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# IDARA (INSTITUTING WATER DEMAND MANAGEMENT IN JORDAN)

PERCEPTIONS OF PUBLIC PARKS IN JORDAN: SURVEY SUMMARY

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# CONTENTS

Introduction .....	5
Survey Objectives and Methodology .....	5
Survey Objectives.....	5
Survey Method – Qualitative Personal Interview .....	5
Target Areas.....	6
Respondent Groups.....	6
Interview Content.....	7
_Toc202184353Limitation of Methodology.....	18
Survey Results.....	18
Responses to Questions .....	18
Responses to Image Rating.....	24
Responses to Image Comparisons .....	26
Analysis.....	31
Application and Next Steps .....	33
Appendix 1- List of Respondents .....	34
Appendix 2 - Image Rating According to Average Score (Youth & Adults) .....	38
Appendix 3 - Image Comparison Detailed Analysis.....	41

## **ABBREVIATIONS AND ACRONYMS**

GAM	– Greater Amman Municipality
IDARA	– Instituting Water Demand Management in Jordan
JOHUD	– Jordanian Hashemite Fund for Human Development
USAID	– United States Agency for International Development

## ***Introduction***

Public parks provide cities and villages with desirable amenities especially in countries with hot, dry climates such as Jordan. In fact, the provision of public parks has become a priority for many municipalities in urban centers around the country. In recent years, the Greater Amman Municipality (GAM) has embarked on an extensive park building campaign and has continued to build new parks on a yearly basis. Several large scale parks, such the Queen Rania Gardens in Quweismeh, and the King Hussein Gardens in Khalda, have been added to the urban landscape in the past 10 years. Extensive park building campaigns are not confined to the Amman metropolitan area exclusively. The City of Irbid has begun the implementation of three urban parks in the city center, and the Ministry of Municipal Affairs has launched the 'National Program for Greening Municipalities' which will develop 87 new parks in municipalities around the Kingdom.

Building a large number of new parks simultaneously will undoubtedly contribute to the strain on available water supplies. The adoption of water-efficient landscaping techniques will be imperative in the realization and sustainability of these new parks. The United States Agency for International Development's (USAID) Instituting Water Demand Management in Jordan Project (IDARA) is currently addressing this issue by providing technical training and assistance to municipalities in developing water-wise parks in their respective areas.

The provision of technical expertise alone does not necessarily result in good public parks. Public participation is a key factor in providing culturally appropriate solutions that are also water-wise. What does the Jordanian public expect a public park to provide? What should the ideal park offer to its users? Are people aware of the concept of water-wise landscaping, and does it offer acceptable solutions? In an attempt to become better informed with regards to the public's expectations and culturally specific desires, the IDARA project conducted surveys in six different geographic regions specifically focused on public parks and public gardens. This report summarizes the results of the survey.

## ***Survey Objectives and Methodology***

### ***Survey Objectives***

The survey aimed at discovering the public's expectations of public parks in terms of functional requirements, recreational needs, and aesthetic appeal. Opinions about existing public parks and park services were sought, as well as aesthetic impressions of natural and designed landscapes.

The survey also aimed at discovering whether the public was aware of the concept of water-wise landscaping and whether water-wise landscapes offered acceptable solutions. Aesthetic preferences of both water-wise and water-consuming landscapes were also part of the inquiry.

### ***Survey Method – Qualitative Personal Interview***

Since the study sought opinions, emotional impressions, and aesthetic attitudes, a qualitative survey method was selected. This method is more applicable as it permits interaction with the respondents, and also offers opportunities for elaboration and qualification of answers. Furthermore, qualitative surveys allow for uncovering both manifest and latent attitudes, often encountered in inquiries about aesthetic preferences.

In addition to permitting one-on-one interaction, personal interviews (as compared to questionnaires) are also easier on the respondent. Most of the questions asked required follow-up queries and clarifications from the respondent, as well as from the team member conducting the interview. Moreover, many practitioners consider face-to-face interviewing as the most accurate form of gathering data for a survey.

As mentioned earlier, the method selected was qualitative rather than quantitative and is unlikely to yield statistical data based on representative samples. The aim of the study was to gather information useful to IDARA's planned activities, and sought a wide representation in the respondent profile, for general reconnaissance purposes. Respondent groups were selected to represent a diverse range of populations in terms of age, gender, and residence (geographic location).

IDARA collaborated with the Jordanian Hashemite Fund for Human Development (JOHUD) in locating and inviting respondents to participate in the study. The interviews were conducted in each target area at JOHUD's various community centers.

### Target Areas

Since IDARA's activities cover several geographic areas, the study reached six different areas representing diverse bio-geographic regions in Jordan. The focus was on urban centers but also covered rural areas in close proximity to urban centers. Below is the list of cities and towns targeted by the study:

- Aqaba (South – Special Economic Zone, Sudanian bioregion)
- Karak (Southern Governorates, Mediterranean bioregion)
- Madaba (Central Governorates, Mediterranean bioregion)
- Irbid (Northern Governorates, Mediterranean bioregion)
- Mafraq (Eastern Governorates, Saharo-Arabian bioregion)
- Kafraïn (Jordan Valley, Sudanian bioregion)

### Respondent Groups

Below is the distribution<sup>1</sup> of the respondent profile indicating gender, age, and number of participants in each geographic area:

#### Group 1

Gender	Age Group	No. of Participants
Male	15 - 24	4
Male	25 - 34	4
Male	35 - 50	4
Male	50+	2
	Total	12

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<sup>1</sup> The distribution differed slightly from area to area depending of availability of respondents to the various JOHUD community centers.

## Group 2

Gender	Age Group	No. of Participants
Female	15 - 24	4
Female	25 - 34	4
Female	35 - 50	4
Female	50+	2
	Total	12

## Interview Content

Two versions of the interview were used: an adult interview and a youth interview. The content of both interviews was similar, but some questions were adjusted to engage youth respondents. The first part of the interview sought general information and included questions to "warm up" the respondents. The second part focused on the public's opinions of public parks, and the third part sought emotional impressions and aesthetic perceptions of various natural and designed landscapes.

### *Adult Interview*

Adult participants were interviewed on a one-on-one basis. They were asked the following questions by the survey team:

#### Part 1 - General information:

- Name, age, gender, occupation
- Where do you live?
- How many members are there in your household?
- Do you have a garden?
- How large is it?
- Who takes care of it?
- What do you have planted in your garden?
- What is your favorite plant?

