



Progress report on the implementation of the *Global Plan of Action for Animal Genetic Resources* - 2007 to 2011

Country: **Malaysia**

Strategic Priority Area 1: Characterization, Inventory and Monitoring of Trends and Associated Risks

- The state of inventory and characterization of animal genetic resources
- The state of monitoring programmes and country-based early warning and response systems
- The state of international technical standards and protocols for characterization, inventory, and monitoring

1. Which of the following options best describes your country's progress in building an inventory of its animal genetic resources covering all livestock species of economic importance (SP 1, Action 1)?

Glossary: An inventory is a complete list of all the different breeds present in a country.

- a. Completed before the adoption of the GPA ☐
- b. Completed after the adoption of the GPA ☐
- c. Partially completed (further progress since the adoption of the GPA) ☒
- d. Partially completed (no further progress since the adoption of the GPA) ☐

Please provide further details:

Most breeds found in the country have been documented. Information is being collected on newly introduced breeds.

2. Which of the following options best describes your country's progress in implementing phenotypic characterization studies covering morphology, performance, location, production environments and specific features in all livestock species of economic importance (SP 1, Actions 1 and 2)?

- a. Comprehensive studies were undertaken before the adoption of the GPA ☐
- b. Sufficient information has been generated because of progress made since the adoption of the GPA ☒

- c. Some information has been generated (further progress since the adoption of the GPA) ☐
- d. Some information has been generated (no further progress since the adoption of the GPA) ☐
- e. None, but action is planned and funding identified ☐
- g. None, but action is planned and funding is sought ☐
- f. None ☐

Please provide further details:

Information on existing breeds has been updated. We are currently focusing on newly introduced breeds.

3. Which of the following options best describes your country's progress in molecular characterization of its animal genetic resources covering all livestock species of economic importance (SP 1)?

- a. Comprehensive studies were undertaken before the adoption of the GPA ☐
- b. Sufficient information has been generated because of progress made since the adoption of the GPA ☐
- c. Some information has been generated (further progress since the adoption of the GPA) ☐
- d. Some information has been generated (no further progress since the adoption of the GPA) ☒
- e. None, but action is planned and funding identified ☐
- f. None, but action is planned and funding is sought ☐
- g. None ☐

Please provide further details:

Due to funding restrictions since 2007, there has not been much work on molecular characterization of AnGR.

4. Has your country conducted a baseline survey of the population status of its animal genetic resources for all livestock species of economic importance (SP 1, Action 1)?

Glossary: A baseline provides a reference point for monitoring population trends. Population status refers to the total size of a national breed population (ideally, also the proportion that is actively used for breeding and the number of male and female breeding animals).

- a. Yes, a baseline survey was undertaken before the adoption of the GPA ☐
- b. Yes, a baseline survey has been undertaken or has commenced after the adoption of the GPA ☐
- c. Yes, a baseline survey has been undertaken for some species (coverage increased since the adoption of the GPA) ☐
- d. Yes, a baseline survey has been undertaken for some species (coverage not increased since the adoption of the GPA) ☒
- e. No, but action is planned and funding identified ☐
- f. No, but action is planned and funding is sought ☐
- g. No ☐

Please provide further details:

Limited yearly surveys on species populations are being conducted.

5. Have institutional responsibilities for monitoring the status of animal genetic resources in your country been established (SP 1, Action 3)?

Glossary: Monitoring is a systematic set of activities undertaken to document changes in the population size and structure of animal genetic resources over time.

- a. Yes, responsibilities established before the adoption of the GPA ☐
- b. Yes, responsibilities established after the adoption of the GPA ☐
- c. No, but action is planned and funding identified ☐
- d. No, but action is planned and funding is sought ☒
- e. No ☐

Please provide further details:

Generally the National Institute of Veterinary Biodiversity is involved in monitoring the status of AnGR. This has not however been formalized.

6. Have protocols (details of schedules, objectives and methods) been established for a programme to monitor the status of animal genetic resources in your country (SP 2)?

- a. Yes, protocols established before the adoption of the GPA ☐
- b. Yes, protocols established after the adoption of the GPA ☐
- c. No, but action is planned and funding identified ☐
- d. No, but action is planned and funding is sought ☒
- e. No ☐

Please provide further details:

Looking for samples of protocols already developed by other countries/regions.

7. Are the population status and trends of your country's animal genetic resources being monitored regularly for all livestock species of economic importance (SP 1, Action 2)?

