free of charge. However, public sector organisations should take account of copyright issues, using legal advice as necessary.

A6.2.7 Most public sector organisations choose, as a matter of policy, to make available on the internet information disclosed in response to requests under the Freedom of Information Act 2000 and Environment Information Regulations 2004. Public sector bodies should also note the provisions of the amendments (introduced by the Protection of Freedoms Act 2012) to sections 11-11B and 19 of the Freedom of Information Act 2000[2] in respect of relevant datasets, where there are statutory duties relating to the format and supply of requested datasets and to their listing in publication schemes, and to charges under a specified licence.

Information carrying charges

A6.2.8 Whilst the majority of information is free to access, a number of public sector organisations supply information for which charges are made to cover the associated costs. These include:

- services commissioned in response to particular requests;
- services where there are statutory powers to charge;
- information sold or licensed by trading funds (although they must comply with the rules set out by the re-use regulations – see below);
- publications processing publicly gathered data for the convenience of the public, through editing, reclassification or other analysis;
- retrieval software, e.g. published as a key to using compiled data.

A6.2.9 Public sector organisations can also charge for supplying some information which recipients intend to process, e.g. for publication in another format. Licences supplied in this way may take a number of forms, including royalties on each additional copy sold in the case of the most commercial applications. The norm is:

- Raw data: license and charge at marginal cost;
- Value added data and information supplied by trading funds: charge at full cost including an appropriate rate of return where this is permitted under the re-use regulations (see paragraph A6.2.10).

The Re-use of Public Sector Information Regulations 2015

A6.2.10 The Re-use of Public Sector Information Regulations 2015[3] set out the circumstances where public sector bodies may charge above marginal cost for licensing the re-use of information. Where it is intended to charge for the re-use of information within the scope of the regulations, it is important to comply with those regulations, paying attention to the clauses that cover requirements to generate revenue.

[2] Freedom of Information Act 2000 revised - https://www.legislation.gov.uk/ukpga/2000/36/contents

[3] SI 2015/1415 - http://www.legislation.gov.uk/uksi/2015/1415/contents/made

A6.2.11 Trading funds, for example, may charge for information where the customer intends to duplicate or process (re-use) such material for profit. In such cases, Crown bodies need to apply for a delegation of authority from the Keeper of Public Records[4] to license the information.

A6.2.12 The regulations set out that "charges for re-use must, so far as is reasonably practicable, be calculated in accordance with the accounting principles applicable to the public sector body". See Annex 6.3 for further detail on marginal cost pricing.

[4] http://www.nationalarchives.gov.uk/information-management/re-using-public-sector-information/uk-government-licensing-framework/crown-copyright/delegations-of-authority/

Annex 6.3

Competition law

Public sector organisations need to take care if they provide services which compete with private sector suppliers of similar services, or may do so. It is important that they respect the requirements of competition law.

A6.3.1 UK competition law is founded on the Competition Act 1998 which prohibits business agreements that prevent, restrict or distort competition in trade in the UK. They also disallow market abuse on the part of any business in a dominant[1] in a market.

A6.3.2 In particular, the following kinds of unfair competition are not allowed:

- very high prices that may exploit market power;
- very low prices that may exclude competitors;
- differential prices (or other terms and conditions of service) for the same product to different customers (except for objective reasons such as differences in quality or quantity) that distort competition; or
- refusing to supply competitors without objective justification such as poor customer credit worthiness.

Pricing in competitive markets

A6.3.3 Services should be costed in line with the normal rules for full cost recovery. Charges should be set to achieve the appropriate financial objective, normally at least recovering full costs.

A6.3.4 Some public sector organisations both supply data for use in providing public services and sell services using their data in competition with commercial firms. Such organisations need to take particular care not to abuse their competitive position in the market, especially if it is dominant. This could happen if a dominant supplier organisation allocated its costs in such a way that an efficient competitor could not operate profitably.

A6.3.5 There can be circumstances which merit departing from the normal principle of full cost recovery. The justification is normally to achieve greater efficiency and sensitivity in responding to patterns of demand or cost, e.g.:

[1] A business is deemed to be in a dominant position if it can generally behave independently of competitive pressures in its field.

- if the service cannot be expanded, but customers are willing to pay more, there may be a case for increasing the price;
- if there is excess capacity and customers are not willing to pay the current charge, there may be a case for reducing the charge or reducing output;
- incentive charging, i.e. charging below cost to encourage demand, or above cost to discourage it.

A6.3.6 If a public sector organisation decides not to recover full costs for a while, it should take care that:

- its prices are not reduced in such a way as to stifle competition (a rapid cut in prices could be unfair to private sector competitors);
- its products and services are not charged at less than their average variable costs or short run marginal costs (though this does not preclude charging at less than break even for a short period, e.g. to match competition);
- the charging strategy is compatible with full cost recovery over the medium term. This may mean ceasing to offer a service which has become unviable against the competition;
- any cross subsidies between services should not drive prices below average variable cost or short run marginal cost;
- if, exceptionally, a supplier charges below full cost because it has surplus capacity, there must be broader benefits and prices should not fall below average variable or short run marginal cost.

Delivering financial objectives

A6.3.7 Public sector organisations should normally plan to achieve their financial objectives. If necessary this may mean adjusting prices or managing the cost structure of the supply to deliver adequate efficiency. In particular, if a public sector supplier forecasts a deficit, it should take remedial action promptly.