#### Part 2 - Public parks:

- Are there any public parks in your area? (If no, then do you visit parks outside your area?)
- How large are they?
- What are the parks like? Describe....
- What are the features you like most about this park?
- How often do you go?
- With whom?
- If your municipality is going to build a park, what would you advise the design team to include in it?
- What is your opinion of the following elements usually included in parks:  
a) Water features; b) Lawn; c) Trees and shrubs; d) Bar-B-Q and similar facilities; e) Shading structures; f) Sports fields.
- Do you feel that public parks are an important factor in your standard of living / well being?



- Describe your ideal park...
- Are you aware of the concept of water-wise landscaping?
- Describe a water-wise park or garden...
- Do you think it offers acceptable solutions?

#### *Youth Interview*

Youth participants were interviewed on a one-on-one basis. They were asked the following questions by the survey team:

#### Part 1 - General information:

- Name, age, gender, occupation
- Where do you live?
- How many members are there in your household?

#### Part 2 - Out door activities and public parks:

- Which sports do you like to play?
- Which games do you like to play?
- Does your school have a field or outdoor area?
- Describe it...
- Do you go on trips with your family? Where? What do you do?
- Do you have a park in your area? What is it like?
- How large is it?
- What features do you like most of this/these parks?
- Describe the public park...
- How often do you go?
- With whom?
- If your municipality is going to build a public park, what would you advise the design team to include in it?
- What is your opinion of the following elements usually included in parks:  
a) Water features; b) Lawn; c) Trees and shrubs; d) Bar-B-Q and similar facilities; e) Shading structures; f) Sports fields.
- Do you feel that public parks are an important factor in your standard of living / well being?
- Describe your ideal park...
- Are you aware of the concept of water-wise landscaping?
- Describe a water-wise park or garden...
- Do you think it offers or acceptable solutions?

#### Part 3- Image Impressions (for both adult and youth participants)

A series of images was shown to participants to record their reactions and impressions with regards to particular landscapes.

#### ***Image series A – Image rating***

Participants were shown the images below and asked to respond to the following questions:

- How do you like this landscape?
- What do you like about this landscape and why?
- On a scale of 1-10, how desirable do you find the landscape?



**Image A-2**



**Image A-6**



**Image A-22**



**Image A-23**



**Image A-24**



**Image A-25**



**Image A-34**



**Image A-35**



**Image A-36**

***Image series B-Q – Image comparisons***

Participants were asked to arrange the images below in the order of most desirable to least desirable.



B-1



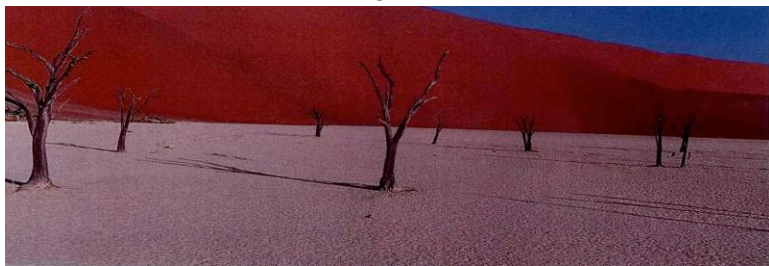
B-2



B-3



C-1



C-2



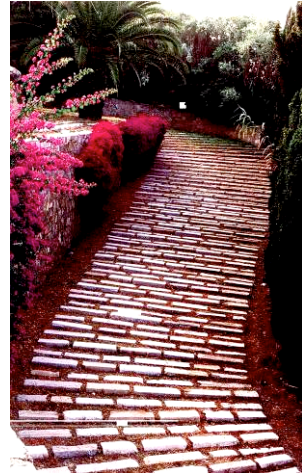
C-3



**D-1**



**D-2**



**D-3**



**E-1**



**E-2**



**F-1**



**F-2**



**G-1**



**G-2**



H-1



H-2



H-3



I-1



I-2



J-1



J-2



**K-1**



**K-2**



**K-3**



**K-4**



**L-1**



**L-2**



**L-3**





**M-1**



**M-2**



**M-3**



**M-4**



**N-1**



**N-2**



O-1



O-2



O-3



O-4



P-1



P-2



P-3



Q-1



Q-2



Q-3

### ***Limitation of Methodology***

Several factors may have influenced the results presented in the next section of this report. Even though the questions and concepts addressed in the interview were compiled to be easily comprehensible by a lay public, some of the responses gathered may not have been representative due to a misunderstanding of the questions or a fear of answering inappropriately. This occurrence was observed while interviewing some of the senior citizens in the groups. Also, although an effort was made to ensure that the images of the landscapes being compared were as similar as possible in terms of the functional layout, view, or particular setting, (especially when comparing images of water-wise and water-consuming landscapes), individual aesthetic preferences, such as a preference for a natural versus a manicured design, a preference for sunlit or dark pathways, or a particular dislike of a specific plant may have swayed the responses.

### ***Survey Results***

#### **Responses to Questions**

##### *Home Gardens*

The majority of respondents (91%) have gardens with a combination of ornamental and productive plants. Productive plants (especially fruit bearing trees and vegetables) composed the higher proportion of planted species. Commonly planted productive plants are olives, lemons, and pomegranates. Ornamental plant varieties included roses and jasmines. Of the 58 adult respondents, only 5 had planted ornamental plants exclusively in their gardens (mostly potted and on balconies).

##### *Public Parks*

##### Existing Public Parks by Area

**Aqaba:** Unlike the other geographic areas targeted in the study, the city of Aqaba has a fair number of public parks. Respondents in the Aqaba groups described several parks that they frequent: The Municipal Park (known officially as the Princess Salma Park), a park near the port, "Hammamat al-Tunisiyya", and a park near the area of Mahdood. Other outlets such as the Prince Rashed Club, and the Ghandoor Coffee Shop were also described by the participants.

The respondents were generally very satisfied with the Municipal Park. It was described in a favorable manner due to the presence of nice plantings, seating, play equipment, a fountain, a library, and a guard. Negative feedback focused on the presence of too many people (especially over the weekend), and the park not being large enough.

"Hamamat al-Tunisiyya" was also described in a favorable manner. The water falls, trees, shaded seating, and lighting was admired by various respondents who frequent the park. A drawback described by the participants was that it had deteriorated and that it was located between two streets.