- a. Yes, regular monitoring commenced before the adoption of the GPA ☐
- b. Yes, regular monitoring commenced after the adoption of the GPA ☐
- c. Yes, regular monitoring is being undertaken for some species (coverage increased since the adoption of the GPA) ☐
- d. Yes, regular monitoring is being undertaken for some species (coverage not increased since the adoption of the GPA) ☒
- e. No, but action is planned and funding identified ☐
- f. No, but action is planned and funding is sought ☐
- g. No ☐

Please provide further details:

Limitations on manpower and budget.

8. Which criteria do your country use for assessing the risk status of its animal genetic resources (SP 1, Action 7)

Glossary: FAO has developed criteria that it uses to allocate breeds to risk-status categories based on the size and structure of their populations (<http://www.fao.org/docrep/010/a1250e/a1250e00.htm>).

- a. FAO criteria ☒
- b. National criteria that differ from the FAO criteria ☐
- c. Other criteria (e.g. defined by international body such as European Union) ☐
- d. None ☐

If applicable, please describe your national criteria or provide link to website describing criteria of international body:

Use the definitions found in the World Watch List for Domestic Animal Diversity (FAO publication).

9. Has your country established an operational emergency response system (<http://www.fao.org/docrep/meeting/021/K3812e.pdf>) that provides for immediate action to safeguard breeds at risk in all important livestock species (SP 1, Action 7)?

- a. Yes, a comprehensive system was established before the adoption of the GPA ☐
- b. Yes, a comprehensive system has been established since the adoption of the GPA ☐
- c. For some species and breeds (coverage expanded since the adoption of the GPA) ☐
- d. For some species and breeds (coverage not expanded since the adoption of the GPA) ☒
- e. No, but action is planned and funding identified ☐
- f. No, but action is planned and funding is sought ☐
- g. No ☐

Please provide further details:

We are using the Early Warning & Emergency Response Mechanism for disease monitoring (risk due to disease only).

10. Is your country conducting research to develop methods, technical standards or protocols for phenotypic or molecular characterization, or breed evaluation, valuation or comparison? (SP 2, Action 2)

- a. Yes, research commenced before the adoption of the GPA ☐
- b. Yes, research commenced after the adoption of the GPA ☒
- c. No, but action is planned and funding identified ☐
- d. No, but action is planned and funding is sought ☐
- e. No ☐

Please provide further details:

11. Has your country identified the major barriers and obstacles to enhancing its inventory, characterization and monitoring programmes?

- a. Yes ☒
- b. No ☐
- c. No major barriers and obstacles exist. Comprehensive inventory, characterization and monitoring programmes are in place. ☐

If yes, please list them, being as specific as possible:

Limitations in expertise to undertake characterization in particular. Manpower and financial resources are insufficient to undertake suggested projects.

12. If applicable, please list the priority measures that need to be taken to address these barriers and obstacles and to enhance your country's inventory, characterization and monitoring programmes - please be as specific as possible:

1. Establish inventory of local FAnGRs (maintain breed database and enhance breed characterization).
2. Strengthen breed endangerment early-warning and response systems for FAnGR.

13. Please provide further comments on your country's activities related to Strategic Priority Area 1: Characterization, inventory and monitoring of trends and associated risks (including regional and international cooperation):

Implementing Strategic Priority Area 1 is very challenging given that activities are extremely labour intensive and our human resources are limited. These concerns are addressed in the draft "National Strategies and Action Plans for Agricultural Biodiversity Conservation and Sustainable Utilization for Malaysia" which is slated to be launched in 2012.

Strategic Priority Area 2: Sustainable Use and Development

- The state of national sustainable use policies for animal genetic resources
- The state of national species and breed development strategies and programmes
- The state of efforts to promote agro-ecosystem approaches

14. Does your country have adequate national policies in place to promote the sustainable use of animal genetic resources (see also questions 46 and 54)?

- a. Yes, since before the adoption of the GPA ☐
- b. Yes, policies put in place or updated after the adoption of the GPA ☒
- c. No, but action is planned and funding identified ☐
- d. No, but action is planned and funding is sought ☐
- e. No ☐

Please provide the text of the policies or a web link to the document:

15. Do these policies address the integration of agro-ecosystem approaches into the management of animal genetic resources in your country (SP5) (see also questions 46 and 54)?

Glossary: The ecosystem approach is a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way (for further information see <http://www.cbd.int/ecosystem/description.shtml>).