A6.3.8 If a public sector supplier moves away from full cost charging, there may be a case for reviewing its financial objective. Normally any such change needs the agreement of both the responsible minister and the Treasury.

Taking things further

A6.3.9 The following may be particularly useful:

- the Competition Act and public bodies at http://webarchive.nationalarchives.gov.uk/20140402142426/http://www.oft.gov.uk/OFTwork/publications/publication-categories/guidance/competition-act/
- agreements and concerted practices at http://webarchive.nationalarchives.gov.uk/20140402142426/http://www.oft.gov.uk/shared_oft/business_leaflets/ca98_mini_guides/oft443.pdf

- abuse of a dominant position https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/284422/oft402.pdf .

A6.3.10 More generally, it is good practice for bodies supplying goods or services into competitive markets to seek legal advice on the application of competition law at an early stage.

Annex 7.1

Forming and reforming ALBs

This annex covers the processes of setting up new arm's length bodies and reshaping existing ones, either by merger, dissolution or other transformation. While the processes are flexible, there are some common themes centring on accountability and streamlining government processes.

Rationale for ALBs

A7.1.1 The government works through ALBs when there is a good reason to do so, usually when it is helpful for a specialist body to carry out a function where independence is important. Each ALB has its own bespoke reason for existing and many are established under specific legislation determining their form, functions and powers.

A7.1.2 The three main kinds of ALBs are agencies, non departmental public bodies (NDPBs) and non-ministerial departments (NMDs). Each has its strengths and is appropriate for a range of functions. The three are compared in box A7.1A.

Setting up a new ALB

A7.1.3 It is good practice to decide early which kind of body is most appropriate when setting up a new ALB (sources of guidance on setting up ALBs are in box A7.1B). Parliament is concerned that hiving off functions into an ALB should not diminish accountability. For that reason NMDs are rarely the right solution.

A7.1.4 It is important to remember that effective functional independence does not necessarily require a specific structure. Ministers can choose to stand back from the decisions made or opinions published by any ALB while maintaining financial control and oversight, eg ministers never interfere with HMRC's decisions on individual taxpayers' affairs.

A7.1.5 The next step is to develop a memorandum of understanding (or equivalent) setting out the relationship between the new ALB and its parent department. Advice on this is in annex 7.2. These should be periodically reviewed to keep abreast of experience and the changing context[1].

A7.1.6 Decisions on the form of any particular ALB must ultimately be for ministers. They will depend in part on perceptions of the function in question, and on the extent to which ministers think it right to take a day to day interest in its affairs. Generally, the closer the ALB's functions are to the centre of government, the more likely it is to be an agency; while NMD status is appropriate for organisations of

[1] See the Cabinet Office *Guidance on Reviews of Non Departmental Public Bodies* which is available on the Cabinet Office website http://www.civilservice.gov.uk/wp-content/uploads/2011/09/triennial-reviews-guidance-2011_tcm6-38900.pdf

some size carrying out professional functions. The form and structure of the NDPB is very flexible, suiting specific and technical functions.

A7.1.7 When an ALB is planned, it is essential to consult both the Treasury and the Cabinet Office about its powers, status and funding[2]. Departments should also seek advice from UK Government Investments (UKGI), the government's centre of excellence in corporate finance and corporate governance, when establishing central government companies, public corporations or ALB's which have a significant commercial element, significant private sector interface and/or whose governance is of material complexity. In the case of such organisations, departments should also consider whether UKGI is best placed to deliver the shareholder function itself on behalf of the department or, if not, seek the advice and use the expertise of UKGI during the life of such arm's length bodies.

Box A7.1A: comparison of the three main kinds of ALB in central government

Feature	agency	non-departmental public body (NDPB)	non-ministerial department (NMD)
Status	Part of a department	Independent organisation. May be a company and/ or a charity	Department in its own right
Crown body	Yes	Not usually	Yes
Established by	Administrative action (usually quick and easy)	Usually bespoke primary legislation (may take time).	Administrative action, often supplemented by primary legislation (if needed, may take time)
Governance	CEO supported by a board	Independent board led by non-executive Chair	Permanent Secretary supported by a board
Ministerial accountability	A minister in the parent department makes key decisions on the agency's affairs	A minister in the sponsor department decides key matters, eg whether to adjust functions, whether to wind up or replace	Rarely needed, but when necessary, a minister in the parent department decides
Parent department	Has direct control	Subject to formally agreed memorandum, may be light touch	Remote
Funding	Estimates and/or fee income	Grant(s) from department(s), and / or income from fees or levies	Estimates and/or fee income

[2] See for example: Executive Agencies: A guide for Departments and Public Bodies: A Guide for Departments - https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/80076/exec_agencies_guidance_oct06_0.pdf

Employees	Civil servants	Not usually civil servants	Civil servants
Accounts etc	Publishes plans and accounts as part of parent department's central accounts	Publishes own plans and accounts; also consolidated into sponsor department's accounts	Publishes own plans and accounts
Parliamentary	CEO is Agency Accounting Officer, oversight by departmental PAO	CEO is normally the Accounting Officer, oversight by departmental PAO	Permanent Secretary is Accounting Officer, sponsor department's PAO could step in if required

A7.1.8 It is worth remembering that the three kinds of ALB in box A7.1A are only the most common. Others are possible. Cabinet Office guidance on the categories of Public Bodies[3] explains in more detail. They include public corporations and various kinds of cooperative arrangements with the private or voluntary sector, some fairly loose. And there is scope to establish one-off arrangements for special bodies where circumstances demand something different. Special structures must of course be evaluated carefully, on the strength of a comparative business case, to make sure that they will deliver value for money to the public purse.