**Kafrain:** The town of Kafrain has no public parks. Residents of the town visit parks in Amman (King Hussein Gardens) or the Dead Sea for a picnic. The respondents were generally negative about the prospect of the municipality building a park in their area.

**Mafraq:** Parks frequented in the Mafraq area are the Princess Iman Garden and the Municipal Garden. Many respondents stated however, that they visit parks in Amman due to the unavailability of conveniently located parks in Mafraq.

**Madaba:** The Municipality Hall Garden was the most cited park in Madaba. Many respondents also frequented parks in Amman due to proximity.

**Karak:** In Karak respondents spoke favorably about "Daher Baybers Garden" and "Habis al-Majali Garden". The Habis al-Majali garden was favored due to the presence of lawn, greenery, and play equipment. Many respondents cited transportation problems which prevent them from visiting these parks frequently.

**Irbid:** Many parks were mentioned in Irbid. The most frequently mentioned park is "Emar Irbid". Respondents who frequented the park complained about it being disorganized, and ill-maintained. "Al-Zahra' Garden" although not frequented by many of the respondents was described favorably.

#### Desirable Park Amenities

The respondents were asked: If your municipality is going to build a public park, what would you advise the designers to include in it? Below is a summary of the responses arranged according to the frequency of cited desirable amenities<sup>2</sup>:

#### **Adult Responses**

<b>Amenities</b>	<b>Frequency of Response (out of 73)</b>
Trees/greenery/flowers	39
Children's areas/play equipment/playgrounds	36
Seating and rest areas	22
Fountains, water features, and pools	19
Café, restaurant, and supermarkets	17
Library, cultural, and educational services	16
Guards, security, and supervision	11
Maintenance and cleanliness	11

<sup>2</sup> Citations were not included if mentioned more than once by the same respondent

WC	11
Spacious, large	10
Location and accessibility	7
Safety	6
Organization	4
Lawn or green ground surfaces	4
Drinking water	3
Lighting	3
Places for public meetings	2
Social advisors to educate people	2
Zoos and wildlife	2
Fencing	2
History museum	2
Parking	2

### **Youth Responses**

<b>Amenities</b>	<b>Frequency of Response (out of 50)</b>
Children's areas/play equipment/playgrounds	26
Trees/greenery/flowers	26
Sports fields	11
Lawn and grassy areas	9
Seating and rest areas	9
Fountains, water features, and pools	8
Swimming pools	6
Billiard, table tennis, and games	6
Adult areas	5
Large areas	5
Toilets	5
Café and food outlets	4
Strolling and walking areas	3
Library	3
Zoos and wildlife	3
Parking	3
Maintenance	2
Trash bins	2
Electronic games	1
Cinema	1
Security	1
Gathering hall	1
Computers and internet	1

### Descriptions of an ideal park

Participants were asked to describe their version of an ideal park. Below is a summary of the responses arranged according to the frequency of cited desirable amenities<sup>3</sup>:

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<sup>3</sup> Citations were not included if mentioned more than once by the same respondent

### Adult Responses

Amenities	Frequency of Response (out of 73)
Water features/fountains/waterfalls/streams	42
Trees/ greenery/flowers	35
Children's areas/play equipment/playgrounds	30
Seating	23
Lawn/green carpet	18
Large/spacious	15
Swimming pool	12
Very green/green	12
Fenced/closed	11
Animals and wildlife/zoo	10
Café/restaurant	10
WC	9
Pathways	8
Mosque	7
Organized/neat	7
Library	6
Maintained/managed	6
Safety	6
Shade structures	6
Sports/playfields	6
Supermarket/snacks	6
Peaceful, a place for relaxation	5
Clean	4
Guards/security	4
BBQ	3
Drinking water/water fountains	3
Plazas	3
For all ages	2
Games, billiards	2
Lighting	2
Natural scenery, all nature in a garden	2
Productive	2
Sprinklers	2
Parking	2
A palace with gardens	1
A person to take care and play with children	1
Boat	1
Hanging gardens	1
Internet cafe	1
Like a garden in the Emirates	1
Like foreign movies	1

Like the Aga Khan Garden in Cairo	1
Like a park in Moscow	1
Like King Abdulla Park	1
Paradise	1
Water games	1
Signage	1
Historic architectural models	1
Murals highlighting poets in the country	1
Newspaper and magazine booths	1
ATM services	1
Screens to show sports and cultural events	1
Calm live music	1

### **Youth Responses**

<b>Amenities</b>	<b>Frequency of Response (out of 51)</b>
Trees /greenery/flowers	32
Children's areas/play equipment/ playgrounds	24
Water features/fountains/ponds/waterfalls/streams	23
Lawn and grassy areas	17
Swimming pools	13
Large/spacious	12
Sports fields	11
Café/food outlets/booths	10
Seating and rest areas	10
Very green/green	8
WC	5
Billiard, table tennis, and games	4
Library	3
Maintenance	3
Theme park rides	3
Zoos and wildlife	3
Clean	2
Lighting	2
Not crowded	2
Pathways	2
Wood fence	2
Close to users	2
A garden and a club	1
A place where I can be alone	1
A place where you never see barren soil	1
Adds something to the lives of people	1
Bar-B-Q	1
Far away from streets	1
Fertile land	1
Fitness center	1

Guards	
Health services	
Inviting, good views,	
Mosque	
Natural (not designed)	
Open area not just for show	
Open at all hours	
Organized	
Paradise	
Electronic games/Play Station	
Serves a large number of people	
Services that are not expensive	
Ski rink (Ice skating)	
Stone paved floors	
Suitable to the environment	
Transportation	

Standard of living

Ninety-four percent (65/69) of the adult respondents felt that the presence of public parks was an important aspect of their standard of living while only four percent (3/69) did not. Many viewed parks as important for general well being and relaxation, and described parks as 'lungs' in the urban sprawl. Several respondents cited that parks were even essential for the entertainment and well being of children.

Other concerns

While not the focus of this study, several participants cited specific social conflicts that affect their opinions of public parks. Some individuals were unhappy due to perceived social tensions directed towards young male groups described as "hamal", which roughly translates into "delinquents" or "troublesome youth".