- a. Yes ☒
- b. No, but a policy update is planned and funding identified ☐
- c. No, but action is planned and funding is sought ☐
- d. No ☐

Please provide further details:

An excerpt from the introductory section of the draft "National Strategies and Action Plans for Agricultural Biodiversity Conservation and Sustainable Utilization for Malaysia" reads:
"Agricultural biodiversity is a broad term that includes all components of biological diversity of relevance to food and agriculture. It also includes all components of biological diversity that support the ecosystems of which agriculture is a part: the variety and variability of animals, plants and micro-organisms, at the genetic, species and ecosystem levels, which are necessary to sustain key functions of the agro-ecosystem, its structure and processes".

16. Are breed development programmes revised, for all major species and breeds in your country, with the aim of meeting foreseeable economic and social needs and market demands (SP4, Action 2)?

- a. Yes, regular revisions commenced before the adoption of the GPA ☐
- b. Yes, regular revisions commenced after the adoption of the GPA ☐
- c. For some species and breeds (coverage has increased since the adoption of the GPA) ☒
- d. For some species and breeds (coverage has not increased since the adoption of the GPA) ☐
- e. No, but action is planned and funding identified ☐
- f. No, but action is planned and funding is sought ☐
- g. No ☐

Please provide further information:

Breeding Policy document is being finalized and will probably be launched in 2012/2013.

17. Is long-term sustainable use planning - including, if appropriate, strategic breeding programmes - in place for all major livestock species and breeds (SP4, Action 1)?

- a. Yes, since before the adoption of the GPA ☐
- b. Yes, put in place after the adoption of the GPA ☐
- c. For some species and breeds (further progress made since the adoption of the GPA) ☒

- d. For some species and breeds (no further progress made since the adoption of the GPA) ☐
- e. No, but action is planned and funding identified ☐
- f. No, but action is planned and funding is sought ☐
- g. No ☐

18. Have the major barriers and obstacles to enhancing the sustainable use and development of animal genetic resources in your country been identified?

- a. Yes ☒
- b. No ☐
- c. No major barriers and obstacles exist. Comprehensive sustainable use and development measures are in place. ☐

If yes, what are they?

1. Lack of competent human capital in the field of FAnGR management.
2. Limited institutional development to support sustainable use and development programmes.

19. Have the long-term impacts of the use of exotic breeds on local breeds (e.g. economic, environmental or genetic impacts) and on food security been assessed in your country (SP4, Action 1)?

Glossary: Exotic breeds are breeds that are maintained in a different area from the one in which they were developed. Exotic breeds comprise both recently introduced breeds and continually imported breeds.

- a. No exotic breeds are being used for agricultural production ☐
- b. Yes, assessments were introduced before the adoption of the GPA ☐
- c. Yes, assessments were introduced after the adoption of the GPA ☐
- d. No, but action is planned and funding identified ☐
- e. No, but action is planned and funding is sought ☐
- f. No ☒

Please provide further information:

Exotic breeds are extensively used in the poultry and swine industry. They are a major contributor to agricultural output and food security. Local breeds like the Kampong Chicken are, however, used in niche industries. Hitherto no impact studies have been planned.

20. Have recording systems and organizational structures for breeding programmes been established or strengthened (SP4, Action 3)?

- a. Yes, sufficient recording systems and organizational structures for breeding programmes have existed since before the adoption of the GPA ☐
- b. Yes, sufficient recording systems and organizational structures for breeding programmes exist because of progress made since the adoption of the GPA ☐
- c. Yes, recording systems and organizational structures for breeding programmes are partially in place (and were established or strengthened after the adoption of the GPA) ☐
- d. Yes, recording systems and organizational structures for breeding programmes are partially in place (but no progress has been made since the adoption of the GPA) ☒

- e. No, but action is planned and funding identified ☐
- f. No, but action is planned and funding is sought ☐
- g. No ☐

21. Are mechanisms in place in your country to facilitate interactions among stakeholders, scientific disciplines and sectors as part of sustainable use development planning (SP5, Action 3)?

- a. Yes, comprehensive mechanisms have existed since before the adoption of the GPA ☐
- b. Yes, comprehensive mechanisms exist because of progress made since the adoption of the GPA ☐
- c. Yes, mechanisms are partially in place (and were established or strengthened after the adoption of the GPA) ☒
- d. Yes, mechanisms are partially in place (but no progress has been made since the adoption of the GPA) ☐
- e. No, but action is planned and funding identified ☐
- f. No, but action is planned and funding is sought ☐
- g. No ☐

22. Have measures been implemented in your country to provide farmers and livestock keepers with information that facilitates their access to animal genetic resources (SP 4, Action 7)?