A7.1.9 Whatever the legal status of an ALB, its sponsor department should have a mechanism for asserting an appropriate degree of control over it, especially in financial matters and in relation to issues of ethics in the use of public funds. In general, the greater the extent of public funding, the greater the degree of control called for.[4]

A7.1.10 If legislation is required to set up an ALB, it is important to observe the new services rules (Section 2.6). Strictly this means that royal assent is required before resources can be committed to getting the organisation on its feet. In some urgent cases it may be possible to make a claim on the Reserve to make an earlier start, but even so only after second reading in the Commons to an uncontroversial bill and with safeguards to allow commitments to be unwound if the bill does not pass.

A7.1.11 Whatever the approach taken to setting up the new organisation, it is often desirable to operate a period of shadow running before it starts in earnest. And do be aware that the process of preparation can take time – eg often a couple of years or more for an NDPB.

Box A7.1B: sources of guidance

Guide to the Establishment and Operation of Trading Funds

http://webarchive.nationalarchives.gov.uk/20130129110402/http:/www.hm-treasury.gov.uk/psr_reporting_centralgovernment.htm

[3] Categories of Public Bodies: A Guide for Departments and is available on the Cabinet Office website https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/80075/Categories_of_public_bodies_Dec12.pdf

[4] For further guidance in relation to this please consult the Cabinet Office Public Bodies Governance Team and UKGI guidance. https://www.ukgi.org.uk/wp-content/uploads/2020/03/UK-Government-Arms-Length-Bodies-A-View-from-Practitioners-January-2020_WEB.pdf

Making and Managing Public Appointments

http://publicappointmentscommissioner.independent.gov.uk/publications/guidance/

Corporate Governance in Central Government Departments: Code of Good Practice includes references to NDPBs and Agencies

https://www.gov.uk/government/publications/corporate-governance-code-for-central-government-departments

Financial Reporting Manual – includes guidance for NDPBs and Agencies, including form of Annual Reports

https://www.gov.uk/government/publications/government-financial-reporting-manual

Consolidated Budgeting Guidance – includes guidance in relation to NDPBs and public corporations

https://www.gov.uk/government/publications/consolidated-budgeting-guidance

Reforming ALBs

A7.1.12 Valuable as they can be, proliferation of ALBs is not good practice. It adds to administrative costs generally and can fragment accountability. So it can be necessary or desirable to wind up or merge ALBs in the light of experience.

A7.1.13 The process of decision making is similar to that for setting up a new ALB if there is to be a successor organisation. It is good practice to decide on a suitable shape for the new organisation and then plan legislation, if necessary, to achieve it.

A7.1.14 The predecessor organisation(s) must be wound up in an orderly fashion, with final accounts to close its affairs (including a comprehensive list of assets and liabilities). If a closing organisation has no staff by the time the final accounts are draw up, it is usual for the accounting officer of the successor organisation, if there is one, to take responsibility for signing them off. If this is not possible, for example if there is no successor, the PAO of the parent department should sign them off.

A7.1.15 When staff are to be migrated into a new organisation, it is important to respect their statutory employment rights. Planning for this should form a key part of the transition preparations. Mistakes can be costly.

Annex 7.2

Framework documents

Departments need arrangements to monitor and understand their arms-length bodies' strategy, performance and delivery. These should be set out in a framework document. This annex sets out the process and clearances required, with links to specimen documents tailored to the nature of various public sector organisations. Whilst details will be tailored to individual circumstances, the expectation is that framework documents should follow the appropriate template as closely as practicable, and departures from the specimen templates should be clearly signposted, explained and justified, and those departures cleared with HMT spending teams.

A7.2.1 This annex provides guidance on the framework documents for:

- non-departmental public bodies (NDPBs),
- executive agencies;
- statutory office holders;
- central government companies (including those classified as NDPBs);
- non-Ministerial Departments; and
- public corporations.

A7.2.2 Terminology may differ and it may be these documents are referred to as a memorandum of understanding, management agreements or partnership agreements in some cases depending on historical or departmental practice. The content of documents should, however, follow the specimen framework document templates. The process set out below applies irrespective of the name of the document.

A7.2.3 The framework document sets out the ALBs purpose, describes the governance and accountability framework that applies between the roles of the body and its sponsor Department (and with any other departments with an interest in the ALB's business), reflecting the specific structures, roles and responsibilities in each case, and sets out how the day-to-day relationship works in practice, including in relation to governance and financial matters. They are public documents and should be published online and deposited in the Libraries of both Houses of Parliament in line with Parliamentary Guidance[1].

A7.2.4 Specimen framework documents for each of the six broad types of ALB as set out above are published alongside Managing Public Money on gov.uk and will be updated from time to time. These templates are broadly similar representing consistent standards of accountability and governance, with relatively few differences where needed to reflect the circumstances of a type of body (e.g. where an NDPB is also established under the Companies Act).

A7.2.5 When considering the appropriate specimen template to use the classification of the body should be considered. This should first be the formal statistical classification by the Office of National Statistics followed by classification by the Cabinet Office. Where the body has not been classified or there is uncertainty as to classification, please consult the Treasury as to the appropriate template to use. It is important that the FDs are fit for the purpose of the individual body. It may, therefore, be appropriate for teams to consider using a different template to that prescribed by classification if the individual circumstances of the body mean that another of the templates would be more appropriate, in whole or part, from an operational or policy perspective (e.g. it may be appropriate for an NDPB with a Board responsible for complex commercial operations to use the Government Companies template.) Where departments are of the view that departures from the specimen templates are necessary or there is a policy reason why an alternative template from the bodies statistical classification should be used these departure should be clearly signposted, and policy arguments explained and justified. Such departures will also require HMT consent.

A7.2.6 New framework documents must be cleared first with the Sponsor department Corporate Governance Team or Financial Governance Team or equivalent, before clearance with relevant HMT spending team and the Treasury Officer of Accounts. It may also be appropriate to share the framework documents for new public bodies or where there are complex governance arrangements with the Cabinet Office Public Bodies Governance Team for their views.

A7.2.7 Departments should also seek advice from UK Government Investments

[1] https://www.parliament.uk/globalassets/documents/commons-library/deposited-papers-guidelines-for-departments.pdf

(UKGI), the government's centre of excellence in corporate finance and corporate governance, when establishing central government companies, public corporations or ALB's which have a significant commercial element, significant private sector interface and/or whose governance is of material complexity. In the case of such organisations, departments should also consider whether UKGI is best placed to deliver the shareholder function itself on behalf of the department or, if not, seek the advice and use the expertise of UKGI during the life of such arm's length bodies.

A7.2.8 Where a framework document is amended or departs from the cross-government templates, the changes must be cleared by the Sponsor department's Corporate Governance Team or Financial Governance Team or equivalent, before seeking Treasury consent. Framework documents should be sent to the spending team and to TOAEnquiries@hmtreasury.gov.uk Treasury will aim to clear framework documents within 28 days.

A7.2.9 Framework documents should be reviewed and updated at least every 3 years unless there are exceptional reasons that render this inappropriate that have been agreed with HMT and the Principal Accounting Officer of the sponsor department. Upon review, where there are departures from the currently published templates or where the existing framework documents are no longer in compliance with those templates frameworks documents should be re-cleared via TOA and the spending team. It may be appropriate to update a framework document sooner if there are significant changes to the ALB, e.g. reclassification, or the body taking on additional functions or being subject to a machinery of government change.

A7.2.10 Framework documents constitute a core constitutional document of the Arm's Length Body and it is imperative that Accounting Officers, Board members and senior officials are familiar with them, ensure they are kept up to date and use them as guide to govern the collaborative relationship between the Arm's Length Body, the Sponsor Department and the rest of Government.

Annex 7.3

Government Companies, Public Corporations, and Trading Funds

Companies are used across government as a way of delivering on government objectives which are better met by a more discrete legal entity with a clear accountability and governance structure. Government companies' objectives are diverse and as such their characteristics are equally diverse. The risk of such diversity is that it can lead to inconsistency in spending controls, governance arrangements and accountability. This annex is intended to consolidate existing guidance in relation to their responsibilities for public money and to provide some advice on common issues that arise.

What is a government company?

7.3.1 A Government Company (often informally referred to as a "GovCo") is one in which the Government is the majority or only shareholder. It can include situations both where the government has purposely set up the company up as a GovCo or where the government has acquired majority shareholder status of an existing company.

7.3.2 Government may also have interests in companies where it does not hold majority shareholder status. This may be where Government is the sole or majority customer, where it holds preference shares, where the company is closely governed by a regulatory regime or where the company is provided [what kind of] support by the Government such that government is deemed to hold significant control. Given this diversity, it is helpful to consider companies through more clearly defined criteria than the high-level label of "GovCo".

Classification of Government companies – public or private sector?

7.3.3 The initial question for determining what kind of controls and governance apply is whether the company is formally classified as public or private sector. Most GovCos will be public sector but government also has interests in private sector companies.

7.3.4 Companies are classified to the public or private sector based on ONS criteria. The 'public sector' is defined by the Office of National Statistics ('ONS') with reference to the European System of Accounts 2010 in accordance with EU requirements for Governments to produce accurate public sector finances and national accounts. The National Accounts (or Sectoral) classification of entities as public or private depends on the level of government control over the general corporate policy of the entity being classified. This can be direct or indirect and may be evidenced by indicators that include:

- The ability to appoint those in control, or those who determine the policy of the entity; and / or
- A right to be consulted over such appointments, or to have a veto over appointments; and / or
- The provision of funding accompanied by rights of control over how that funding is spent; and / or
- A general right to control the day-to-day running of the body.[1]

7.3.5 ONS decisions on classification are definitive and are informed by common European standards. These classifications are published2. ONS may take some time to consider the classification of a particular government entity, in the meantime advice should be sought from the Treasury classifications team. Pending review by the ONS, the Treasury view of classification should be regarded as definitive and should inform the body's governance, reporting and accountability structures.

Classification of Government companies – central, local or public corporation?

7.3.6 Once the ONS has classified a body as public sector it is classified to a sub-sector based on its characteristics. These sub-sectors in respect of companies are:

- Central Government Company (CGC)
- Local Government Company (LGC)
- Public Corporation (PC)

Central and Local Government Companies

7.3.7 Government companies which are classified by the Office of National Statistics (ONS) for the purposes of National Accounts as 'central government' are usually then administratively classified by Cabinet Office as NDPBs.

7.3.8 CGCs receive income wholly or in the majority from central government via grants or contracts, or receive the majority of their income by virtue of levies or taxation or funded by the recovery of their costs through the charging of fees.