*The Concept of water-wise landscaping*

The participants were asked whether they were aware of the concept of water-wise landscaping. Below is a summary of their responses:

**Adults**

No	Yes	Maybe	Confusing answer
51	15	2	2

All fifteen of the participants who responded "yes", believed water-wise landscaping was a good idea and that it offered acceptable solutions. Two of the participants who responded positively were agricultural engineers. Below are some quotes:

- "Economic and a benefit for the country" (Ibrahim 29, Kafrain)
- "It has almost all the elements, and ensures its sustainability at the same time." (Amneh, 29, Kafrain)
- "Yes, rain-fed trees are very nice. I do not like fruit trees in gardens." (Salem, 34, Irbid)

Twenty-four of the participants who responded "no" also thought that it was a good idea and that the resulting gardens offered acceptable solutions.



**Youth**

No	Yes	Maybe	Confusing answer
43	4	-	3

Of the four respondents who were familiar with the concept of water-wise landscaping, two of them learned about it from their father (one of whom works in the water company in Aqaba!), and one had learned about it through TV.

**Responses to Image Rating**

The participants were shown the images in Image Series A and asked to give each image a rating from 1 – 10; one being the lowest grade and ten being the highest. Below is a summary of the results including the average score of each image, and the percentage of occurrence of the highest score given to each image.


**Adults**

Image	A-2	A-6	A-22	A-23	A-24	A-25	A-34	A-35	A-36
Average score	8.152	5.739	8.391	4.782	5.558	8.472	7.486	8.381	7.912
Highest occurring score	10	5	10	5	5	10	7	10	10
% of occurrence of highest score	21/69 (30%)	16/69 (23%)	22/69 (31%)	19/69 (27%)	18/68 (26%)	30/72 (41%)	19/73 (26%)	21/72 (29%)	23/74 (31%)

**Youth**


Image	A-2	A-6	A-22	A-23	A-24	A-25	A-34	A-35	A-36
Average Score	8.43	5.83	8.26	4.382	4.509	8.738	6.666	7.48	8.46
Highest occurring score	10	5	10	4	5 & 0	10	7	8	9 & 10
% of occurrence of highest score	16/50 (32%)	9/50 (18%)	14/50 (28%)	8/51 (15%)	7/50 (14%)	19/44 (43%)	11/51 (21%)	13/51 (25%)	16/51 (31%)

Below is the ranking of the images according to the percentage of occurrence of highest scores (adults)<sup>4</sup>:


% of occurrence of highest score (10)	41%	
Average Score (Youth & Adults)	8.6	

A-25


<sup>4</sup> Youth results resulted in very similar ranking (A-25, A-2, A-36 & A-22, A-35, A-34, A-6, A-24, A-23)

% of occurrence of highest score (10)	31%	
Average Score (Youth & Adults)	8.2	


A-36

% of occurrence of highest score (10)	31%	
Average Score (Youth & Adults)	8.4	


A-22

% of occurrence of highest score (10)	30%	
Average Score (Youth & Adults)	8.3	


A-2

% of occurrence of highest score (10)	29%	
Average Score (Youth & Adults)	7.8	


A-35

% of occurrence of highest score (7)	26%	
Average Score (Youth & Adults)	7.1	


A-34

% of occurrence of highest score (5)	27%	
Average Score (Youth & Adults)	4.6	

A-23

% of occurrence of highest score (5)	26%	
Average Score (Youth & Adults)	5.0	

A-24

% of occurrence of highest score (5)	23%	
Average Score (Youth & Adults)	5.8	

A-6

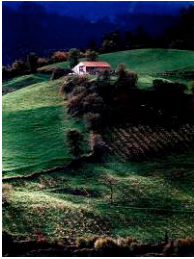
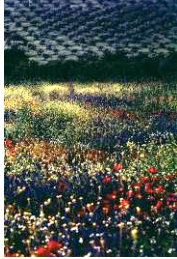

For ranking according to average scores, refer to Appendix 2.

### Responses to Image Comparisons<sup>5</sup>

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<sup>5</sup> Refer to Appendix 3 for the detailed analysis

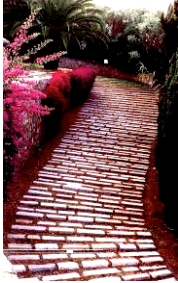


**B-Series**

Rank 1	Rank 2	Rank 3
		



**C-Series**

Rank 1	Rank 2	Rank 3
		



**D-Series**

Rank 1	Rank 2	Rank 3
		

**E-Series**

Rank 1	Rank 2
	

**F-Series**

Rank 1	Rank 2
	

**G-Series**

Rank 1	Rank 2
	



**H-Series**

Rank 1	Rank 2	Rank 3
		





**I-Series**

Rank 1	Rank 2
	




**I-Series**

Rank 1	Rank 2
	





**K-Series**

Rank 1	Rank 2	Rank 3	Rank 4
			

**L-Series**

Rank 1	Rank 2	Rank 3
		





**M-Series**

Rank 1	Rank 2	Rank 3	Rank 4
			

**N-Series**

Rank 1	Rank 2
	

**O-Series**

Rank 1	Rank 2	Rank 3	Rank 4
			

**P-Series**

Rank 1	Rank 2	Rank 3
		

**Q-Series**

Rank 1	Rank 2	Rank 3
		

## Analysis

Just as one may have predicted (or feared!) the Jordanian public prefers green landscapes. The phrase: "the greener the better" aptly summarized people's aesthetic preferences. Image A-25 for example, represents the ideal park to most respondents: a large, spacious open space covered with lawn and trees. The ranking of images, Series B – Series Q, (with the exception of Series D) also confirms this finding.

The interview results showed similar findings. Respondents described their ideal park as green and spacious; it included water elements, areas for children, seating, services, and even wildlife. When comparing responses of ideal park amenities to amenities respondents would ask their municipalities to provide in parks, the responses were very similar but water features, lawns, and the desire for large spaces took precedence over services. Not confined by practical concerns, participants described waterfalls, streams, ponds, and other features that are difficult to provide and maintain in most public parks in Jordan. Children's areas, play equipment, and playgrounds were also very frequently cited as necessary features of public parks.

When describing desirable amenities in municipal parks, only 18 out of the 73 respondents brought up the topic of lawn areas. When asked specifically if they would like to see it in parks all 73 responded positively. When describing their ideal park, the participants not only included lawn areas, but also used descriptive terms such as "very green", "has greenery all around", and "paradise". Parks that may require a high amount of water-use no doubt captured people's imagination. Accordingly, the request for swimming pools was high on the list of amenities in an ideal park! Below is a comparison of the top desirable amenities in an ideal park and a municipal park<sup>6</sup>.