- a. Yes, comprehensive measures have existed since before the adoption of the GPA ☐
- b. Yes, comprehensive measures exist because of progress made since the adoption of the GPA ☐
- c. Yes, measures partially implemented (and were established or strengthened after the adoption of the GPA) ☒
- d. Yes, measures partially implemented (but no progress has been made since the adoption of the GPA) ☐
- e. No, but action is planned and funding identified ☐
- f. No, but action is planned and funding is sought ☐
- g. No ☐

23. Has your country developed agreements for equitable sharing of the benefits resulting from access to, and use and development of, animal genetic resources and associated traditional knowledge (SP3, Action 2)?

- a. Yes, sufficient agreements have existed since before the adoption of the GPA ☐
- b. Yes, sufficient agreements exist because of progress made since the adoption of the GPA ☐
- c. Yes, some agreements exist (progress has been made since the adoption of the GPA) ☐
- d. Yes, some agreements exist (but no progress has been made since the adoption of the GPA) ☐
- e. No, but action is planned and funding identified ☐
- f. No, but action is planned and funding is sought ☐
- g. No ☒

Please provide further information:

There have not been any requests from foreign entities for access to, use and development of animal genetic resources and associated traditional knowledge. Procurement of genetic resources from foreign sources has been through commercial purchases.

- 24. Have training and technical support programmes for the breeding activities of livestock-keeping communities been established or strengthened in your country (SP 4, Action 1)?**
- a. Yes, sufficient programmes have existed since before the adoption of the GPA ☐
 - b. Yes, sufficient programmes exist because of progress made since the adoption of the GPA ☐
 - c. Yes, some programmes exist (progress has been made since the adoption of the GPA) ☒
 - d. Yes, some programmes exist (but no progress has been made since the adoption of the GPA) ☐
 - e. No, but action is planned and funding identified ☐
 - f. No, but action is planned and funding is sought ☐
 - g. No ☐
- 25. Have priorities for future technical training and support programmes to enhance the use and development of animal genetic resources in your country been identified (SP 4, paragraph 42)?**
- a. Yes, priorities have been identified or updated since the adoption of the GPA ☒
 - b. Yes, priorities were identified before the adaption of the GPA but have not been updated ☐
 - c. No, but action is planned and funding identified ☐
 - d. No, but action is planned and funding is sought ☐
 - e. No ☐
- 26. Have efforts been made in your country to assess and support indigenous or local production systems and associated traditional knowledge and practices related to animal genetic resources (SP 6, Action 1, 2)?**
- a. Yes, sufficient measures have been in place since before the adoption of the GPA ☐
 - b. Yes, sufficient measures are in place because of progress made since the adoption of the GPA ☐
 - c. Yes, some measures are in place (and were established or strengthened after the adoption of the GPA) ☒
 - d. Yes, some measures are in place (but no progress has been made since the adoption of the GPA) ☐
 - e. No, but action is planned and funding identified ☐
 - f. No, but action is planned and funding is sought ☐
 - g. No ☐
- 27. Have efforts been made in your country to promote products derived from indigenous and local species and breeds, and facilitate access to markets (SP 6, Action 2, 4)?**

- a. Yes, sufficient measures have been in place since before the adoption of the GPA ☐
- b. Yes, sufficient measures are in place because of progress made since the adoption of the GPA ☐
- c. Yes, some measures are in place (and were established or strengthened after the adoption of the GPA) ☒
- d. Yes, some measures are in place (but no progress has been made since the adoption of the GPA) ☐
- e. No, but action is planned and funding identified ☐
- f. No, but action is planned and funding is sought ☐
- g. No ☐

28. If applicable, please list priority requirements for enhancing the sustainable use and development of animal genetic resources in your country - please be as specific as possible:

1. Development of expertise in the sustainable use and development of animal genetic resources.
2. Encouragement of investment in sustainable use projects, particularly by the private sector.

29. Please provide further comments on your country's activities related to Strategic Priority Area 2: Sustainable Use and Development (including regional and international cooperation):

- Action plans include:
1. Encourage private sector participation/investment.
 2. Encourage NGO participation in FAnGR conservation and use.
 3. Encourage establishment of breed societies.
 4. Upgrade existing breeding structure.
 5. Promote traditional knowledge, practices and lifestyles.

Strategic Priority Area 3: Conservation

- The state of national conservation policies
- The state of *in situ* and *ex situ* conservation programmes
- The state of regional and global long-term conservation strategies and agreement on technical standards for conservation

30. Does your country regularly assess factors leading to the erosion of its animal genetic resources (SP 7, Action 2)?

- a. Erosion not occurring ☐
- b. Yes, regular assessments have been implemented since before the adoption of the GPA ☐
- c. Yes, regular assessments have commenced since the adoption of the GPA ☐
- d. No, but action is planned and funding identified ☐
- e. No, but action is planned and funding is sought ☒
- f. No ☐

31. What factors or drivers are leading to the erosion of animal genetic resources? Please describe the factors specifying which breeds or species are affected:

1. Decreasing hectarage of land used for agriculture.

2. Habitat loss due to increasing urbanization.
3. Sanitary and phytosanitary issues.
4. Decreased utility of farm animals (e.g. buffaloes no longer kept for draft power).
5. Environmental factors (including climate change).
5. Lack of awareness concerning conservation issues.

