

Appendix 1: Survey questionnaire

STRICTLY CONFIDENTIAL



Serial Number:.....

REPUBLIC OF KENYA

MINISTRY OF HIGHER EDUCATION, SCIENCE AND TECHNOLOGY

NATIONAL INNOVATION SURVEY 2012**SCIENCE TECHNOLOGY AND INNOVATION INDICATORS INITIATIVE****About this survey**

This survey collects information about product and process innovation as well as organisational and marketing innovation during the 2008/2009 to 2010/ 2011 financial years or the nearest financial years.

Scope

The statistical unit for the survey is the enterprise. An enterprise refers to a business, company or firm and can range from a very small concern with only one or two employees to a much larger and more formal business or firm.

Authority

The Ministry of Higher Education Science and Technology (MOHEST) working in collaboration with the Kenya National Bureau of Statistics (KNBS) are responsible for conducting the survey.

Confidentiality

All information gathered by this survey will be held in strictest confidence. Under no circumstances will MOHEST or KNBS publish, release or disclose any information identifiable with individual firms or business units participating in this survey. The information collected will ONLY be used to inform public policies for national development.

Enquiries/Assistance

If you have any problems in completing this questionnaire and/or meeting the due date, please do not hesitate to contact the following persons

| Name | Telephone | E-mail |
|---|------------|--|
| Director, Directorate of Research Management & Development (DRMD) | 2219420 | directordrmd@scienceandtechnology.go.ke |
| Cecilia K. Nzau | 0722380778 | nzau@scienceandtechnology.go.ke or nzaucecilia@yahoo.com |
| Michael Kahiti | 0722316831 | kahiti2010@gmail.com |
| Rosemary Kongani | 0722233504 | rosemaryuside@gmail.com |
| Bishop T.Z. Ingana | 0722814840 | inganatz@yahoo.com |
| Richard Mavisi Liahona | 0720877502 | mavisi@scienceandtechnology.go.ke or mliahona@yahoo.com |

PART 1: General information about the enterprise, business, company or firm

| | | | | |
|---|--|--|----|--|
| 1.0. | Name of enterprise: Physical Address: Telephone: Email: Main economic activity : Year of establishment: | | | |
| 1.1 | Short description of your main economic activity: | | | |
| 1.2 | Is your enterprise part of a larger group? <i>A group consists of two or more legally defined enterprises under common ownership. Each enterprise in the group may serve different markets, as with national or regional subsidiaries, or serve different product markets. The head office is also part of an enterprise group.</i> | Yes | No | |
| | | In which country is the head office of your group located? | | |
| <p><i>If your enterprise is part of an enterprise group, please answer all further questions with respect to your enterprise in Kenya only. Do not include results for subsidiaries or parent enterprises outside Kenya</i></p> | | | | |
| 1.3 | In which geographic markets did your enterprise sell goods or services during the period under review (2008 to 2011)? | Yes | No | (specify if necessary and applicable but not compulsory) |
| | Kenya | | | |
| | Nairobi | | | |
| | Central | | | |
| | Coast | | | |
| | Eastern | | | |
| | North Eastern | | | |
| | Nyanza | | | |
| | Rift Valley | | | |
| | Western | | | |
| | Rest of Africa | | | |
| | Europe | | | |
| | United States | | | |
| | Asia | | | |
| | Other countries | | | |
| 1.4 | What was your enterprise's total number of employees in 2008 and 2011? Annual average number of employees, both full-time and part-time. If not available, give the number of employees at the end of each year. | | | |
| | 2008 | | | |
| | 2011 | | | |
| 1.4.1 | What was the number of employees in 2011 with a university degree? | | | |
| 1.5 | What was your enterprise's approximate total turnover for 2008 and 2011? | | | |
| | 2008 | KSh. | | |
| | 2011 | KSh..... | | |

PART 2: Product (goods or services) innovation

A product innovation is the introduction to the market of a new or significantly improved good or service with respect to its capabilities, such as improved user-friendliness, components, software or sub-systems. The innovation (new or improved) must be new to your enterprise, but it does not need to be new to your industry sector or market. It does not matter if the innovation was originally developed by your enterprise or by other enterprises.