Ideal Park Amenities	Municipal Park Amenities
Water features (42/73)	Trees/greenery/flowers (39/73)
Trees/greenery/ flowers (35/73)	Play equipment and playgrounds (36/73)
Children's areas (30/73)	Seating and rest areas (22/72)
Seating and rest areas (23/73)	Water features(19/73)
Lawn/green carpet (18/73)	Café/restaurant/mini-market (17/73)
Large/spacious (15/73)	Library, cultural, and educational services (16/73)
Swimming pool (12/73)	Guards, security, and supervision (11/73)
Very green/green (12/73)	Maintenance and cleanliness (11/73)
Fenced/closed (11/73)	WC (11/73)
Animals and wildlife (10/73)	Spacious, large(10/73)
Café/restaurant/mini-market(10/73)	Location and accessibility (7/10)
WC (9/73)	Safety (6/73)

Youth participants in particular, ranked lawn as a high priority in public parks. Youth responses to questions regarding desirable park amenities (both ideal and municipal) indicated the desire for the presence of lawn more than adult respondents (18% compared to 5% (municipal,) and 33% compared to 25% (ideal)).

None the less, the study showed that a high percentage of respondents also appreciated a well designed water-wise landscape (image A-35). It is apparent that a "green look" is not the only

<sup>6</sup> Table based on adult responses



desirable feature, the appearance of cleanliness and organization was also highly rated. For example, when asked what features the respondents liked about image A-25, many cited "cleanliness", "neatness", and "safety". The interview responses showed similar results. Maintenance, cleanliness, and safety were frequently cited by the participants.

It maybe that lawn surfaces in addition to being desired for their "greenness", are also perceived as clean and safe. If people are drawn to neat, clean-looking landscapes, this can be applied to the design of water-wise landscapes. Water-wise landscapes can be designed to reflect a neat clean look by using mulches, gravels, and ground covers with specific textures.

Design, composition, and choice of materials seem to be the appealing feature in the images of the water-wise landscapes shown to the participants. For example "design", "the arrangement of materials", and "layout of the space" in image A-35 were indicated desirable features. The design, arrangement of the stones in the pathway, and the colorful planting in Image D-3 probably influenced the top ranking of the image, even though the other images in the series were greener in appearance.

Simple spaces with gravel or stabilized earth surfaces and lush shade trees such as image A-34 were perceived as average. Such parks are acceptable, but not necessarily admired.

Respondents who liked image A-6 (an image that scored a low average score) cited "originality" as the appealing factor. The uncommon use of crushed stone and Yucca plants was admired by the few respondents that responded positively to the image.

Images containing cactus, especially the common cactus (*Opuntia* sp., Prickly Pear) were very poorly ranked (image O-2). Images with uncommon globe cactus were poorly ranked when combined with other cacti (Q-3) and averagely ranked when combined with other plants and lawn (P-3). Hence, cacti (especially species with spines) are not acceptable and best avoided in planting selections. Succulents however, are probably a more aesthetically acceptable alternative (Image Q-1).

#### Water Use Considerations

The survey results showing that the public values lawn areas and swimming pools in public parks is consistent with park amenities provided in other countries. Public swimming pools might encourage the use of public pools over private pools at individual residences that use much more water per person using the pool, but providing them in public parks within the context of Jordan is difficult. Public pools are a relatively low cost health benefit that the government should provide to the public, but are better suited for inclusion in public sports facilities / clubs.

For lawn areas, the issue for planners is to balance the amount of lawn areas needed for aesthetic purposes versus lawn areas for sports and play activities. Water-wise green groundcovers can be used as an alternative to lawn in areas designated for aesthetic rather than functional use. If it is acceptable to use artificial turf for sports activities, then the park could limit grass areas to a small area of turf for a children's play area, and use other ground covers such as sand for playgrounds. Landscaping in well maintained and enjoyable parks can also decrease the likelihood the nearby homeowners will invest as heavily in private landscapes since they can get a similar benefit by using the park.

Limiting high water-use areas, and designing aesthetically attractive landscape areas of moderate, and low water consumption that are properly maintained can make the overall atmosphere of the park very welcoming and increase usage of the park.

### ***Application and Next Steps***

The IDARA project will be providing technical assistance to six municipalities in designing appropriate water-wise parks in years 2 and 3 of the project. IDARA plans to share these results with the designated municipalities. IDARA will also share these results with the Parks Department at Greater Amman Municipality and the Ministry of Municipal Affairs, to inform their park development initiatives which will cover all governorates.

This qualitative study has provided information about public parks and the public's aesthetic preference that has not been gathered before. The results may very well serve as the basis for a statistical survey to be carried in out in the future by interested parties.

### **Appendix I- List of Respondents**

Respondent Name	Gender	Age	Occupation	City
Hussein Saleh Fadleh	M	55	Retired	Irbid
Yahia Fares al-Farraj	M	51	Head of Crafts Area Department	Madaba
Adan Abu Mahfooth	M	50	Contractor, marble polishing	Aqaba
Rizeq Khasawneh	M	50	Center Guard	Irbid
Abdullah Fawwaz Shawabeh	M	46	Head of archive in municipality	Madaba
Subhi Yaseen	M	45	Employee in the port company	Aqaba
Ahmad Al Dahni	M	39	Secretary	Irbid
Ahmad Abu-Haniyeh	M	39	Municipality employee	Madaba
Mohammad al-Saudi	M	38	Driver at JOHUD center	Aqaba
Odah al-Khatib	M	36	Employee	Madaba
Hamdallah Yousef	M	36	School Secretary	Irbid
Yaqoub Hejazean	M	35	Head of department in higher center of youth	Karak
Salem Khasawneh	M	34	Agricultural engineer	Irbid
Isam al-Shawabkeh	M	34	Engineer in Municipality	Madaba
Suleiman al-Najjad	M	34	Municipality employee (Law)	Madaba
Mohammad Khader	M	33	Business owner	Aqaba
Abdelmalek Suleiman	M	32	Employee	Madaba
Wael Saleh	M	30	Computer store owner	Irbid
Mohammad Al-Sleiti	M	30	Employee in Ministry of Agriculture	Irbid
Ibrahim Ushoush	M	29	Supervisor in a hotel and in a youth committee	Kafrain
Ahed al-'Alawneh	M	29	Port employee	Aqaba
Sharief al-Omari	M	28	Port employee	Aqaba
Anwar al Rawahneh	M	27	Teacher	Madaba
Nabeel Ashoor	M	24	General Security employee	Irbid
Mahmood Nayef	M	23	University Student	Kafrain
Hamzeh al-Ashoof	M	23	Guard	Kafrain
Alaa' al-Khatib	M	23	Computer trainer	Aqaba
Anas Rabab'ah	M	23	Trainer	Irbid
Dawood Suleiman	M	22	Hotel Security Employee	Kafrain