32. Does your country have conservation policies and programmes in place to protect breeds at risk in all important livestock species (SP 7, SP 8 and SP 9)?

- a. Yes, comprehensive policies and programmes have been in place since before the adoption of the GPA ☐
- b. Yes, comprehensive policies and programmes exist because of progress made since the adoption of the GPA ☐
- c. For some species and breeds (coverage expanded since the adoption of the GPA) ☐
- d. For some species and breeds (coverage not expanded since the adoption of the GPA) ☒
- e. No, but action is planned and funding identified ☐
- f. No, but action is planned and funding is sought ☐
- g. No ☐

33. If conservation policies and programmes are in place, are they regularly evaluated or reviewed (SP 7, Action 1; SP 8, Action 1; and SP 9, Action 1)?

- a. Yes ☒
- b. No, but action is planned and funding identified ☐
- c. No, but action is planned and funding is sought ☐
- d. No ☐

34. What measures are being used in your country to conserve breeds at risk of extinction and to prevent breeds from becoming at risk (SP 8 and SP 9)?

In situ

Glossary: In situ - support for continued use by livestock keepers in the production system in which the livestock evolved or are now normally found and bred.

- a. Yes ☒
- b. No, but action is planned and funding identified ☐
- c. No, but action is planned and funding is sought ☐
- d. No ☐

Please describe the measures (indicating for each whether they were introduced before or after the adoption of the GPA) or provide a web link to a published document that provides further information:

Some examples:

- promoting the production of Kampong Chicken for niche markets has helped to conserve this breed of local chicken (conserving through utilization);
- promoting the use of Kedah-Kelantan cattle in marginal areas such as oil palm estates has helped to conserve the breed.

Ex situ in vivo

Glossary: Ex situ in vivo - maintenance of live animal populations not kept under their normal management conditions - e.g. in zoological parks or governmental farms - and/or outside the area in which they evolved or are now normally found.

- e. Yes ☒
- f. No, but action is planned and funding identified ☐
- g. No, but action is planned and funding is sought ☐
- h. No ☐

Please describe the measures (indicating for each whether they were introduced before or after the adoption of the GPA) or provide a web link to a published document that provides further information:

Maintenance on government farms of Kedah-Kelantan cattle (before GPA) and Katjang goats (after GPA). Some breeds are found in zoos, such as Bali cattle and Local Chinese pigs.

Ex situ in vitro

Glossary: Ex situ in vitro - conservation, under cryogenic conditions including, inter alia, the cryoconservation of embryos, semen, oocytes, somatic cells or tissues having the potential to reconstitute live animals at a later date.

- i. Yes ☒
- j. No, but action is planned and funding identified ☐
- k. No, but action is planned and funding is sought ☐
- l. No ☐

Please describe the measures (indicating for each whether they were introduced before or after the adoption of the GPA) or provide a web link to a published document that provides further information:

Semen is collected from individual sires of native breeds such as Kedah-Kelantan cattle and processed. Frozen semen of these breeds is kept at the Semen Bank at the National Institute of Veterinary Biodiversity in Jerantut, State of Pahang.

35. If your country has not established any conservation programmes, is this a future priority?

- a. Yes ☐
- b. No ☐

36. Has your country identified the major barriers and obstacles to enhancing the conservation of its animal genetic resources?

- a. Yes ☒
- b. No ☐
- c. No major barriers and obstacles exist. Comprehensive conservation programmes are in place ☐

If yes, please list them, being as specific as possible:

1. Limited awareness among various stakeholders on issues involved with FAnGR conservation and its sustainable utilization.
2. Lack of capacity, particularly that of competent human capital.
3. Lack of focus on research and monitoring.

37. If your country has existing *ex situ* collections of animal genetic resources, are there major gaps in these collections (SP 9, Action 5)?

- a. Yes ☒
- b. No ☐

If yes, have priorities for filling the gaps been established?

- c. Yes ☐
- d. No, but action is planned and funding identified ☐
- e. No, but action is planned and funding is sought ☒
- f. No ☐

38. Are arrangements in place in your country to protect breeds and populations that are at risk from natural or human-induced disasters (SPA 3)?