Please note: The latest terminology classifies "products" as consisting of both "goods" and "services". For example a firm in the financial services sector may talk of a "new financial product". The provision of innovative services is of increasing importance in competitive economies and the survey aims to cover both manufacturing and services orientated firms.

| | | | |
|-------|---|------------------------------|--|
| 2.1 | During the period under review (2008 to 2011), did your enterprise introduce: | Yes | No |
| | 1. New or significantly improved goods. <i>Exclude the simple resale of new goods purchased from other enterprises and minor changes that only alter the appearance of the product.</i> | | |
| | 2. New or significantly improved services. | | |
| | | | If NO to both questions, please go to question 3.1. |
| 2.2 | By whom were these product (goods and services) innovations developed? | | |
| | 1. Mainly your enterprise itself | | Select the single most appropriate option only |
| | 2. Your enterprise together with other enterprises (independent enterprises plus other part of your enterprise group (such as subsidiaries, sister enterprises, head office, etc.) or institutions (universities, research institutes, non-profit, etc) | | |
| | 3. Your enterprise by adapting or modifying goods or services originally developed by other enterprises or institutions | | |
| | 4. Mainly other enterprises or institutions | | |
| 2.2.1 | Did these innovations originate mainly in Kenya or abroad? | | |
| | Kenya | <input type="checkbox"/> Yes | <input type="checkbox"/> No <input type="checkbox"/> Do not know |
| | Rest of Africa | <input type="checkbox"/> Yes | <input type="checkbox"/> No <input type="checkbox"/> Do not know |
| | Europe | <input type="checkbox"/> Yes | <input type="checkbox"/> No <input type="checkbox"/> Do not know |
| | United States | <input type="checkbox"/> Yes | <input type="checkbox"/> No <input type="checkbox"/> Do not know |
| | Asia | <input type="checkbox"/> Yes | <input type="checkbox"/> No <input type="checkbox"/> Do not know |
| | Other countries | <input type="checkbox"/> Yes | <input type="checkbox"/> No <input type="checkbox"/> Do not know |
| 2.3 | Were any of your goods and service innovations during the period under review (2008 to 2011) new to your market or new to your firm? | Yes | No |
| | 1. New to your market? <i>Your enterprise introduced a new or significantly improved good or service onto your market before your competitors (it may have already been available in other markets).</i> | | |
| | 2. Only new to your firm? <i>Your enterprise introduced a new or significantly improved good or service that was already available from your competitors in your market.</i> | | |

| | | |
|-----|--|-----------------------------------|
| 2.4 | Please estimate the total turnover in 2011 of goods and service innovations introduced during 2008 to 2011 that were: | 2011 turnover distribution (KSh.) |
| | 1. New to your market | |
| | 2. New to your firm | |
| | 3. Unchanged or only marginally modified <i>Include the resale of new goods or services purchased from other enterprises.</i> | |
| | Total turnover in 2011 | |

PART 3: Process innovation

Process innovation is the use or implementation of new or significantly improved process or method for the production or distribution of goods or services or supporting activity. The innovation (new or improved) must be new to your enterprise, but it does not need to be new to your industry sector or market. It does not matter if the innovation was originally developed by your enterprise or by other enterprises.

Exclude purely organisational innovations such as changes in firm structure or management practice impacting on the final product– these are covered in question 10.

| | | | | |
|-------|--|-----|---|--|
| 3.1 | During the period under review (2008 to 2011), did your enterprise introduce any: | Yes | No | |
| | 1. New or significantly improved methods of manufacturing or producing goods or services? | | | |
| | 2. New or significantly improved logistics, delivery or distribution methods for your inputs, goods or service? | | | |
| | 3. New or significantly improved supporting activities for your processes, such as maintenance and operating systems for purchasing, accounting or computing? | | | |
| | | | If No to all questions, please go to section 4. | |
| 3.2 | By whom were these process innovations developed? | | | |
| | 1. Mainly your enterprise by itself | | | Select the single most appropriate option only |
| | 2. Your enterprise together with other enterprises (independent enterprises plus other part of your enterprise group such as subsidiaries, sister enterprises, head office, etc.) or institutions (universities, research institutes, non-profit, etc) | | | |
| | 3. Your enterprise together with other enterprises or institutions | | | |
| | 4. Mainly other enterprises or institutions | | | |
| 3.2.1 | Were any of your process innovations introduced during the period under review (2008 to 2011) new to your market? | | | |
| | Yes No Do not know | | | |

PART 4: On-going or abandoned innovation activities

Innovation activities include the acquisition of machinery, equipment, software and licenses; engineering and development work, training, marketing and research and experimental development (R&D) [Basic R&D not specifically related to product and/or process innovation should be included] when they are specifically undertaken to develop and/or implement a product or process innovation.

| | | | | |
|-----|--|-----|--|--|
| 4.1 | During the period under review (2008 to 2011) did your enterprise have any innovation activities to develop product or process innovations that were | Yes | No | |
| | 1. Abandoned during the period under review (2008 to 2011) before completion | | | |
| | 2. Still ongoing at the end of 2011 | | | |
| | | | If your enterprise also had no product or process innovations or innovation activity during 2008 to 2010 (NO to ALL options in questions 2.1, 3.1, and 4.1), please go to question 8.2. Otherwise, please proceed to question 5.1. | |

