UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

GCE Ordinary Level

MARK SCHEME for the May/June 2007 question paper

5014 ENVIRONMENTAL MANAGEMENT

5014/02 Paper 2, maximum raw mark 60

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began.

All Examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

Mark schemes must be read in conjunction with the question papers and the report on the examination.

- CIE will not enter into discussions or correspondence in connection with these mark schemes.

CIE is publishing the mark schemes for the May/June 2007 question papers for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level syllabuses and some Ordinary Level syllabuses.

TANZANIA

1 (a) (i) S1 extinction inevitable; as no spray; S2 species saved; but not in natural habitat; S3 some may survive in habitat; [max]

    (ii) a proper environmental survey/eq; [1]

    (iii) yes, qualified; or no, qualified; R refs to tourism [1]

  (b) (i) not enough left to breed; so none can be exported in future/eq; [2]

    (ii) B; less deaths (equal deaths) 0; more juveniles; increased breeding rate;
AVP e.g. no need to supply special diet [3]

  (c) (i) axes labelled; orientation; correct plots;; [4]

    (ii) **X** faster growth Jan-June; difference bigger towards end/difference is 35 mm/rate of growth decreased in **Y** during May-June; [2]

    (iii) natural vegetation and cabbage; [1]

    (iv) to prevent disease/described; AVP: a cleaner environment/eq [1]

    (v) prevent inbreeding/spread of wrong genes; increase vigour to offspring; maintain gene pool; adds biological variation; [2]

       A ref to (increased/maintain) fertility

2 (a) ADV high yield in small area; everyone involved; organic fertiliser used; less chance of erosion; DIS labour intensive; only some of ground cultivated; [max 2]

  (b) (i) pH; rainfall; aspect; slope angle; species of plant; soil type; AVP [max 2]

    (ii) count all cobs and weigh some, calculate total weight; [1]

    (iii) divide part **(ii)**/yield by number of square metres; [1]

  (c) (i) some plants died of disease; lack of water; lack of nutrients; AVP; [2]

    (ii) 750/3000 x 100 = 25%;; [2]

  (d) (i) Surface runoff; so soil erosion; other ridges broken; top soil to bottom of field; AVP;
e.g. crops damaged/destroyed [2]

    (ii) lower yield due to low nutrients/eq; loss of soil structure; AVP;; e.g. less money for seeds [2]

3 **(a)** **(i)** poison/problems in lungs; via skin; in organs; death;

food chain poisoned; so wild food not safe to eat; AVP;;

   (ii) some fields now in poor condition; less food than before as less farming; less money to buy food/drugs; loss of farming skills; miners leave to mine other areas; AVP;; e.g. migration of other people   [3]

(b) Use for HEP/electricity; make irrigated fields; source of clean water;
detail of any use;   [2]

(c) **(i)** same age; type of goat; size; type of enclosure; number of goats   [2]

   (ii) weigh goats each month; measure milk yield; health checks; AVP;;   [3]

   (iii) table drawn; headings; units;   [3]

(d) **(i)** correct drawing;   [1]

   (ii) 15;   [1]

(e) 1 x 365/2 = 182.5 ; 3000/182.5 = 16 goats; Allow 3000/365 = 8;
A round up to 9 (allow working using 182 or 183)   [2]

(f) **(i)** small fields; so high level of care; fits in with child care/other work; own income;   [2]

   (ii) Three valid arguments;;; each idea can have one development mark e.g. could use insecticide on own crops and so save the villagers' money (2mks)   [3]

[TOTAL: 60]