- a. Yes, arrangements have been in place since before the adoption of the GPA ☒
- b. Yes, arrangements put in place after the adoption of the GPA ☐
- c. No, but action is planned and funding identified ☐
- d. No, but action is planned and funding is sought ☐
- e. No ☐

39. Are arrangements in place in your country for extraction and use of conserved genetic material following loss of animal genetic resources (e.g. through disasters), including arrangements to enable restocking (SP 9, Action 3)?

- a. Yes, arrangements have been in place since before the adoption of the GPA ☒
- b. Yes, arrangements put in place after the adoption of the GPA ☐
- c. No, but action is planned and funding identified ☐
- d. No, but action is planned and funding is sought ☐
- e. No ☐

40. Is your country conducting research to adapt existing, or develop new, methods and technologies for *in situ* and *ex situ* conservation of animal genetic resources (SP 11, Action 1)?

- a. Yes, research commenced before the adoption of the GPA ☐
- b. Yes, research commenced since the adoption of the GPA ☐
- c. No, but action is planned and funding identified ☐
- d. No, but action is planned and funding is sought ☐
- e. No ☒

If yes, briefly describe the research:

41. Does your country implement programmes to promote documentation and dissemination of knowledge, technologies and best practices for conservation (SP 11, Action 2)?

- a. Yes, programmes commenced before the adoption of the GPA ☐
- b. Yes, programmes commenced since the adoption of the GPA ☐
- c. No, but action is planned and funding identified ☐
- d. No, but action is planned and funding is sought ☒
- e. No ☐

42. What are your country's priority requirements for enhancing conservation measures for animal genetic resources? Please list them, being as specific as possible:

1. Human resource development in all aspects of FAnGR conservation and sustainable development.
 2. Effective programmes to conserve and use selected FAnGR's identified as being at risk.
 3. Development of the National Focal Point (National Institute of Veterinary Biodiversity).

43. Please provide further comments describing your country's activities related to Strategic Priority Area 3: Conservation (including regional and international cooperation):

1. Details of conservation activities in Malaysia are found in Malaysia's country report prepared for FAO's first *State of the World's Animal Genetic Resources* report.
 2. Malaysia is currently not involved in regional conservation programmes.

Strategic Priority Area 4: Policies, Institutions and Capacity-building

- The state of national institutions for planning and implementing animal genetic resources measures
- The state of information sharing
- The state of educational and research facilities capacity for characterization, inventory, and monitoring, sustainable use, development, and conservation
- The state of awareness of the roles and values of animal genetic resources
- The state of policies and legal frameworks for animal genetic resources

44. Has your country assessed its national institutional capacity to support holistic planning of the livestock sector since the adoption of the GPA (SP 12, Action1)?

- a. Yes, sufficient capacity has been in place since before the adoption of the GPA ☐
- b. Yes, sufficient capacity is in place because of progress made after the adoption of the GPA ☐
- c. No, but action is planned and funding identified ☐
- d. No, but action is planned and funding is sought ☒

e. No

☐

45. Have tools been developed for national planners to use in shaping the future development of the livestock sector in accordance with national priorities, including in relation to the deployment of animal genetic resources (SP 12, Action 4)?

a. Yes, the development of tools commenced before the adoption of the GPA

☒

b. Yes, the development of tools commenced after the adoption of the GPA

☐

c. No, but action is planned and funding identified

☐

d. No, but action is planned and funding is sought

☐

e. No

☐

If yes, please describe the tools:

1. Government development projects use a five year timeline and address priority areas in the livestock sector - tools used in the planning are gap analysis, SWOT analysis, etc. We are now in the 10th Malaysia Plan.
2. Over the last two years, a new approach has been taken to impact National Key Economic Areas (NKEA). Under each NKEA are several Entry Point Projects (EPPs). Labs and mini-labs are conducted to plan these EPPs, which are expected to strategically impact the nation. Projects are funded both by the government and the private sector as these projects are government-private sector initiatives.
3. The government is currently initiating an Outcome Based Budgeting system so that the needs and problems of stakeholders and clients will be addressed.
4. In relation to managing environmental concerns, research is being undertaken to find ways to minimize the effect of livestock on the environment, such as with zero-discharge farms.