PART 5: The most important and performed innovation activities and expenditures

| 5.1 | During the period under review (2008 to 2011), did your enterprise engage in the following innovation activities? | Yes | No |
|-----|--|-----|----|
| A | Intramural or in-house Research and Experimental Development (R&D) <i>Creative work undertaken on a systematic basis within your enterprise to increase the stock of knowledge and its use to devise new and improved products and processes (including software development in-house that meets this requirement).</i> | | |
| | If yes, did your firm perform R&D during 2008 to 2011: | | |
| | Continuously? | | |
| | Occasionally? | | |
| B | Extramural or outsourced R&D <i>Same activities as above, but purchased by your enterprise and performed by other companies (including other enterprises within your group) or by public or private research organisations.</i> | | |
| C | 1. Acquisition of machinery, equipment and hardware <i>Acquisition of advanced machinery, equipment and computer hardware to produce new or significantly improved products and processes.</i> | | |
| | 2. Acquisition of software <i>Acquisition of software to produce new or significantly improved products and processes.</i> | | |
| D | Acquisition of other external knowledge <i>Purchase or licensing of patents and non-patented inventions, know-how, and other types of knowledge from other enterprises or organisations.</i> | | |
| E | Training <i>Internal or external training for your personnel specifically for the development and/or introduction of new or significantly improved products and processes.</i> | | |

| | | | |
|---|---|--|--|
| F | Market introduction of innovations Activities for the market introduction of your new or significantly improved goods and services, including market research and launch advertising. | | |
| G | Design Activities to design, improve or change the shape or appearance of new or significantly improved goods or services | | |
| H | Other activities Implementation of new or significantly improved products and process such as feasibility studies, testing, routine software development, tooling up, industrial engineering, etc. | | |

| | | |
|-----|---|---------------------------------|
| 5.2 | Please estimate the amount of expenditure in 2011 only for the first four innovation activities mentioned in 5.1 (A to D). Include personnel and related costs. | STRICTLY CONFIDENTIAL [KSh.] |
| A. | Intramural (in-house) R&D in 2011. <i>Include labour costs, capital expenditures on buildings and equipment specifically for R&D.</i> | |
| B. | Acquisition of R&D. <i>Extramural or outsourced R&D.</i> | |
| C. | Acquisition of machinery, equipment and software. <i>Exclude expenditures on equipment for R&D.</i> | |
| D. | Acquisition of other external knowledge. | |
| | Total of these four innovation expenditure categories (A+B+C+D) | |

| | | | |
|-----|---|-----|----|
| 5.3 | During the period under review (2008 to 2011), did your enterprise receive any public financial support for innovation activities from the following sources? <i>Include financial support via tax credits or deductions, grants, subsidised loans, and loan guarantees. Exclude research and other innovation activities conducted entirely for the public sector under contract.</i> | Yes | No |
| | 1. Local Government (City Councils, Municipalities etc) | | |
| | 2. Central/National government (<i>Budgetary allocations</i>) | | |
| | 3. National funding agencies e.g NCST | | |
| | 4. Foreign government and/or other foreign public sources (e.g. European Commission, USAID, SIDA etc) | | |

PART 6: Sources of information and co-operation for innovation activities

| | | | | | | |
|-----|---|--|--|--------|-----|----------------------------------|
| 6.1 | During the period under review (2008 to 2011), how important to your enterprise's innovation activities were each of the following information sources? <i>Please identify information sources that provided information for new innovation activities/projects or contributed to the completion of existing innovation activities/projects.</i> | | | | | |
| | Information sources | | Degree of importance Tick 'N/A' if no information was obtained from a source. | | | |
| | | | High | Medium | Low | N/A |
| a | Internal sources | Sources within your enterprise or enterprise group | | | | |
| b | Market resources | 1. Suppliers of equipment, materials, components or software | | | | |
| | | 2. Clients or customers | | | | |
| | | 3. Competitors or other enterprises in your sector | | | | |
| | | 4. Consultants, commercial labs or private R&D institutes | | | | |
| c | Institutional sources | 1. Universities or other higher education institutions | | | | |
| | | 2. Government or public research institutes | | | | |
| d | Other sources | 1. Conferences, trade fairs, exhibitions | | | | |
| | | 2. Scientific journals and trade/technical publications | | | | |
| | | 3. Professional and industry associations | | | | |
| | | | | | | |
| 6.2 | During the period under review (2008 to 2011), did your enterprise co-operate on any of your innovation activities with other enterprises or institutions? <i>Innovation co-operation is active participation with other enterprises or non-commercial institutions on innovation activities. Both partners do not need to benefit commercially. Exclude pure contracting out of work with no active co-operation.</i> | | | | Yes | No ↓ |
| | | | | | | If no, please go to question 7.1 |

