Cleveland Zoo - Kasiisi Project Grant 2014/2015 – Mid Stage Report

This report covers the first year of a 2 year grant awarded to the Kasiisi Project in 2014 and is accompanied by a request for the second installment of $3500 for 2015

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The main goal of this project was to extend for 2 years a successful program in which Grade 5 students learned about the impact of environmental degradation through its impact on the quality of water but with the added objectives of

a) making the initiative self sustaining in that schools could run the program with minimal external help from us and
b) that the program would spread to other schools through the agency of those already enrolled in the project.

2 Year Goals

1) **Goal 1: To demonstrate the impact of deforestation, and traditional and industrial agriculture, on the quality of stream, pond and drinking water in the Grade 4 class of the 7 Kasiisi Project Schools which had participated in the same program in 2013**

   The 7 experienced schools were able to carry out the program with only one meeting with Kasiisi Project environmental education staff who provided each school with its own set of analyzing equipment – turbidity tubes, pH strips, magnifying glasses etc.

2) **Goal 2: To demonstrate the impact of deforestation and traditional and industrial agriculture on the quality of stream, pond and drinking water in the Grade 4 class of 2 additional Kasiisi Project Schools.**

   The two new schools under the guidance of neighboring experienced schools and extra help from KP staff was able to carry out the program satisfactorily.

3) **Goal 3: To assist the children in analyzing the information they have collected and to use this information to design ways to protect their environment.**

   Although it is clear from evaluations that the program continued to teach the children about environmental factors impacting water quality there is still work to be done to ensure that

a) Parts of the program are not too sophisticated for these students
b) The teachers are using the information that that the children collected to reinforce the lessons we want taught.

4) **<u>Goal 4:</u> To help them share their results and conclusions with their schools, parents and communities and also with government organizations and the global conservation community.**

While some of this was attained we are making sharing experiences and information with the wider community a priority for 2015

5) **<u>Goal 5:</u> Study pathogen loads of water collected from a range of water sources with Grade 5.**

This part of the program has been put on hold until 2015

6) **<u>Goal 6:</u> To make the program self-sustaining**

We have shown that teachers with 2 years of training are able to run this program effectively themselves with minimal assistance from us other than equipment (see evaluations)

7) **<u>Goal 7</u>: To make the program self-perpetuating**

We have shown that new schools tutored mainly by experienced schools score almost as highly as the most experienced schools.

<u>Evaluation Results</u>

We measured the student's knowledge and their understanding of what might be the important factors impacting water quality by having the children draw pictures of the water sources pre and post the intervention. We scored presence and absence of plants (trees, grass, papyrus etc.), animals, agriculture (maize, cows, banana trees etc.) and markers of human activity (roads, houses, bridges, people etc.) in each picture.

Students are often evaluated and so to avoid evaluation fatigue we made the assumption that that the positive impact of the project we had seen in the 2 previous years would hold true, and only do evaluations at the end of the program.

We confirmed that we were justified in making this assumption by testing it on naive students from one school (Kigarama). The results in the table below show a significantly better understanding of the complexity of environmental factors impacting water quality in targeted students after the intervention, confirming data collected during

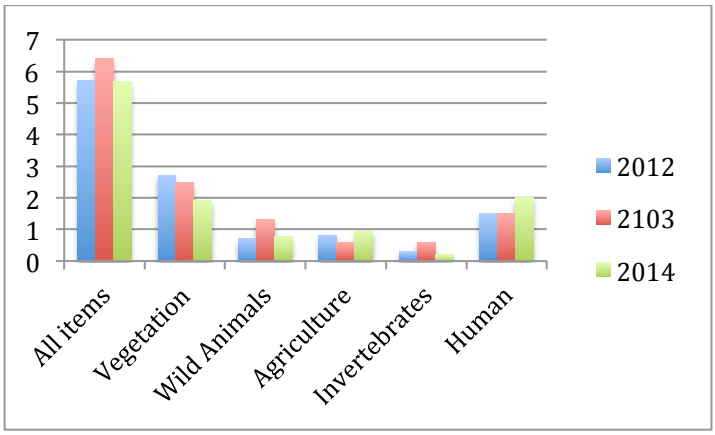
rounds 1 and 2 of the Water Project in 2012 and 2013. Results are paired within individuals.

	Pre Score	Post Score	Significantly Different
Plants	1.6	2.5	p=0.01
Animals	0.25	0.8	P=0.03
Agriculture	0.25	1.4	P=0.001
Human	1.4	3.3	P=0.006
Total items	3.5	7.9	P=0.0001

Table 1. Results of drawings

Our results showed that :

a) When schools ran the program themselves there was no significant difference between knowledge gained by these students and those students from previous years who had learned directly from Kasiisi Project Staff. (Total Item Means 5.7 (2012), 6.4 (2013) and 5.68 (2014) p=0.99)



b) Students from new schools where the staff were trained by teachers from experienced schools rather than by Kasiisi Project staff showed no significant difference in scores from those in experienced schools (Mean Score 5.59 vs. 5.99, p=0.88)

Conclusion

Given training for 2-3 years, adequate equipment and the knowledge that there is always backup when needed, teachers were not only able to maintain the quality of the program with minimal input from the Kasiisi Project but were able to pass on their knowledge and skills to more schools, making the program, with the exception of equipment, both self sustaining and self perpetuating.

BUDGET

	Cleveland Zoo	Ohio State	Dry Creek Charity	Spent	Balance
Supplies	365	500		2639	1774
Salaries	2025			2025	0
Office Expenses	500			500	0
Transport	250			408	158
Communication	360			360	0
Unrestricted			1932		1932
Total	3500	500	1932	5932	0