46. What is the current status of your country's national strategy and action plan for animal genetic resources (SP 20)?

Glossary: National strategy and action plan for animal genetic resources: a strategy and plan, agreed by stakeholders and preferably government-endorsed, that translates the internationally agreed Global Plan of Action for Animal Genetic Resources into national actions, with the aim of ensuring a strategic and comprehensive approach to the sustainable use, development and conservation of animal genetic resources for food and agriculture.

a. Previously endorsed national strategy and action plan is being updated (or new version has been endorsed)

☐

b. Completed and government-endorsed

☐

c. Completed and agreed by stakeholders

☒

d. In preparation

☐

e. Preparation is planned and funding identified

☐

f. Future priority activity

☐

g. Not planned

☐

Please provide a copy of your country's national strategy and action plan as a separate document or a web link to the document:

http://

47. Are animal genetic resources addressed in your country's National Biodiversity Strategy and Action Plan (<http://www.cbd.int/nbsap/>)?

- a. Yes ☒
- b. No, but they will be addressed in forthcoming plan ☐
- c. No ☐

48. Has your country established or strengthened a national database for animal genetic resources (SP 15, Action 4)?

- a. Yes, a national database has been in place since before the adoption of the GPA ☐
- b. Yes, a national database is in place because of progress made since the adoption of the GPA ☐
- c. Yes, a national database is in place but still requires strengthening (progress since adoption of the GPA) ☐
- d. Yes, a national database is in place but still requires strengthening (no progress since adoption of the GPA) ☐
- e. No, but action is planned and funding identified ☐
- f. No, but action is planned and funding is sought ☒
- g. No ☐

49. Have your country's national data on animal genetic resources been regularly updated in DAD-IS?

Note that the Commission on Genetic Resources for Food and Agriculture has requested FAO to produce global status and trends reports every two years.

- a. Yes, regular updates have been occurring since before the adoption of the GPA ☒
- b. Yes, regular updates started after the adoption of the GPA ☐
- c. No, but it is a future priority ☐
- d. No ☐

50. Has your country established a National Advisory Committee for Animal Genetic Resources (SP 12, Action 3)?

- a. Yes, established before the adoption of the GPA ☐
- b. Yes, established after the adoption of the GPA ☐
- c. No, but action is planned and funding identified ☐
- d. No, but action is planned and funding is sought ☒
- e. No ☐

If yes, list its main functions:

51. Is there strong coordination and interaction between the National Focal Point and stakeholders involved with animal genetic resources, such as the breeding industry, livestock keepers, government agencies, research institutes and civil society organizations (SP 12, Action 3)?

- a. Yes, strong coordination has been in place since before the adoption of the GPA ☐

- b. Yes, strong coordination was established after the adoption of the GPA ☐
- c. No, but action is planned and funding identified ☐
- d. No, but action is planned and funding is sought ☒
- e. No ☐

52. Does the National Focal Point undertake activities to increase public awareness of the roles and values of animal genetic resources (SP 18)?

- a. Yes, activities commenced before the adoption of the GPA ☐
- b. Yes, activities commenced after the adoption of the GPA ☐
- c. No, but activities are planned and funding identified ☐
- d. No, but activities are planned and funding is sought ☒
- e. No ☐

If yes, briefly describe them:

53. Have national policies and legal frameworks for animal genetic resources been reviewed and appropriate changes made if necessary (SP 20)?

- a. Yes, frameworks were reviewed before the adoption of the GPA and appropriate changes made ☐
- b. Yes, frameworks have been reviewed since the adoption of the GPA and appropriate changes made ☐
- c. Yes, frameworks have been reviewed since the adoption of the GPA, but appropriate changes not yet made ☒
- d. No, but action is planned and funding identified ☐
- e. No, but action is planned and funding is sought ☐
- f. No ☐

54. Have your country's needs for research and education been reviewed in all areas of management of animal genetic resources since the adoption of the GPA (SP 13, Action 1)?

- a. Yes ☒
- b. No, but action is planned and funding identified ☐
- c. No, but action is planned and funding is sought ☐
- d. No ☐

If yes, briefly describe them:

Some of the action plans in the draft National Strategies and Action Plans for Agricultural Biodiversity Conservation and Sustainable Utilization:

1. Establish a national educational and information centre.

55. Have partnerships been established among research, training and extension institutions and networks of researchers, breeders and conservation organizations to support the implementation of the Global Plan of Action (SP 14, Action 2)?

- a. Yes ☐
- b. No, but action is planned and funding identified ☐
- d. No, but action is planned and funding is sought ☒
- e. No ☐

56. Have organizations (including where relevant community-based organizations), networks and initiatives for sustainable use, breeding and conservation been established or strengthened (SP 14, Action 3)?