| 6.3 | | Please indicate the type of co-operation partner and location. | | | | | |
|-----|--|--|----------------|--------|---------------|------|-----------------|
| | Type of co-operation partner | Location Tick all that apply. | | | | | |
| | | Kenya | Rest of Africa | Europe | United States | Asia | Other countries |
| A. | Other enterprises within your enterprise group | | | | | | |
| B. | Suppliers of equipment, materials, components or software | | | | | | |
| C. | Clients or customers | | | | | | |
| D. | Competitors or other enterprises in your sector | | | | | | |
| E. | Consultants, commercial labs or private R&D institutes | | | | | | |
| F. | Universities or other higher education institutions | | | | | | |
| G. | Government or public research institutes (e.g. Research councils) | | | | | | |
| | | | | | | | |
| 6.4 | Which type of co-operation partner was the most valuable for your enterprise's innovation activities? Give corresponding letter from 6.3. For example, clients or customers = 'C' | | | | | | |

PART 7: Effects/Objectives of innovation during 2008–2011

| 7.1 How important or successful were each of the following types of outcomes for your products (goods or services) and process innovations introduced during the period under review (2008 to 2011)? | | | | | | |
|--|---|--|---|--------|-----|--------------|
| Outcomes/Effects | | | Level of success of outcomes Tick "No effect" if there were no innovation outcomes. | | | |
| | | | High | Medium | Low | No effect |
| a. | Product-oriented effects | 1.Increased range of goods or services | | | | |
| | | 2.Entered new markets | | | | |
| | | 3.Increased market share | | | | |
| | | 4.Improved quality of goods or services | | | | |
| b. | Process-oriented effects | 1.Improved flexibility of production or service provision | | | | |
| | | 2.Increased capacity of production or service provision | | | | |
| | | 3.Reduced production costs per unit of labour, materials, energy | | | | |
| c. | Other effects | 1.Reduced environmental impacts | | | | |
| | | 2.Improved working conditions on health and safety | | | | |
| | | 3.Met governmental regulatory requirements | | | | |
| 7.2 How important were each of the following objectives for your products (goods or services) and process innovations introduced during the period under review (2008 to 2011)? | | | | | | |
| Objectives | | | Importance of objectives Tick "Not relevant" if there were no innovation objectives. | | | |
| | | | High | Medium | Low | Not relevant |
| 7.2.1 | Increase range of goods or services | | | | | |
| 7.2.2 | Replace outdated products or processes | | | | | |
| 7.2.3 | Enter new markets | | | | | |
| 7.2.4 | Increase market share | | | | | |
| 7.2.5 | Improve quality of goods or services | | | | | |
| 7.2.6 | Improve flexibility for producing goods or services | | | | | |
| 7.2.7 | Increase capacity for producing goods and services | | | | | |
| 7.2.8 | Reduce production (labour, materials, energy) costs per unit output | | | | | |
| 7.2.9 | Improve working conditions on health and safety | | | | | |

PART 8: Factors hampering innovation activities

| | | | | | | |
|--|--|---|---|--------|-----|------------------------|
| 8.1 | During the period under review (2008 to 2011), were any of your innovation activities or projects: | | Yes | No | | |
| | 1. Abandoned in the concept stage | | | | | |
| | 2. Abandoned after the activity or project was begun | | | | | |
| | 3. Seriously delayed | | | | | |
| QUESTIONS 8.2, 9 and 10 TO BE ANSWERED BY ALL ENTERPRISES: | | | | | | |
| 8.2 | During the period under review (2008 to 2011), how important were the following factors in hampering your innovation activities or projects or influencing a decision not to innovate? | | | | | |
| | Hampering factors | | Degree of importance <i>Please also indicate particular factors that were not experienced.</i> | | | |
| | | | High | Medium | Low | Factor not experienced |
| a. | Cost factors | 1. Lack of funds within your enterprise or group | | | | |
| | | 2. Lack of finance from sources outside your enterprise | | | | |
| | | 3. Innovation costs too high | | | | |
| | | 4. Excessive perceived economic risks | | | | |
| b. | Knowledge factors | 1. Lack of qualified personnel | | | | |
| | | 2. Lack of information on technology | | | | |
| | | 3. Lack of information on markets | | | | |
| | | 4. Difficulty in finding co-operation partners for innovation | | | | |
| c. | Market factors | 1. Market dominated by established enterprises | | | | |
| | | 2. Uncertain demand for innovative goods or services | | | | |
| | | 3. Innovation is easy to imitate | | | | |
| d. | Other factors | 1. Organisational rigidities within the enterprise | | | | |
| | | 2. Insufficient flexibility of regulations or standards | | | | |
| | | 3. Limitations of science and technology public policies | | | | |
| e. | No need to innovate | 1. No need due to prior innovations | | | | |
| | | 2. No need because of no demand for innovations | | | | |

PART 9: Intellectual property rights

| 9.1 | During the period under review (2008 to 2011), did your enterprise: | | |
|-----|---|-----|----|
| | 1. Secure a patent in Kenya? | Yes | No |
| | 2. Apply for a patent outside Kenya? | Yes | No |
| | 3. Register an industrial design? | Yes | No |
| | 4. Register a trademark? | Yes | No |
| | 5. Claim copyright? | Yes | No |
| | 6. Grant a licence on any intellectual property rights resulting from innovation? | Yes | No |

PART 10: Organisational and marketing innovation

An organisational innovation refers to the implementation of a new organisational method in the firm's business practices, workplace organisation or external relations in firm structure or management methods that are intended to improve your firm's use of knowledge, the quality of your goods and services, or the efficiency of work flows.

A marketing innovation is the "Implementation of a new marketing method involving significant changes in product design or packaging, product placement, product promotion or pricing" or sales methods to increase the appeal of your goods and services or to enter new markets.

| 10.1 | During the period under review (2008 to 2011), did your enterprise introduce: | | |
|------|---|-----|----|
| | Organisational innovations | | |
| a. | Business practices: <i>New business practices for organising procedures (i.e. supply chain management, business re-engineering, knowledge management, lean production, quality management, etc)</i> Exclude routine upgrades. | Yes | No |
| b. | Work responsibilities and decision making: <i>New methods of organising work responsibilities and decision making (i.e. first use of a new system of employee responsibilities, team work, decentralisation, integrating/deintegrating different departments or activities, education/training systems)</i> | Yes | No |
| c. | External relations: <i>New methods of organising external relations with other firms or public institutions (i.e. first use of alliances, partnerships, outsourcing or sub-contracting, etc)</i> | Yes | No |
| 10.2 | Marketing innovations | | |
| a. | Significant changes to the design or packaging of a good or service. <i>Exclude routine/seasonal changes such as clothing fashions.</i> | Yes | No |
| b. | New or significantly changed sales or distribution methods, such as internet sales, franchising, direct sales or distribution licenses. | Yes | No |
| 10.3 | If your enterprise introduced an organisational innovation during the period under review (2008 to 2011), how important were each of the following results or effects? | | |

| | Results | Degree of importance | | | |
|--|---|----------------------|--------|-----|------------|
| | | High | Medium | Low | No results |
| | 1. Increased or maintained market share | | | | |
| | 2. Reduced time to respond to customer or supplier needs | | | | |
| | 3. Improved quality of your goods or services | | | | |
| | 4. Reduced costs per unit output | | | | |
| | 5. Improved employee satisfaction and/or reduced rates of employee turnover | | | | |

PART 11: Specific innovations by your enterprise

| | | | | |
|------|---|-----|----|------------|
| 11.1 | During the period under review (2008-2011), were any of your innovations: | | | |
| | 1. A first in Kenya? | Yes | No | Don't know |
| | 2. A world first? | Yes | No | Don't know |
| | 3. New or significant changes in your external relations with other firms or public institutions, such as through alliances, partnerships, outsourcing or sub-contracting | Yes | No | Don't know |
| 11.2 | If any of your answer to Question 11.1 was 'YES' then please give a short descriptions of these innovations (or attach separate pages or promotional brochures) | | | |
| | | | | |
| 11.3 | Please list other significant innovations in your enterprise in the last three years (or attach separate page or promotional brochures etc) | | | |
| | | | | |

Thank you for your participation. It is sincerely appreciated

Name of Respondent:

Position:.....

Telephone:.....
.....

Email Address:.....

Signature:.....Date:.....

Name of interviewer:.....

Signature.....Date:.....

Team Leader:.....

Signature.....Date:.....

*Ministry of Higher Education Science and Technology
10th Floor, Jogoo House B
P.O. Box 9583-00200, Nairobi Kenya
Website: www.scienceandtechnology.go.ke*

And

*Kenya National Bureau of Statistics
P.O. Box 30266- 00100, Nairobi, Kenya
Website: www.knbs.or.ke*