**List of Respondents- Continued**

Ahmad al-Ishoush	M	21	Hotel Employee	Kafrain
Osama al-Jabali	M	19	Community College	Kafrain
Abdallah al-Muheisen	M	19	University Student	Kafrain
Sakher Ja'bary	M	18	Student	Kafrain
Khaled Musa	M	18	Student	Kafrain
Ra'fat Abu Saleem	M	18	Student	Kafrain
Ashraf	M	17	Student	Aqaba
Abdallah al-Jarhi	M	17	Student	Aqaba
Nour Odah	M	17	Student	Kafrain
Abdel Rahman al-Sharif	M	17	Student	Irbid
Ahmad Tilfah	M	17	Student	Irbid
Ahmad al-Qabalani	M	16	Student	Karak
Muhammed Abu Qawout	M	16	Student	Madaba
Qusayy Rawahleh	M	16	Student	Madaba
Qutadah al-Masha'leh	M	16	Student	Madaba
Adnan Abu-Riyash	M	16	Student	Madaba
Mohammad Dmour	M	15	Student	Karak
Ja'far Ja'afreh	M	15	Student	Karak
Mohammad al-S'oub	M	15	Student	Karak
Asem al-S'oub	M	15	Student	Karak
Nasser al-S'oub	M	15	Student	Karak
Mohammad al-Madadha	M	15	Student	Karak
Muawiya Haisa	M	15	Student	Madaba
Hani Mu'ammarr	M	14	Student	Aqaba
Laith Mtoulie	M	14	School (Wardieh)	Aqaba
Wadha Khleifat	F	60	House keeper	Madaba
Ameerah al-Mahrooq	F	57	Retired School Teacher	Madaba
Najah Al-Qudhah	F	55	Housewife	Irbid
Nahed al-Sadeq	F	55	Homemaker	Irbid
Harbeh Abu-Nseir	F	55	Municipal Council Member	Madaba
Reem Abu-al-Ghanam	F	54	Housewife	Madaba
Itaf Yousef	F	48	-	Aqaba
Fatima Milhem (Umm Mohammad)	F	47	Housewife	Irbid


**List of Respondents - Continued**


Fatima Melhem	F	47	Homemaker	Irbid
Muna Yusuf Kutkut	F	45	Seamstress	Kafrain
Abeer Salah	F	44	Retired	Madaba
Aisha Sarairah	F	43	House keeper	Karak
Hana Issa	F	42	Housewife	Aqaba
Jamilah al-Khaza'leh	F	42	Teacher	Mafrq
Khadijah al-Tarawneh	F	41	Mo'ta's Center	Karak
Maysar Thiab	F	40	-	Aqaba
Fairooz Mohammad	F	40	Sewing Project	Kafrain
Manal Bqa'ine	F	40	Agricultural Engineer	Mafrq
Zakiyeh al-Sarayrah	F	40	Housewife	Karak
Etedal Sa'eid	F	37	House keeper	Kafrain
Hiyam Falah al-Adwan	F	37	Seamstress	Kafrain
Basha'er Nuseirat	F	37	The director of a development center	Irbid
Amal al-Roumi	F	36	Agricultural Engineer	Mafrq
Randa Khasawneh	F	35	-	Irbid
Reem Abdul-Aziz Taha	F	34	Beauty salon owner	Kafrain
Intisar Salameh	F	34	Homemaker	Irbid
Maysaa' Abdul Hafeed	F	31	-	Aqaba
Ne'mah Shawabkeh	F	30	Employee in Princess Basma Fund	Madaba
Ma'ida al-'Azzeh	F	29	Agricultural Engineer	Aqaba
Amneh Suleiman	F	29	Volunteer in Princess Basma Fund	Kafrain
Kamilah al-Sarayrah	F	29	A teacher - unemployed	Karak
Abeer Khamees	F	28	-	Aqaba
Afaf al-Ithamaat	F	28	Agricultural engineer	Mafrq
Abla Sarairah	F	28	Unemployed	Karak
Tahanie al-Shatti	F	27	House keeper	Kafrain
Itab Ali Khaza'ilah	F	27	Unemployed	Mafrq
Nadia	F	27	Homemaker/ seamstress	Karak
Suhayla Thieb	F	26	Sewing Trainer	Kafrain
Amani Radhi	F	25	Housewife	Aqaba
Aisha Ushoush	F	25	Volunteer in Princess Basma Fund	Kafrain
Aisha Atallah Mutlaq	F	25	Diploma graduate	Mafrq


**List of Respondents - Continued**


Reem Gharaybeh	F	25	At home (University Graduate)	Irbid
Raghdah Oleimat	F	24	Unemployed	Mafraq
Shorouq Ghleilat	F	23	Graduate, volunteer, trainee	Madaba
Shawq al-Adwan	F	23	ICDL Trainer	Kafrain
Shireen al-Kahalidi	F	22	Graduate	Mafraq
Ne'mat	F	22	Student	Mafraq
Bayan al-Sarayrah	F	22	University Graduate - unemployed	Karak
Asala	F	22	Secretary	Mafraq
Aisha al-Adwan	F	20	Tawjihi student	Kafrain
Majd Abu-Hlayel	F	20	Student	Aqaba
Mirvat al-Ibrahim	F	20	at home (finished school)	Irbid
Rasha Salem	F	19	Volunteer in Princess Basma Fund , and takes courses	Kafrain
Ala' hshyat	F	19	Finished Tawjihi	Irbid
Ayat al-Waqfi	F	19	Unemployed	al-Mafraq
Shaima' Al-Khalidi	F	18	at home (finished school)	Irbid
Iman al-Khalidi	F	17	Finished Tawjihi	Irbid
Shahed al-Sarayreh	F	17	Student	Karak
Bayan Yahya	F	17	Student	Madaba
Nur al-Anizi	F	16	High school student	Mafraq
Sirin al-Ragheb	F	16	Student	Aqaba
Razan Zureikat	F	16	Student	Aqaba
Anwar al-Sarayrah	F	16	Student	Karak
Majd Danial	F	16	Student	Madaba
Bushra Yahya	F	16	Student	Madaba
Shahed al-Hawamdeh	F	16	Student	Mafraq
Aya al-Share'	F	15	Student	Aqaba
Leen Hamarneh	F	14	Student	Aqaba
Zeina al-Naser	F	14	Student	Aqaba
Aya al Fuqaha	F	14	Student	Madaba
Marah Abu al-Ghanam	F	14	Student	Madaba
Najebah al-Khawaldeh	F	-	Homemaker	Karak


## Appendix 2 - Image Rating According to Average Score (Youth & Adults)

Average Score (Adults)	8.5	 <p>A-25</p>
Average Score (Youth)	8.7	
Average Score (Youth & Adults)	8.6	


Average Score (Adults)	8.4	 <p>A-22</p>
Average Score (Youth)	8.3	
Average Score (Total)	8.4	

Average Score (Adults)	8.4	 <p>A-2</p>
Average Score (Youth)	8.2	
Average Score (Total)	8.3	


Average Score (Adults)	7.9	 <p>A-36</p>
Average Score (Youth)	8.5	
Average Score (Total)	8.2	

Average Score (Adults)	8.4	
Average Score (Youth)	7.5	
Average Score (Total)	7.8	


A-35

Average Score (Adults)	7.5	
Average Score (Youth)	6.7	
Average Score (Total)	7.1	

A-34


Average Score (Adults)	5.8	
Average Score (Youth)	5.8	
Average Score (Total)	5.8	

A-6

Average Score (Adults)	5.6	
Average Score (Youth)	4.5	
Average Score (Total)	5.0	

A-24



Average Score (Adults)	4.8	
Average Score (Youth)	4.4	
Average Score (Total)	4.6	

A-23

### Appendix 3 - Image Comparison Detailed Analysis

B-Series			B1	B2	B3
Adults	Rank 1	Occurrence (out of 74)	18	50	3
		Points (x3)	54	150	9
	Rank 2	Occurrence (out of 74)	49	20	10
		Points (x2)	98	40	20
	Rank 3	Occurrence (out of 74)	7	4	61
		Points (x1)	7	4	61
Total Points			159	194	90
Average ranking			B2, B1, B3		
Youth	Rank 1	Occurrence (out of 50)	20	29	1
		Points (x3)	60	87	3
	Rank 2	Occurrence (out of 50)	26	20	5
		Points (x2)	52	40	10
	Rank 3	Occurrence (out of 50)	4	1	44
		Points (x1)	4	1	44
Total Points			116	128	57
Average ranking			B2, B1, B3		

D-Series			D1	D2	D3
Adults	Rank 1	Occurrence (out of 73)	19	19	33
		Points (x3)	57	57	99
	Rank 2	Occurrence (out of 73)	16	44	26
		Points (x2)	32	88	52
	Rank 3	Occurrence (out of 73)	38	10	14
		Points (x1)	38	10	14
Total Points			127	155	165
Average ranking			D3, D2, D1		
Youth	Rank 1	Occurrence (out of 51)	23	16	12
		Points (x3)	69	48	36
	Rank 2	Occurrence (out of 51)	19	20	13
		Points (x2)	38	40	26
	Rank 3	Occurrence (out of 51)	9	15	26
		Points (x1)	9	15	26
Total Points			116	103	88
Average ranking			D1, D2, D3		

E-Series			E1	E2
Adults	Rank 1	Occurrence (out of 71)	41	34
		Points (x2)	82	68
	Rank 2	Occurrence (out of 71)	30	37
		Points (x1)	30	37
	Total Points		112	105
Average ranking		E1, E2		
Youth	Rank 1	Occurrence (out of 50)	29	22
		Points (x2)	58	44
	Rank 2	Occurrence (out of 50)	21	28
		Points (x1)	21	28
	Total Points		79	72
Average ranking		E1, E2		

F-Series			F1	F2
Adults	Rank 1	Occurrence (out of 73)	49	31
		Points (x2)	98	62
	Rank 2	Occurrence (out of 73)	24	42
		Points (x1)	24	42
	Total Points		122	104
Average ranking		F1, F2		
Youth	Rank 1	Occurrence (out of 50)	31	20
		Points (x2)	62	40
	Rank 2	Occurrence (out of 50)	19	30
		Points (x1)	19	30
	Total Points		81	70
Average ranking		F1, F2		

G-Series			G1	G2
Adults	Rank 1	Occurrence (out of 73)	59	15
		Points (x2)	118	30
	Rank 2	Occurrence (out of 73)	14	58
		Points (x1)	14	58
	Total Points		132	88
Average ranking		G1, G2		
Youth	Rank 1	Occurrence (out of 43)	31	12
		Points (x2)	62	24
	Rank 2	Occurrence (out of 43)	12	31
		Points (x1)	12	31
	Total Points		74	55
Average ranking		G1, G2		

H-Series			H1	H2	H3
Adults	Rank 1	Occurrence (out of 71)	36	34	2
		Points (x3)	108	102	6
	Rank 2	Occurrence (out of 71)	27	31	14
		Points (x2)	54	62	28
	Rank 3	Occurrence (out of 71)	8	6	55
		Points (x1)	8	6	55
Total Points			170	170	89
Average ranking			H1&2, H3		
Youth	Rank 1	Occurrence (out of 50)	27	18	5
		Points (x3)	81	54	15
	Rank 2	Occurrence (out of 50)	18	27	5
		Points (x2)	36	54	10
	Rank 3	Occurrence (out of 50)	5	5	40
		Points (x1)	5	5	40
Total Points			122	113	65
Average ranking			H1, H2, H3		

I-Series			I1	I2
Adults	Rank 1	Occurrence (out of 73)	56	23
		Points (x2)	112	46
	Rank 2	Occurrence (out of 73)	17	50
		Points (x1)	17	50
Total Points			129	96
Average ranking			I1, I2	
Youth	Rank 1	Occurrence (out of 50)	40	10
		Points (x2)	80	20
	Rank 2	Occurrence (out of 50)	10	40
		Points (x1)	10	40
Total Points			90	60
Average ranking			I1, I2	

J-Series			J1	J2
Adults	Rank 1	Occurrence (out of 71)	25	48
		Points (x2)	50	96
	Rank 2	Occurrence (out of 71)	46	23
		Points (x1)	46	23
	Total Points		96	119
Average ranking		J2, J1		
Youth	Rank 1	Occurrence (out of 50)	16	36
		Points (x2)	32	72
	Rank 2	Occurrence (out of 50)	34	14
		Points (x1)	34	14
	Total Points		66	86
Average ranking		J2, J1		

K-Series			K1	K2	K3	K4
Adults	Rank 1	Occurrence (out of 71)	7	12	12	40
		Points (x4)	28	48	48	160
	Rank 2	Occurrence (out of 71)	10	18	28	15
		Points (x3)	30	54	84	45
	Rank 3	Occurrence (out of 71)	17	28	21	7
		Points (x2)	34	56	42	14
	Rank 4	Occurrence (out of 71)	37	13	10	9
		Points (x1)	37	13	10	9
	Total Points		129	171	184	228
	Average ranking		K4, K3, K2, K1			
Youth	Rank 1	Occurrence (out of 50)	8	3	9	30
		Points (x4)	32	12	36	120
	Rank 2	Occurrence (out of 50)	8	12	24	6
		Points (x3)	24	36	72	18
	Rank 3	Occurrence (out of 50)	11	22	8	9
		Points (x2)	22	44	16	18
	Rank 4	Occurrence (out of 50)	23	13	9	5
		Points (x1)	23	13	9	5
	Total Points		101	105	133	161
	Average ranking		K4, K3, K2, K1			

L-Series			L1	L2	L3
Adults	Rank 1	Occurrence (out of 71)	8	29	35
		Points (x3)	24	87	105
	Rank 2	Occurrence (out of 71)	11	27	32
		Points (x2)	22	54	64
	Rank 3	Occurrence (out of 71)	52	15	4
		Points (x1)	52	15	4
Total Points			98	156	173
Average ranking			L3, L2, L1		
Youth	Rank 1	Occurrence (out of 50)	0	33	17
		Points (x3)	0	99	51
	Rank 2	Occurrence (out of 50)	3	14	33
		Points (x2)	6	28	66
	Rank 3	Occurrence (out of 50)	47	3	0
		Points (x1)	47	3	0
Total Points			53	130	117
Average ranking			L2, L3, L1		

M-Series			M1	M2	M3	M4
Adults	Rank 1	Occurrence (out of 71)	47	9	10	3
		Points (x4)	188	36	40	12
	Rank 2	Occurrence (out of 71)	17	37	11	8
		Points (x3)	51	111	33	24
	Rank 3	Occurrence (out of 71)	4	16	22	28
		Points (x2)	8	32	44	56
Rank 4	Occurrence (out of 71)	3	9	28	32	
	Points (x1)	3	9	28	32	
Total Points			250	188	145	124
Average ranking			M1, M2, M3, M4			
Youth	Rank 1	Occurrence (out of 50)	39	0	10	0
		Points (x4)	156	0	40	0
	Rank 2	Occurrence (out of 50)	8	32	6	2
		Points (x3)	24	96	18	6
	Rank 3	Occurrence (out of 50)	2	11	14	24
		Points (x2)	4	22	28	48
Rank 4	Occurrence (out of 50)	1	7	20	24	
	Points (x1)	1	7	20	24	
Total Points			185	125	106	78
Average ranking			M1, M2, M3, M4			

N-Series			N1	N2
Adults	Rank 1	Occurrence (out of 71)	57	19
		Points (x2)	114	38
	Rank 2	Occurrence (out of 71)	14	52
		Points (x1)	14	52
	Total Points		128	90
Average ranking		N1, N2		
Youth	Rank 1	Occurrence (out of 50)	41	10
		Points (x2)	82	20
	Rank 2	Occurrence (out of 50)	9	40
		Points (x1)	9	40
	Total Points		91	60
Average ranking		N1, N2		

O-Series			O1	O2	O3	O4
Adults	Rank 1	Occurrence (out of 75)	11	4	9	51
		Points (x4)	44	16	36	204
	Rank 2	Occurrence (out of 75)	13	11	39	12
		Points (x3)	39	33	117	36
	Rank 3	Occurrence (out of 75)	38	13	15	10
		Points (x2)	76	26	30	20
	Rank 4	Occurrence (out of 75)	13	47	12	2
		Points (x1)	13	47	12	2
	Total Points		172	122	195	262
	Average ranking		O4, O3, O1, O2			
Youth	Rank 1	Occurrence (out of 50)	3	1	6	41
		Points (x4)	12	4	24	164
	Rank 2	Occurrence (out of 50)	5	1	35	6
		Points (x3)	15	3	105	18
	Rank 3	Occurrence (out of 50)	32	10	7	3
		Points (x2)	64	20	14	6
	Rank 4	Occurrence (out of 50)	10	38	2	0
		Points (x1)	10	38	2	0
	Total Points		101	65	145	188
	Average ranking		O4, O3, O1, O2			

P-Series			P1	P2	P3
Adults	Rank 1	Occurrence (out of 71)	35	7	30
		Points (x3)	105	21	90
	Rank 2	Occurrence (out of 71)	19	26	25
		Points (x2)	38	52	50
	Rank 3	Occurrence (out of 71)	17	38	16
		Points (x1)	17	38	16
Total Points			160	111	156
Average ranking			P1, P3, P2		
Youth	Rank 1	Occurrence (out of 50)	40	1	9
		Points (x3)	120	3	27
	Rank 2	Occurrence (out of 50)	4	13	33
		Points (x2)	8	26	66
	Rank 3	Occurrence (out of 50)	6	36	8
		Points (x1)	6	36	8
Total Points			134	65	101
Average ranking			P1, P3, P2		

Q-Series			Q1	Q2	Q3
Adults	Rank 1	Occurrence (out of 71)	37	18	15
		Points (x3)	111	54	45
	Rank 2	Occurrence (out of 71)	24	33	16
		Points (x2)	48	66	32
	Rank 3	Occurrence (out of 71)	10	20	40
		Points (x1)	10	20	40
Total Points			169	140	117
Average ranking			Q1, Q2, Q3		
Youth	Rank 1	Occurrence (out of 50)	30	16	4
		Points (x3)	90	48	12
	Rank 2	Occurrence (out of 50)	13	24	13
		Points (x2)	26	48	26
	Rank 3	Occurrence (out of 50)	7	10	33
		Points (x1)	7	10	33
Total Points			123	106	71
Average ranking			Q1, Q2, Q3		