- a. Yes, comprehensive organizations, networks and initiatives have existed since before the adoption of the GPA ☐
- b. Yes, comprehensive organizations, networks and initiatives exist because of progress made since the adoption of the GPA ☐
- c. Yes, some organizations, networks and initiatives exist (established or strengthened since adoption of the GPA) ☐
- d. Yes, some organizations, networks and initiatives exist (but no progress made since adoption of the GPA) ☒
- e. No, but action is planned and funding identified ☐
- f. No, but action is planned and funding is sought ☐
- g. No ☐

57. Are there any national NGOs active in your country in the fields of:

Characterization?

- a. Yes ☐
- b. No ☒

Sustainable use and development?

- c. Yes ☐
- d. No ☒

Conservation of breeds at risk?

- e. Yes ☐
- f. No ☒

If yes, please list the national NGOs and provide links to their web sites:

58. Has your country established or strengthened research or educational institutions in the field of animal genetic resources management (SP 13, Action 3)?

- a. Yes, adequate research and education institutions have existed since before the adoption of the GPA ☐
- b. Yes, adequate research and education institutions exist because of progress made since the adoption of the GPA ☐
- c. Yes, research and education institutions exist but still require strengthening (progress made since the adoption of the GPA) ☐
- d. Yes, research and education institutions exist but still require strengthening (no progress made since the adoption of the GPA) ☒
- e. No, but action is planned and funding identified ☐
- f. No, but action is planned and funding is sought ☐
- d. No ☐

59. Please provide further comments describing specific activities related to Strategic Priority Area 4: Policies, Institutions and Capacity-building (including regional and international cooperation):

1. The Malaysian government launched the National Policy on Biological Diversity in April 1998.
2. Over the last few years a dedicated team of scientists have drafted the National Strategies and Action Plans for Agricultural Biodiversity Conservation and Sustainable Utilization. It is hoped that this document will be launched in 2012.
3. Regionally, attempts have been made to re-establish the Asian Regional Focal Point, but this has not yielded fruit.

Implementation and financing of the Global Plan of Action for Animal Genetic Resources

- The state of international collaboration for planning and implementing animal genetic resources measures
- The state of financial resources for the conservation, sustainable use and development of animal genetic resources

60. Has your country established or strengthened international collaboration in (SP 16):

Characterization?

- a. Yes ☐
- b. No, but action is planned and funding identified ☐
- c. No, but action is planned and funding is sought ☐
- d. No ☒

Sustainable use and development?

- e. Yes ☐
- f. No, but action is planned and funding identified ☐
- g. No, but action is planned and funding is sought ☐
- h. No ☒

Conservation of breeds at risk?

- i. Yes ☐
- j. No, but action is planned and funding identified ☐
- k. No, but action is planned and funding is sought ☐
- l. No ☒

If yes, briefly describe the collaboration:

61. Are there any international NGOs active in your country in the fields of:

Characterization?

- a. Yes ☐
- b. No ☒

Sustainable use and development?

- c. Yes ☐
- d. No ☒

Conservation of breeds at risk?

- e. Yes ☐
- f. No ☒

If yes, please list the international NGOs:

62. Has national funding for animal genetic resources programmes increased since the adoption of the GPA?

- a. Yes ☐
- b. No ☒

If yes, provide brief details:

63. Has your country received external funding for implementation of the GPA?

- a. Yes ☐
- b. No ☒

If yes, provide brief details (from whom, for what, how much):

64. Has your country established or strengthened international research and education programmes to assist developing countries and countries with economies in transition to better manage animal genetic resources (SP 16)?

- a. Yes, programmes established before the adoption of the GPA and strengthened since

☐
- b. Yes, programmes established before the adoption of the GPA but not strengthened since

☐
- c. Yes, programmes established since the adoption of the GPA

☐
- d. No, but action is planned and funding identified

☐
- e. No, but action is planned and funding is sought

☐
- f. No

☒

If yes, briefly describe them:

65. Has your country established or strengthened international support to assist developing countries and countries with economies in transition to obtain training and technologies and to build their information systems (SP 15)?

- a. Yes, programmes established before the adoption of the GPA and strengthened since

☐
- b. Yes, programmes established before the adoption of the GPA but not strengthened since

☐
- c. Yes, programmes established since the adoption of the GPA

☐
- d. No, but action is planned and funding identified

☐
- e. No, but action is planned and funding is sought

☐
- f. No

☒

If yes, provide brief details:

66. Has your country provided funding to other countries for implementation of the Global Plan of Action?

- a. Yes

☐
- b. No, but action is planned and funding identified

☐
- c. No, but action is planned and funding is sought

☐
- d. No

☒

If yes, provide brief details and specify whether it was bilateral or multilateral; research cooperation or aid; and to whom and for what it was given: