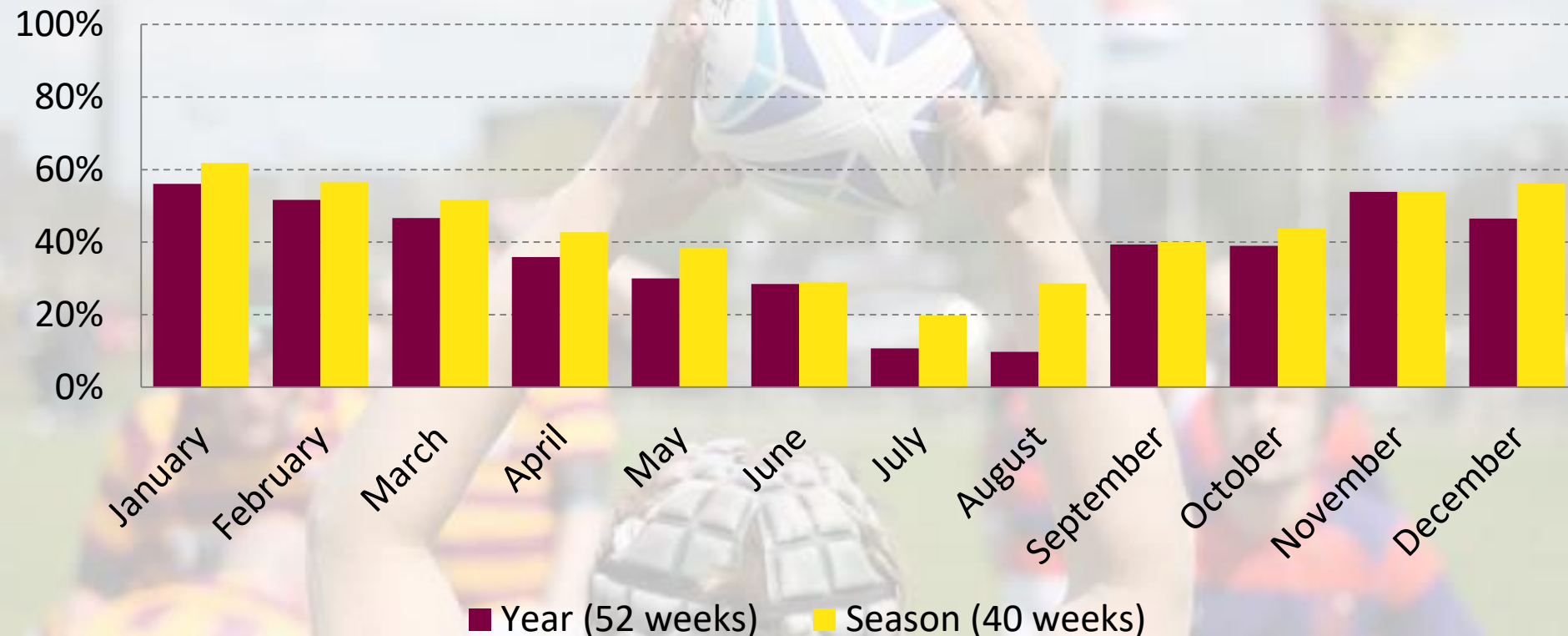
# Annual usage

Figure 3 – Distribution annual usage indoor sports facilities, in hours



# Usage by month

Figure 4 – Average occupancy rate large indoor sports facilities, by month, in %

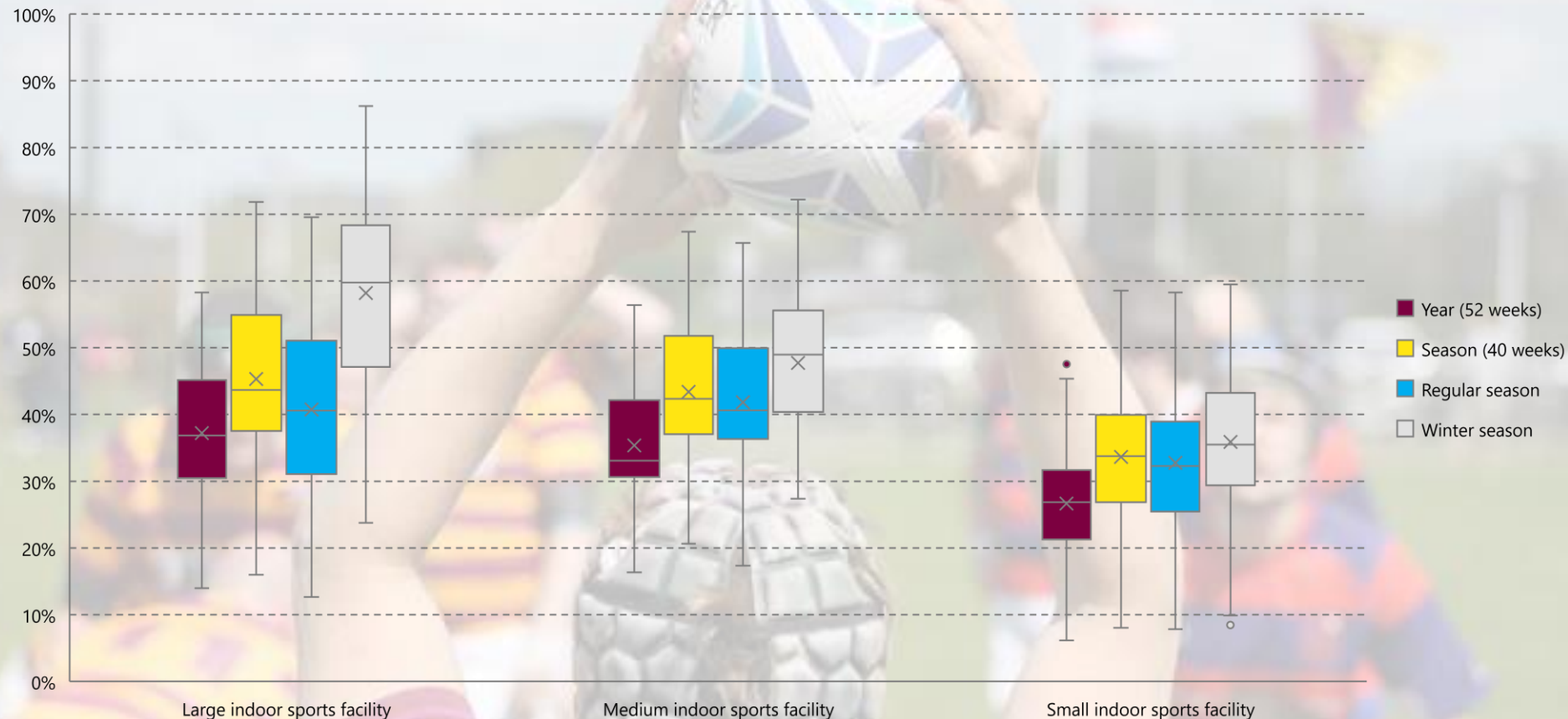


- Gradual increase occupancy rate towards winter months

Distinguish regular period/season (March-November) and winter period/season (January, November & December)

# Usage by period

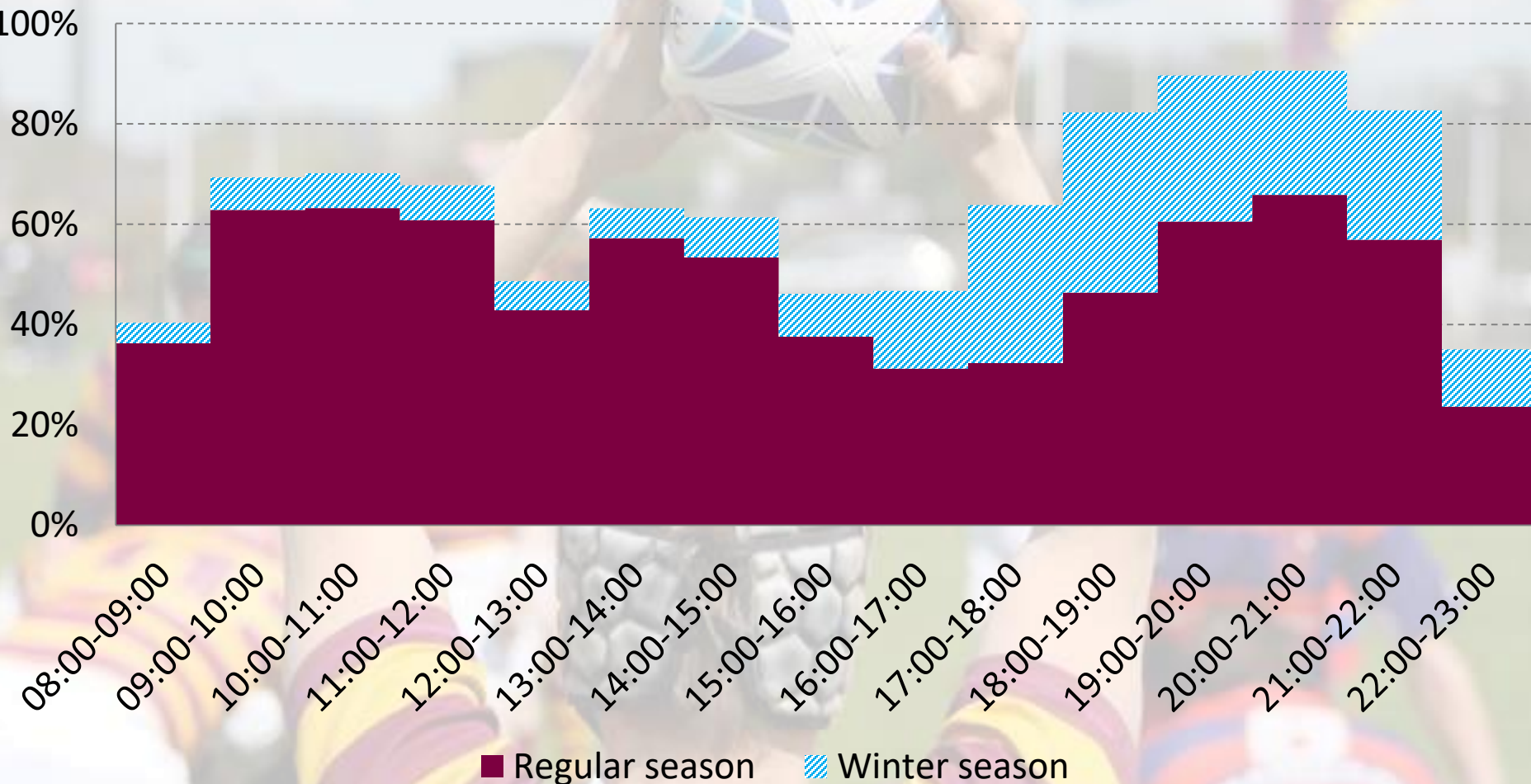
Figure 4 – Distribution occupancy rate indoor sports facilities, by period, in %



- Relationship between size indoor sports facility and increase winter season vs. regular season

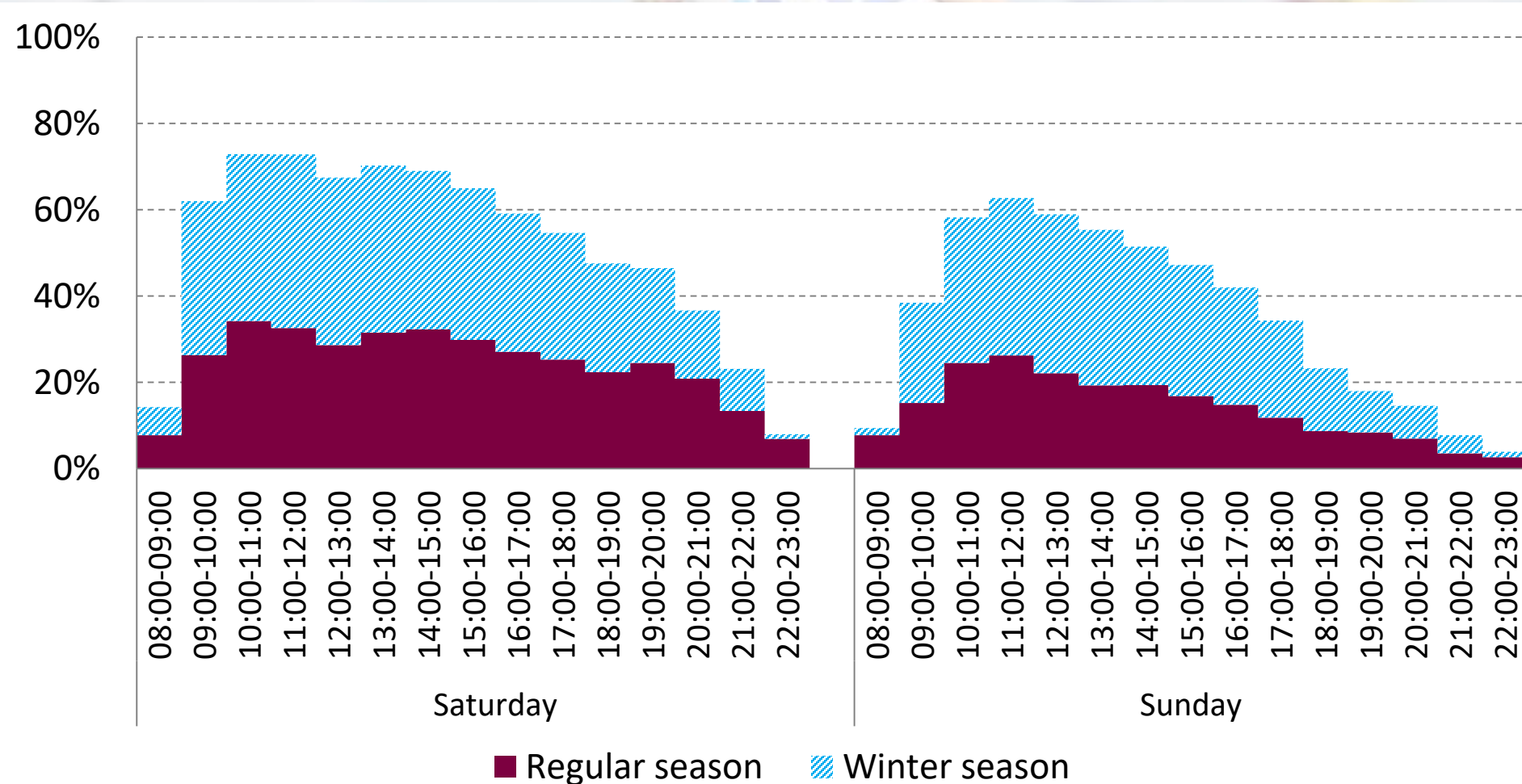
# Usage by hour

Figure 5 – Average occupancy rate on weekdays large indoor sports facilities, per hour, in %



# Usage by hour

Figure 6 – Average occupancy rate weekend large indoor sports facilities, per hour, in %

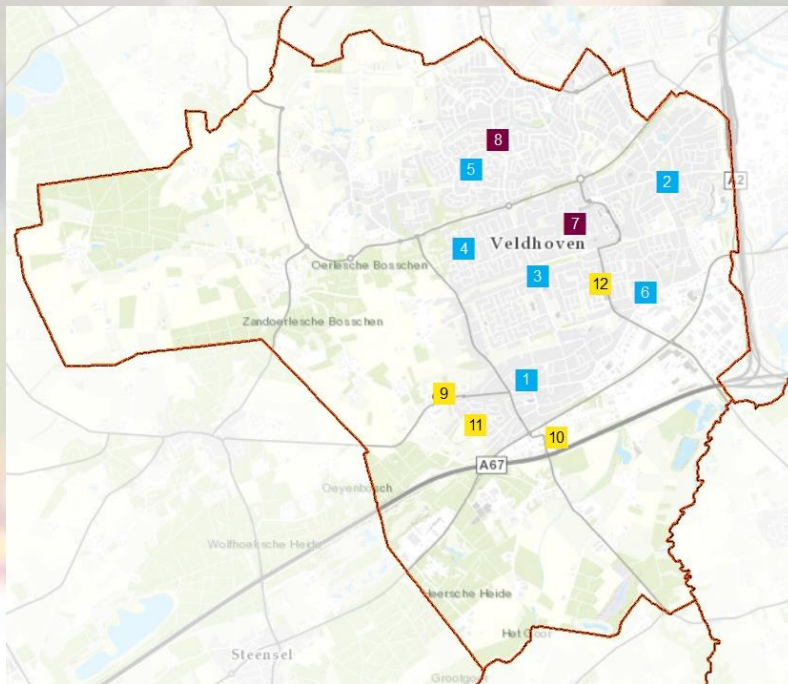




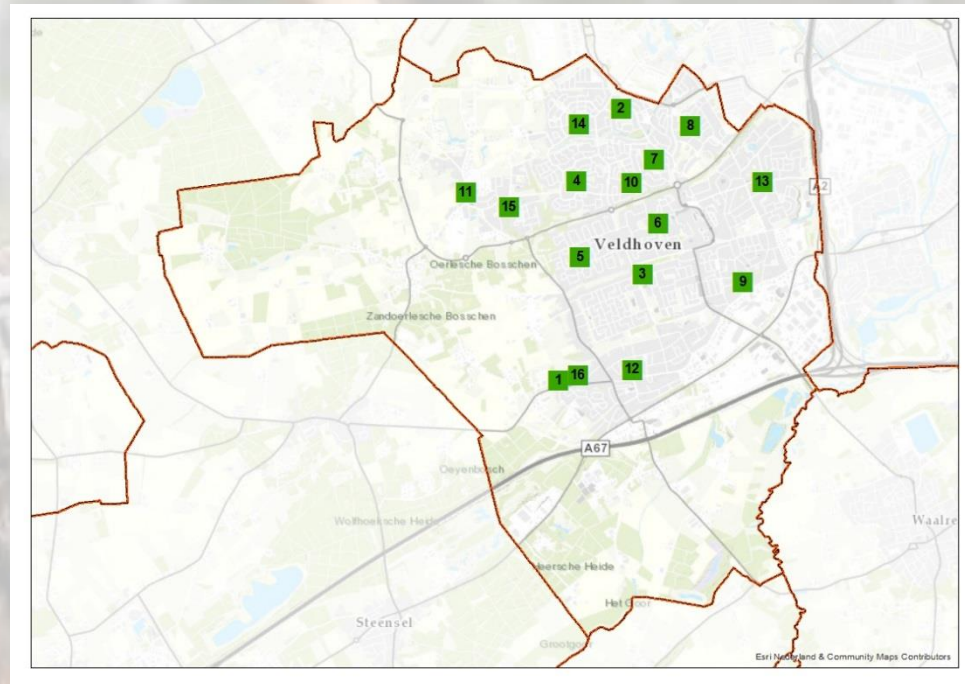
# Indoor sports - Analysis of travel distances

## Example of municipality

### Overview indoor sport facilities



### Overview educational facilities



# Policy implications: optimizing the configuration of sport facilities

- Tailor-made on a local level
- Case football facilities
- Beneficial aspects of sport facilities in small communities

# Case football facilities

## Decline number of football clubs and facilities

- Clustering / larger facilities
- Separation by religion does not fit with current society
- Considerations in light of contribution to liveability

## Optimizing use by artificial grass

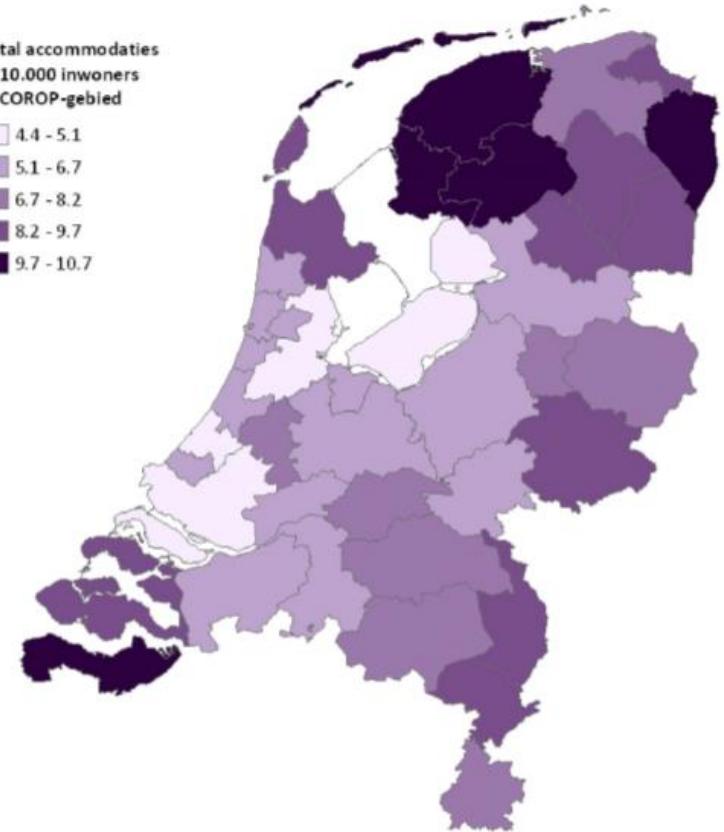
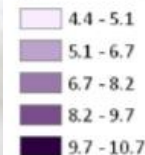
- More members per pitch
- Fits with higher quality standards of members

# Sport facilities in small communities

- Importance liveability
- More but smaller facilities

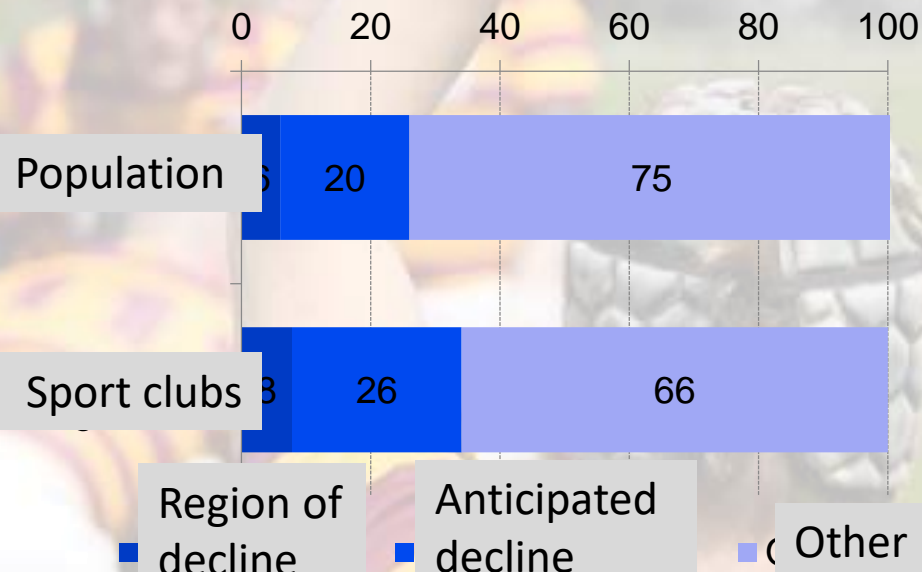
Figuur 3.2 Aantal sportvoorzieningen per 10.000 inwoners per regio (2014)

Aantal accommodaties  
per 10.000 inwoners  
per COROP-gebied



Bron: Database SportAanbod (DSA) en bevolkingscijfers CBS

Division Dutch population and sport clubs by region (%)





# Broader use of municipal sport facilities

Municipal sport facilities, still relevant:

Use of sport fields, importance physical education (sport halls) and swimming abilities (swimming pools)

Need to adapt to changing society and focus more on usage by older age groups

NOC\*NSF: promotion 'open club' > sport club and facility that are open to society and appeal not only to members. Function as a public facility, cooperate with other organisations in and outside the sport sector.



# Increasing importance of public space both in rural and urban areas

Urban areas: youth and young adults (running/jogging, cycling, urban sports, bootcamps, football, etc.)

Rural areas: older population (cycling, walking, fishing, etc.)

Healthy and active lifestyles: health-enhancing physical environment

More attention for sport-use of public space in local sport policy

ISCA awards 2018: MOVEment spaces

# Not one most effective mode of operation

Wide variety of different modes of operations of sport facilities

Sport clubs can play a bigger role, however also limitations

Increasing involvement of the market and civil initiatives

More coordinating role of the government or regaining control to be able to stimulate broader usage and links with other policy domains.

# Broad focus on sport facilities in sport policy



Quality /  
modes of  
operation

multifunctionality  
sustainability  
privatisation  
Maintenance



Capacity /  
distribution

demand-supply  
clustering  
travel distance



Fees

cover larger part of the costs  
solve inequality  
system of fees  
affordable sport facilities

# Relevance of sport facilities for sport participation

Local sport policy is about facilitating sport, influencing and facilitating behaviour.

Can we explain differences in sport participation, by differences in the physical environment (presence and variety of sport facilities)?

National research departing from difference rural and urban areas



# Differences in social and physical environment between urban and rural areas

**Table 2.** Aspects of the social and physical environment by urbanisation (mean, t-test).

	Urbanisation	
	Rural	Urban
SES neighbourhood	.30	-.028***
Safety	2.42	-1.25***
Distance to sport facility	.73	.65***
Types of sport facilities within 1 km	1.85	1.98***

\*\*\* $p < .001$ .



# Findings

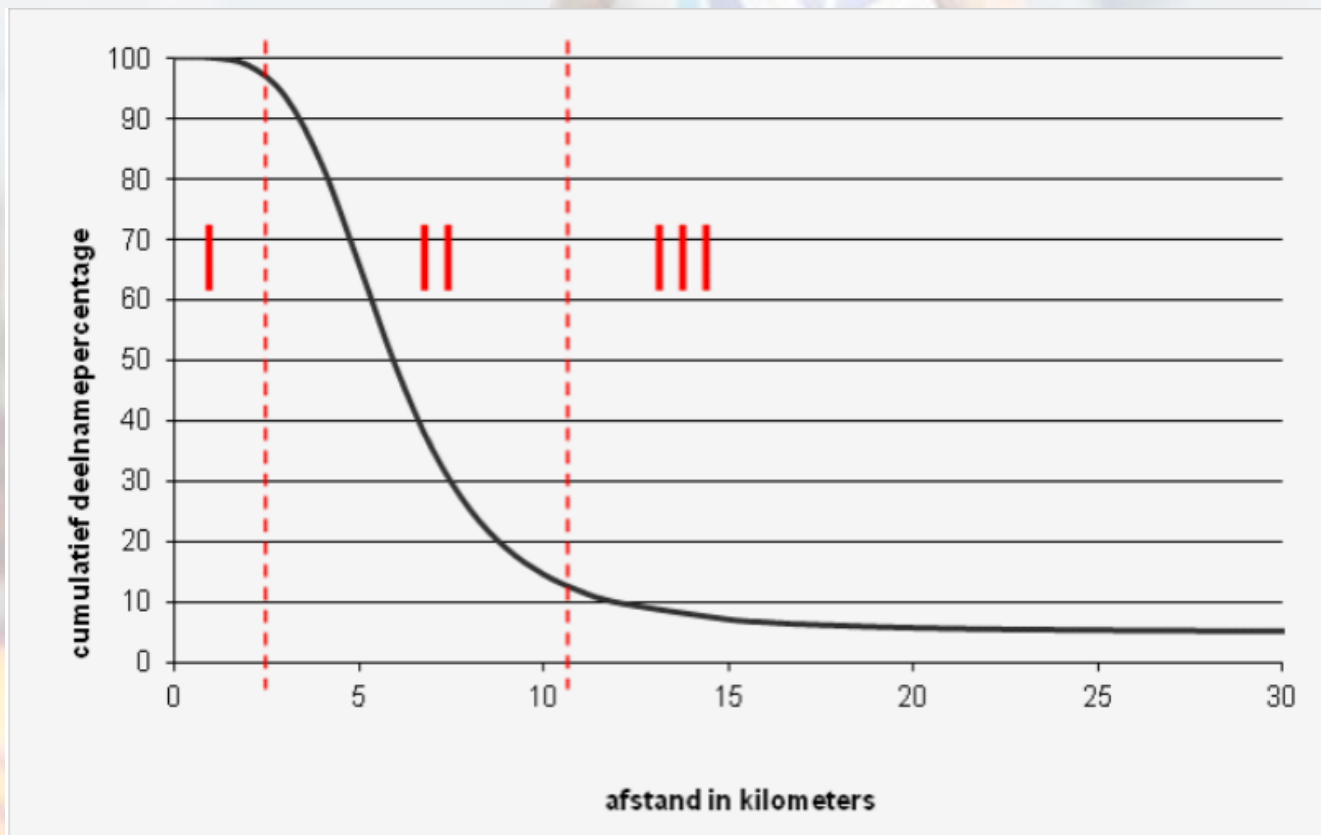
Higher weekly sport participation in rural areas

Rural-urban divide explained by social environment, not physical environment

Variety in sport facilities important for monthly sport participation (not for weekly sport participation)

Distance to sport facilities provides no explanation for differences in sport participation

# Willingness to travel



# Discussion and implications

Social factors most important

Sport facilities provide some explanation, particularly for those less motivated

Beneficial context of the Netherlands

Effect of sport facilities assumed to be bigger in other countries.

However, never-ending attention for matching supply and demand

Development of sport preferences and sporting landscape

Improving the utilization of sport facilities

Lowering the municipal sport expenditures on sport facilities

# Utilizing local sport capital

Optimizing combination of sporting capital

Hardware (physical environment, sport facilities)

Orgware (sport providers)

Software (programs, activities)

What is optimal depends on context and intended objective

local demand

Specific target groups

Objectives (elite sport, grassroots sport, social welfare, health)

Changes through time

Societal trends have consequences for sport sector and ask for continuous adjustments of policy and responses to changing demands of the population

# Connecting local sport infrastructure to needs of population

Hardware (environment, facilities)



Orgware (providers)

Software (programs, activities)



# To conclude:

Data as important starting point  
supply, demands, current usage, trends

Different roles for local authorities, sport providers, civil initiatives,  
market etc.

cooperation needed between parties and departments (e.g. with  
education)

What needs to be done depends on local situation and set objectives

Continuous need to adapt to changing society

Instruments and good examples available in other countries

# Questions, remarks, points for discussion?

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