

Final Report of Project

Project No. : 2015/ 0291

Part A

Project Title: Establishment of Geography E-learning Package about Climate Change

Name of Organization/School: Ho Koon Nature Education cum Astronomical Centre (Sponsored by Sik Sik Yuen)

Project Period: From 01/2017 (month/year) to 01/2019 (month/year)

Part B

*Please read the **Guidelines to Completion of Final Report of Quality Education Fund Projects** before completing this part of the report.*

Please use separate A4-size sheets to provide an overall report with regard to the following aspects:

1. Attainment of objectives
2. Project impact on learning effectiveness, professional development and school development
3. Cost-effectiveness – a self-evaluation against clear indicators and measures
4. Deliverables and modes of dissemination; responses to dissemination
5. Activity list
6. Difficulties encountered and solutions adopted

Name of Project Leader: _____ Name of Grantee*: _____

Signature: _____ Signature: _____

Date: 02/05/2019 Date: 02/05/2019

** Final Report of Project should be submitted via "Electronic Project Management System" (EPMS). Once submitted, these reports are regarded as already endorsed by the supervisor of the school/the head of the organization or the one who signed the Quality Education Fund Agreement for allocation of grant on behalf of the organization.*

Quality Education Fund Projects
Establishment of Geography E-learning Package about Climate Change
(Project No.: 2015/0291)
Final Report of Project (01/2017 - 01/2019)

1. Project activities

a.

Objective statement:

Provide an educational package to enhance the understanding of and clarify common myths about climate change among students, teachers and the general public.

Activities related to the objective:

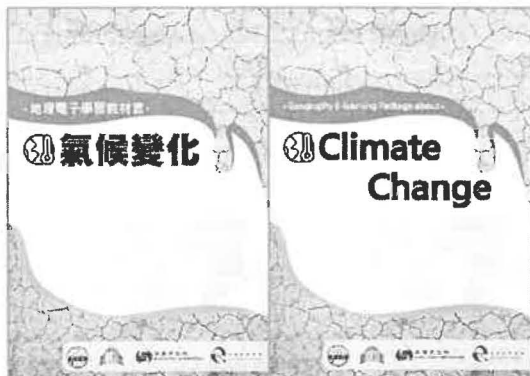
- i. Public launch of the Geography E-learning Package about Climate Change
- ii. Distributed the “Geography E-learning Package about: Climate Change” to all secondary schools
- iii. Organized a teacher seminar for promotion and training teachers

Extent of attainment of the objective:

Fully achieved

Evidence or indicators of having achieved the objective:

- i. The printed version of the educational package including the teaching kit and board game learning set is attached for reference.



Printed version of the teaching kit



Board game learning set

- ii. About 450 secondary school geography teachers received the teaching kit in both the Chinese and English versions.
- iii. In the collaboration with the Education Bureau and the Hong Kong Observatory, teachers training seminar of “Geography seminar on climate change and related e-resources for geography fieldwork & learning” was successfully held on 29th January 2019, and more than 100 teachers participated.

b.

Objective statement:

Facilitate the teaching and learning with a wide range of informative and interactive resources

Activities related to the objective:

- i. Public launch of the climate change e-learning resources, include the website and mobile application
- ii. Distributed the board game learning set to all secondary schools

Extent of attainment of the objective:

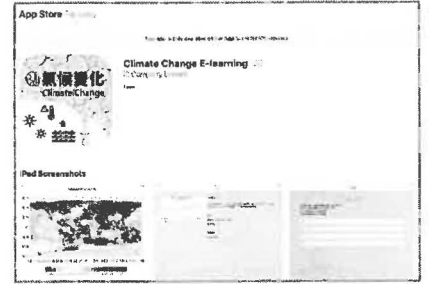
Fully achieved

Evidence or indicators of having achieved the objective:

- i. The climate change e-learning website and mobile application are available for free download. For downloading the apps, please visit <https://www.climatechange.edu.hk/> or visit with the QR codes provided.



Climate change e-learning website



Climate change E-learning mobile application

- ii. About 450 secondary school geography teachers received the board game learning set.

c.

Objective statement:

Raise public awareness on climate change and its impacts on Hong Kong

Activities related to the objective:

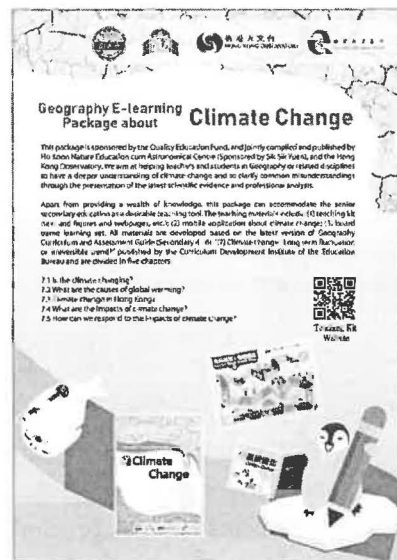
- i. All teaching kit materials available for free download by the general public
- ii. Promotion of the teaching kit at different parties and social media

Extent of attainment of the objective:

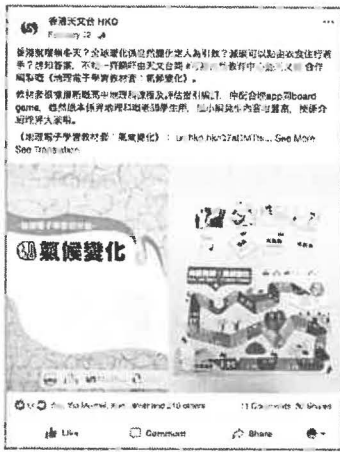
Fully achieved

Evidence or indicators of having achieved the objective:

- i. The entire teaching kit is available at the project website <https://www.climatechange.edu.hk/>
- ii. Promotion on the Education Bureau's website, the Hong Kong Observatory (HKO) 's



Education Bureau Circular Memorandum No. 34/2019



Promotion on HKO's



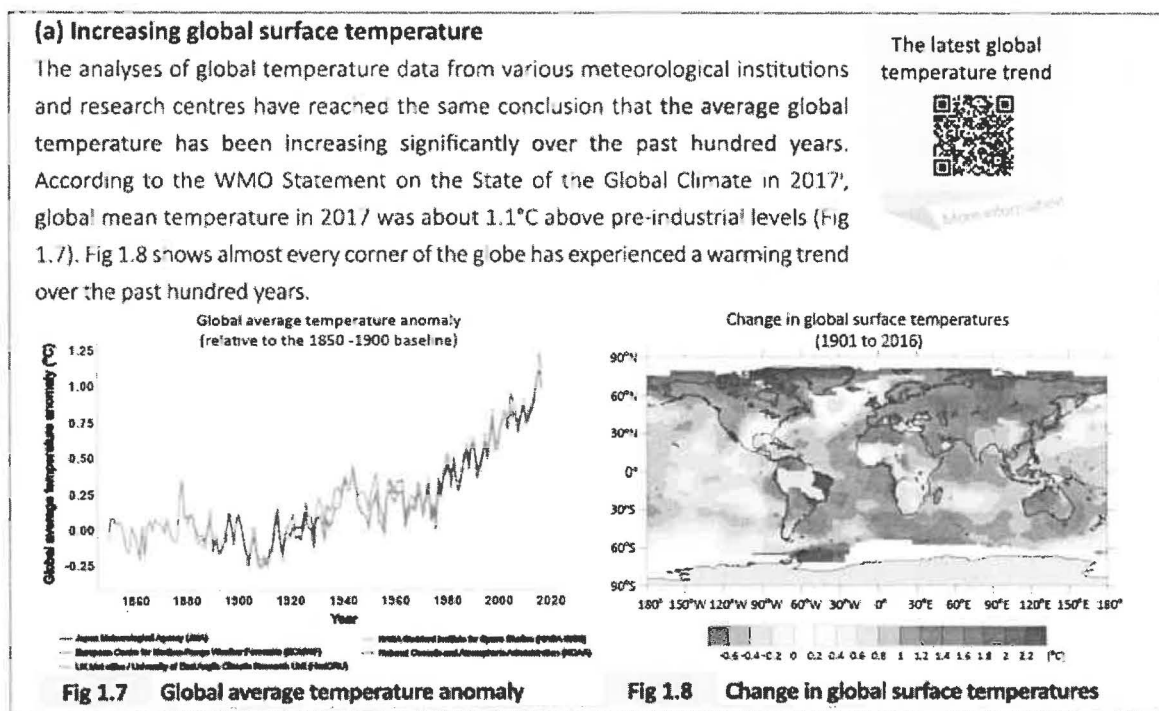
News report



2. Project impact on

a. Broadening horizons students and teachers

The combination of e-resources and teaching kit in the format of QR codes links the teachers and students to the most updated climate change information in the world, even in the printed teaching kit.



Example from the teaching kit Chapter 7.1

b. Increasing students'/teachers' sense of achievement

The weather data collection function in the mobile application not only assists students and teachers collect weather data, and to present and conduct analysis in an easier way. The easy-to-use design of the mobile application prompts students to be independent learners.

c. Fostering students' development in their potential and specific abilities

With a variety of resources and activities, students can explore more about climate change depending on their abilities and interest .

d. Training students to better meet social demands

Various myths about the climate change have been included in the teaching kit. These myth-breaking questions cultivate the critical thinking skills of students. Through learning the truth of climate change, students can recognize the critical environmental issue that needs immediate response among the public.



Why snowstorms and extremely cold weather still occur in some regions under global warming?

Cold events in a certain place at a certain time are just weather, and say nothing about climate. Against the backdrop of natural climate variability, global warming refers to the increase in global average temperature since the 20th century as a result of human activities. Snowstorms and extremely cold weather are parts of the natural climate variability and are not precluded by global warming. However, global warming has reduced the frequency of extremely cold events over the last few decades. The frequency of extremely cold events is expected to decrease further if global temperature keeps rising in the future.

Example from the teaching kit Chapter 7.1

e. Increasing training opportunities for teachers and enhancing their professional development

The teachers training seminar served more than a hundred geography teachers, bringing them a professional training of the new module “Climate Change – Long term fluctuation or irreversible trend?” on latest version of the Geography Curriculum and Assessment Guide (Secondary 4 - 6).

f. Improving learning atmosphere

With the aid of the board game, teaching and learning of climate change key concepts can be achieved outside lesson time.

g. Fostering team spirit and enhancing the overall image of the school

The project has been accomplished by the project manager, project officer and the geography teachers

- i. All Geography teachers
- .. provided great support to the project.

h. Inducing collaboration with other schools / professional organizations

Development of the package has been professionally supported by the HKO. During the project implementation, advisors from the Education Bureau, teachers from the pilot schools, such as Ho Fung College (Sponsored by the Sik Sik Yuen) and Pui Ching College as well as the different parties from worldwide educational institutions with expertise in climate change provided their professional advice.

3. Cost-effectiveness

Table 2: Budget Checklist

Budget Items <i>(Based on Schedule II of Agreement)</i>	Approved Budget (a)	Actual Expense (b)	Change [(b)-(a)]/(a) +/- %
A. Staff Cost	747,684	747,983.92	0.0401%
B. Equipment	19,100	18,396.5	-3.6832%
C. Service	180,500	159,395	-11.6925%
D. General Expenses	106,438	45,592.52	-57.1652%
E. Contingency	8,578	0	-100%

a. Utilization of available resources

The equipment including the computers, the related software and iPads had been well utilized during the project development. The project officials had also paid the maximum effort to accomplish the project within the limited employment period. Due to the lighter weight of the package, the postal expense in the General Expenses was smaller than the approved budget.

b. Unit cost for the direct beneficiaries

The total actual expense of the project is \$971,367.94. As the project materials targets for the 800 geography teachers, 500 environmental education teachers and 45,000 secondary students, **46,300 individuals in total**, the unit cost for direct beneficiaries would be \$20.8.

c. Sustainability of the learning programme and materials developed

The web-based resources (website and mobile application) will be open to students, teachers and the public. The climate data in the printed teaching kit will not be expired since all the readers can access the latest information via the QR codes provided.

d. Expenditure items which require no injection of resources when the project is replicated by other schools

Other schools can reuse the web-based resources without any injection of resources.

e. Alternative approaches for equivalent benefits at less cost

Developing a ready-to-use educational package required huge effort from the project staff, it is difficult to achieve high quality work with lower staff cost. Nevertheless, the cooperation with the professional HKO advisors can reduce the cost of accessing data, graphs and photos.

4. Deliverables and Modes of Dissemination

- a. A teaching kit “Geography E-learning Package about: Climate Change”, 1000 copies for the English and Chinese versions respectively
 - Distributed to about 450 secondary schools and the parties involved in the project since 01/2019
 - Reproduction of the printed teaching kit is not recommended as all the materials can be directly downloaded from the website. Beside, reproduction for commercial purposes is not recommended in order to avoid copyright disputes.
- b. A board game, 1000 copies
 - Distributed to about 450 secondary schools and the parties involved in the project since 01/2019
 - Feasible for reproduction and distributing to more schools
- c. A mobile application “Climate Change E-learning”

- Available for free downloads since 01/2019

d. A website of “Geography E-learning Package about: Climate Change”

- Available for free downloads since 01/2019

5. Activity List

Seminar of “Geography seminar on climate change and related e-resources for geography fieldwork & learning” was successfully held on 29/01/2019. The details are as follows,

Date: 29-1-2019 (Tuesday)

Time: 2:30 pm - 4:45 pm

Venue: Lecture Theatre, 4/F, West Block, Education Bureau Kowloon Tong Education Services Centre, 19 Suffolk Road, Kowloon Tong, Kowloon

Number of Participants: 102 teachers

Content:

- i. **A talk on “Climate change – What does it have to do with me?”** presented by Mr. LEE Sai-ming, Senior Scientific Officer, The Hong Kong Observatory
- ii. **Introduction of “Geography e-Learning Package about Climate Change” and its mobile application for geography fieldwork** presented by Project Leader Miss LAU Suk Ching, the deputy head of Geography panel, Ho Koon Nature Education cum Astronomical Centre (Sponsored by Sik Sik Yuen)

Feedback from participants:

Generally very positive, the teachers commented it as comprehensive and informative and providing helpful teaching aids for e-learning.

6. Difficulties Encountered and Solutions Adopted

a. Budget

b. Processes

i.

- ii. A CD-ROM combining all the multimedia resources was planned in the package. However, with reference to the comments from the pilot school teachers, all the multimedia resources are designed to be included in the teaching kit printed copies and the project website in the forms of QR codes and web links respectively. It would be more cost-effective and allowing more teachers, students and even the public to access the free up-to-date and comprehensive climate change teaching kit.

c. Schedule

- i. Unexpected events arising from the great difficulties in recruitment of the project officer and the resignation of project manager disrupted the working progress. To accomplish all the proposed goals, an application of 6-month project extension was sent and approved in 04/2018. The completion date has been revised from 30th June 2018 to 31st Dec 2018.

- ii. As the seminar cooperated with the Education Bureau and the HKO was scheduled on 29th January 2019, preparation work was needed in January. An application of 1-month project extension was sent and approved in 11/2018. The completion date has been revised from 31st Dec 2018 to 31st Jan 2019.