7.3.9 Central Government Companies should:

- Be subject to Managing Public Money.
- Have an accounting officer appointed by the Principal Accounting Officer of the sponsor department
- Have clear delegated spending authorities from the department agreed by HM Treasury and subject to Cabinet Office spending control

[1] Taken from Classification of Public Bodies Guidance for Departments https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/519571/Classification-of-Public_Bodies-Guidance-for-Departments.pdf

[2] Public Sector Classification Guide https://www.ons.gov.uk/methodology/classificationsandstandards/economicstatisticsclassifications/introductiontoeconomicstatisticsclassifications

- Follow government standards in governance, recruitment, procurement and transparency for NDPBs.
- Appropriate board make-up and the balance of executive and non-executive functions
- Have consolidated financial reporting

7.3.10 It is important to ensure that provisions in the Framework Document for any government company are consistent with the company's Articles of Association. If there are obligations that need to be legally imposed on the company (e.g. matter reserved for the Shareholder), these need to be included in the Articles (which are legally binding on the Company).

7.3.11 Local Government Companies are outside the scope of Managing Public Money.

Public Corporations

7.3.12 Companies established by Government that meet the "market body test" are classified by the ONS as Public Corporations. The "market body test" requires that the company derives more than 50 per cent of its production cost from the sale of goods or services at economically significant prices (that is, prices that have a substantial influence on the amounts of products that producers are willing to supply and on the amounts of products that purchasers wish to acquire) for all or most of the goods and services they produce. Note that classification tests above refer primarily to Non-Financial Corporations. The classification rules for Financial Corporations are complex

7.3.13 Public Corporations' powers are usually defined in statute, but otherwise all the disciplines of corporate legislation apply. Sponsor departments should define any contractual relationship with a corporate in a Framework Document (or equitant document), adapted to suit the corporate context while delivering public sector disciplines. Public Corporations do not have accounting officers and are not subject to Managing Public Money as a matter of course.

7.3.14 They should instead be subject to levels of control and governance that are deemed appropriate by the sponsor department and agreed in the context of the Framework Document and approved by HM Treasury. It may be the nature of the body is such that it would be appropriate to consider if that a requirement for compliance with the principles of Managing Public Money should be imposed. This should be achieved through the exercise of shareholder rights and is not the default position. If this outcome is sought it may be appropriate to appoint the Chief Executive as an Accountable person mirroring the role of the Accounting Officer for central government bodies to ensure the Shareholder expectations in this regard are met.

7.3.15 Public Corporations are subject to Consolidated Budgeting Guidance[3] and in in particular are expected to provide a return to government in respect of capital employed. In the case of PCs performing essentially government-type functions, 3.5% real will normally be appropriate. A PC competing in the market should typically be expected to return a higher rate to reflect the prevailing market rate.

[3] https://www.gov.uk/government/collections/consolidated-budgeting-guidance

Trading Funds

7.3.16 Trading Funds are established under the Trading Funds Act 1973. Most trading funds are public corporations, but some may be central government companies. It is rare for new trading funds to be created and requires Treasury consent. Unlike Public Corporations in general trading funds have accounting officers appointed by HM Treasury and are subject to Managing Public Money by default. In addition, Departments should have careful regard to Consolidated Budgeting Guidance particularly regarding expected rates of return from trading funds.

7.3.17 Further guidance may be found in the Treasury's *Guide to the Establishment and Operation of Trading Funds* (www.hm-treasury.gov.uk/mediastore/otherfiles/guideto_tradingfunds.PDF).

Legal Status of Companies

7.3.18 In addition to the classification decisions above, companies can be constituted either as companies limited by shares or as companies limited by guarantee. When planning on setting up a government company, officials should discuss with their legal advisors and with HM Treasury the appropriate legal status for incorporation.

7.3.19 A profit-making company will generally be better incorporated by shares and non-profit by guarantee. A company limited by shares may also be preferable in joint ventures where there is significant disparity between the capital contributed or the support provided through income or otherwise. Different levels of share capital can reflect such variation and further provide flexibility in the levels of control exercised by shareholders.

7.3.20 Alternate legal structures are also available such as charities, community interest companies and mutual. The Commercial Models Team in Cabinet Office can provide support and advice. It is important that the model used follows the policy objective rather than seeking to force policy objectives to fit a model.

Framework documents

7.3.21 It is important to ensure that provisions in the Framework Document for any government company are consistent with the company's Articles of Association. If there are obligations that need to be legally imposed on the company (e.g. matter reserved for the Shareholder), these may need to be included in the Articles (which are legally binding on the Company).

7.3.22 For further guidance in relation to framework documents for government companies see Annex 7.2 and published specimen templates.

Creation of new companies

7.3.23 Companies are relatively easy to create by government departments through simple incorporation under existing legislation. However, departments should be wary of falling foul of the new services rules (see MPM 2.6). This is particularly likely to be the case if the company is due to perform functions that are not already part of the department's ambit of activity. Even where the new company performs pre-existing functions, it may that the new delivery mechanism for that service is such that the new services rules may be engaged. This should be considered on a case by case basis. Creating a new company will generally be novel and as such will require HMT consent. It will also be appropriate to share framework agreements with HMT to set out

proposed governance arrangements. If the new company is likely to be classified as a central government body consent will also need to be obtained from Cabinet Office for the creation of a new public body[4].

7.3.24 As with the creation of all ALBs, departments should consider the guidance as set out in Annex 7.1 and in particular the requirements and guidance as set out in 7.1.7.

Audit

7.3.25 Companies in general are required by statute to have their accounts audited.[5] It is expected that companies classified as NDPBs will be audited by the Comptroller and Auditor General.[6] If the company is not for profit and the C&AG is appointed as Auditor by an order under the Government Resources and Accounts Act then the company is exempted from the requirement for a Companies Act audit.[7] If the C&AG is appointed as auditor of the company by agreement between the company and Minister of the Crown or by virtue of statute[8] then any Audit must also fulfil the requirements of a Companies Act audit.

7.3.26 Audit arrangements for Public Corporations, companies not classified as NDPBs or companies where the auditor is not appointed automatically by statute should be agreed with HMT. It will generally be good practice for the sponsor department to seek the views of the NAO as to whether they think it appropriate to take on the role of auditor. It should be noted that where a body is consolidated into a department's group accounts all elements of the group will be subject to the C&AG's opinion on regularity.

[4] https://www.gov.uk/government/publications/the-approvals-process-for-the-creation-of-new-arms-length-bodies

[5] https://www.legislation.gov.uk/ukpga/2006/46/section/475

[6] https://webarchive.nationalarchives.gov.uk/20130102193106/http://www.hm-treasury.gov.uk/d/dao0108.pdf

[7] https://www.legislation.gov.uk/ukpga/2006/46/section/482

[8] https://www.legislation.gov.uk/ukpga/1983/44/section/6

Annex 7.4

Using private finance

Some public services are delivered in partnership with private sector providers, using some carefully controlled private finance. Because the private sector contractor puts its own funds at risk, it can incentivise delivery of assets and services to time and cost, and can offer value for money where the benefits of risk transfer and private sector delivery offset the additional cost of private finance. Such deals are not appropriate for every project.

A7.4.1 Although the use of private finance in the delivery of public sector assets and services is one method of procurement, it is not suited to all types. Where it is used effectively it can offer a number of strengths in delivering public assets (see box A7.4A). These stem from:

- sharing risk in delivering public projects within a structure in which the private sector contractor puts its own capital at risk;
- payment to the private sector being structured in such a way as to ensure the private sector is incentivised to deliver the required services or obligations under the arrangement; and
- the private sector being incentivised to grow market share in the joint delivery of services, or to grow the value in the joint management of assets.

A7.4.2 Contracts using private finance may include the ongoing maintenance and operation of the asset and the delivery of associated services to outcome specifications set by the public sector. Generally they are long term arrangement between the parties.

Box A7.4A: strengths of using private finance to deliver public sector assets and services

- Getting projects built to time and to budget
- Improving whole-of-life risk allocation and management, creating disciplines and incentives on the private sector to manage risk effectively
- Securing a greater focus on due diligence
- Securing better integration of design, construction and operational skills
- Securing a greater focus on growing market share or value of a joint asset or business

A7.4.3 Private finance does not suit every project. It should only be used after the rigorous scrutiny of all alternative procurement options, where:

- the use of private finance offers better value for money for the public sector compared with other forms of procurement. Annex 4.6 gives additional guidance on the value for money analysis that is required alongside the assurance and approval process;
- the structure of the project allows the public sector to define its needs after construction as service outputs that can be adequately contracted for in a way that ensures an effective and accountable delivery of long-term public services;
- the public sector partner is able to predict the nature and level of its long term service requirements with a reasonable degree of certainty.

A7.4.4 Conversely, private finance is not usually suitable for:

- individual projects too small to justify the transaction costs; or
- large innovative IT projects, or other services where it is not practical to specify the requirements sufficiently firmly in advance or over the long time-frame of the prospective contract life.

A7.4.5 The main procurement principles continue to apply when using private finance. It is important that the output to be achieved is clearly specified rather than the method to be used in carrying out the contract, so that the supplier can innovate and manage risk effectively. However, it is sensible to clarify key areas of design early on, to prevent false starts and later misunderstandings.

A7.4.6 Public sector organisations should not, however, use standard contracts automatically. They should be intelligent customers, providing incentives to stimulate enough competition to achieve good value in procurement costs. They should also be aware that their own reputations may be at risk when privately financed contracts are carried out. Where contracts include the ongoing maintenance and operation of assets, public sector organisations need to commit sufficient resource to effective long term contract management, including monitoring performance and managing any service variation requirements or other contract delivery issues over the project life.

A7.4.7 Once a major asset has been constructed, it may be possible for the private sector partner to refinance the project debt on more favourable terms than achieved at financial close. The contract should specify how the financial benefit of any refinancing should be shared with the public sector purchaser. The Treasury has produced a standard refinancing protocol to achieve this.

Glossary

Name	Definition
Accounting officer	A person appointed by the Treasury or designated by a department to be accountable for the operations of an organisation and the preparation of its accounts. The appointee is the head of a department or other organisation or the Chief Executive of a non-departmental public body (NDPB) or other arms-length-body. See chapter 3.
Accounts direction	A direction issued setting out the accounts which a body must prepare, and the form and content of those accounts.
Affirmative resolution	A parliamentary procedure exercising control over secondary legislation (ie, a Statutory Instrument in the form of an order or regulation). Parliament's positive approval is required before the instrument can take effect.
Annually Managed Expenditure, AME	Spending included in Total Managed Expenditure (TME), which does not fall within Departmental Expenditure Limits (DELs). Expenditure in AME is generally less predictable and controllable than expenditure in DEL.
Arm's length bodies, ALBs	Central government bodies that carry out discrete functions on behalf of departments, but which are controlled or owned by them. They include executive agencies, NDPBs and government-owned companies.
Capital spending	Spending on the purchase of assets (including buildings, equipment and land), above a certain threshold (set by the body concerned), which are expected to be used for a period of at least one year. Items valued below it are not counted as capital assets, even where they have a productive life of more than one year.
Central government bodies	Departments and departmental executive agencies, NDPBs, and NHS health authorities and boards. The Office for National Statistics determines which bodies are classified to central government.
Chief executive	Title for the head of an arm's length body, normally appointed as accounting officer.
Civil Service Code	A concise statement issued by the Cabinet Office setting out the framework within which all civil servants work, and the core values and standards they are expected to hold.
Clawback	The concept that where an asset financed by public money is sold, all or part of the proceeds of the sales should be returned to the Exchequer.
Commercial banks	Bodies other than the Government Banking Service which provide banking services, including private sector banks and building societies.
Committee of Public Accounts	A committee of the House of Commons which examines the accounting for, and the regularity and propriety of, government expenditure. It also examines the economy, efficiency and effectiveness, and feasibility of expenditure. Commonly known as the Public Accounts Committee (PAC).
Common law	One of the historical sources of law in the United Kingdom. Often used to distinguish judge-made case-law and longstanding legal principles from legislation which has been made by parliament.

Comptroller and Auditor General, C&AG	The chief executive of the National Audit Office, appointed by the Crown, and an Officer of the House of Commons. As Comptroller, the C&AG's duties are to authorise the issue by the Treasury of public funds from the Consolidated Fund and the National Loans Fund to government departments and others: As Auditor General, the C&AG certifies the accounts of all government departments and some other public bodies, and carries out value-for-money examinations. See annex 1.1.
Concordat	A long-standing agreement between the Treasury and the Public Accounts Committee that continuing functions of government should be defined in specific statute. See annex 2.3.
Consolidated Fund, CF	The government's current account, operated by the Treasury, through which most government payments and receipts pass.
Consolidated Fund standing services	Payments for services which Parliament has decided by statute should be met directly from the Consolidated Fund, rather than financed annually by voted money.
Consolidated Fund extra receipt (CFER)	Income, or related cash, that passes through a department's accounts but may not be retained by the department and is surrendered to the Consolidated Fund.
Contingencies Fund	A government fund, controlled by the Treasury, which, subject to certain criteria, can provide repayable advances to finance urgent expenditure in anticipation of parliamentary approval of legislation or Estimates, or used to finance expenditure in advance of receipts. See annex 2.4.
Contingent liabilities	Potential liabilities that are uncertain but recognise that future expenditure may arise if certain conditions are met or certain events happen.
Corporate governance	The system and principles by which organisations are directed and controlled.
Cost of capital	The cost to the government of financing investment, ie the rate at which it borrows. This is included in the calculation when setting fees and charges and is calculated as a percentage of the net asset value.
Data Protection Act	Legislation (1998) which governs how organisations can use personal information which they hold.
Delegated authority	A standing authorisation by the Treasury under which a body may commit resources or incur expenditure from money voted by Parliament without specific prior approval from the Treasury. Delegated authorities may also authorise commitments to spend (including the acceptance of contingent liabilities) and to deal with special transactions (such as write-offs) without prior approval.
Depreciation	A measure of the wearing out, consumption or other reduction in the useful life of a fixed asset whether arising from use, passage of time or obsolescence through technological or market changes.
Derivative	A financial instrument derived from another, usually sold singly or in packages to promote hedging, eg, interest rate and exchange rate options.
Detective controls	Controls designed to detect error, fraud, irregularity or inefficiency.

Devolved administrations	The administrations established in Scotland, Wales and Northern Ireland under the Scotland Act 1998, the Government of Wales Act 1998 and the Northern Ireland Act 1998.
Discretionary services	Services that are not required by statute but are provided, often into competitive markets.
Efficiency and Reform Group	A part of the Cabinet Office, which works closely with the Treasury to tackle waste and improve accountability across Whitehall.
Estimate Manual	A practical reference guide issued by the Treasury which provides detailed information on the Supply Estimates policy and process.
Estimates Memorandum	An explanation of how provision sought in the Estimate is intended to be used and the relationship with other spending controls. Primarily provided for the departmental select committee but made freely available online.
Excess Vote	The means by which excess expenditure, or otherwise unauthorised expenditure, of cash, capital or resources, is regularised through an additional vote by Parliament. See section 5.4.
Exchequer	Central government's central financing arrangements, based on the Consolidated Fund and National Loans Fund, and managed by the Treasury and the Bank of England.
Exchequer Pyramid	A serious of accounts held at the Bank of England through which the overnight sweep and funding flows.
Feasibility	The principle that proposals with public expenditure implications should be implemented accurately, sustainable and to the intended timetable.
Finance Act	The legislation through which Parliament agrees the government's tax decisions. Normally passed in the summer after the spring budget.
Framework document	A document setting out the accountabilities and relationships of arms-length-bodies with their sponsor departments – see annex 7.2
Freedom of Information	Legislation designed to promote public access to a wide range of public sector data and information (but not personal data).
Full cost	The total cost of all the resources used in providing a good or service in any accounting period (usually one year). This includes all direct and indirect costs of producing the output (cash and non-cash costs) including a full proportional share of overhead costs and any selling and distribution costs, insurance, depreciation, and the cost of capital, including any appropriate adjustment for expected cost increases.
Funding	Transferring monies to an account, so that they are available when needed for payments.
Generally accepted accounting practice in the UK, UK GAAP	The accounting and disclosure requirements of the Companies Act and pronouncements by the Financial Reporting Council (principally accounting standards and Urgent Issues Task Force abstracts), supplemented by accumulated professional judgements.
Governance Statement	An annual statement that accounting officers are required to make as part of the accounts on a range of risk and control issues.

Grant	Payments made by departments to outside bodies to reimburse expenditure on agreed items or functions, and often paid only on statutory conditions.
Grant in aid	Regular payments by departments to outside bodies (usually NDPBs) to finance their operating expenditure.
Hedging	Transaction(s) designed to reduce or eliminate financial risk, eg, because of interest rate or exchange rate fluctuations.
International Financial Reporting Standards (IFRS)	International accounting standards reflected in UK GAAP. Adapted by government for the public sector.
Irregular expenditure outside the ambit of a vote	Expenditure outside the ambit of a vote, ie resources spent on matters which were not included in the relevant ambit in the departmental Estimate and therefore Parliament has not authorised. See section 5.4.
Joined-up government	Arrangements under which policy-making and service delivery are unhindered by departmental boundaries.
Judicial review	A procedure by which the courts can review the legality of decisions and actions of public authorities, including the government. Judicial review looks at the fairness of the decision-making process rather than the merits of the decision itself.
Levies	Licences to operate public goods, often set to recover associated costs such as supervision by a regulator.
Misstatement	A statement which is untrue. The maker of a misstatement can be sued for damages by those who have relied on the misstatement, but only if in the circumstances it was reasonable to rely on it.
National Accounts	Accounts produced by the Office for National Statistics in accordance with the European System of Accounts 1995, which promotes standardisation in the way in which public sector income and expenditure is measured.
National Audit Office, NAO	A corporate Parliamentary body set up to provide resources, support and constructive challenge to the C&AG. See annex 1.1.
National Insurance Fund, NIF	A government fund used to meet the cost of contribution-based benefits, financed mainly by contributions paid by employers and individuals.
National Loans Fund, NLF	The fund through which passes most of the government's borrowing transactions and some domestic transactions.
Non-departmental public body, NDPB	A body with a role in the processes of government, but not a government department or part of one. NDPBs accordingly operate at arm's length from Ministers.
Notional costs of insurance	A cost which is taken into account in setting fees and charges to improve comparability with private sector service providers. The charge takes account of the fact that public bodies do not generally pay an insurance premium to a commercial insurer.
Office for National Statistics, ONS	The independent body responsible for collecting and publishing official statistics about the UK's society and economy.
Office of the Paymaster General, OPG	Now incorporated within the Government Banking Service, it has statutory responsibilities to hold accounts and make payment for government departments and other public bodies.

Orange book	The informal title for *Management of Risks: Principles and Concepts*, guidance published by the Treasury for public sector bodies.
Overdraft	An account with a negative balance.
Parliamentary authority	Parliament's formal agreement to authorise an activity or expenditure.
Prerogative powers	Powers exercisable under the Royal Prerogative, ie, powers which are unique to the Crown, as contrasted with common-law powers which may be available to the Crown on the same basis as to natural persons.
Primary legislation	Acts which have been passed by the Westminster Parliament and, where they have appropriate powers, the Scottish Parliament and the Northern Ireland Assembly. Begin as Bills until they have received Royal Assent.
Propriety	The principle that patterns of resource consumption should meet high standards of public conduct, and robust governance and respect Parliament's intentions, conventions and control procedures, including any laid down by the PAC. See box 2.4.
Public Accounts Committee	See Committee of Public Accounts.
Public Accounts Commission	A Select Committee of the House of Commons set up under the National Audit Act 1983 to regulate the National Audit Office.
Public corporation	A trading body controlled by central government, local authority or other public corporation that has substantial day to day operating independence. See section 7.7.
Public Dividend Capital, PDC	Finance provided by government to public sector bodies as an equity stake; an alternative to loan finance.
Public Private partnership, PPP	A structured arrangement between a public sector and a private sector organisation to secure an outcome delivering good value for money for the public sector. It is classified to the public or private sector according to which has more control.
Rate of return	The financial remuneration delivered by a particular project or enterprise, expressed as a percentage of the net assets employed.
Regularity	The principle that resource consumption should be compliant with the relevant legislation and wider legal principles such as subsidy control and procurement law, delegated authorities and following the guidance in this document. See box 2.4.
Restitution	A legal concept which allows money and property to be returned to its rightful owner. It typically operates where another person can be said to have been unjustly enriched by receiving such monies.
Return on capital employed, ROCE	The ratio of profit to capital employed of an accounting entity during an identified period. Various measures of profit and of capital employed may be used in calculating the ratio.
Royal charter	The document setting out the powers and constitution of a corporation established under prerogative power of the monarch acting on Privy Council advice.

Second reading	The second formal time that a House of Parliament may debate a bill, although in practice the first substantive debate on its content. If successful, it is deemed to denote parliamentary approval of the principle of the proposed legislation.
Secondary legislation	Laws, including orders and regulations, which are made using powers in primary legislation. Normally used to set out technical and administrative provision in greater detail than primary legislation, they are subject to a less intense level of scrutiny in Parliament.
Section	An 'Estimate line' within the Part II: Subhead detail table in an Estimate.
Select Committee	Both Houses of Parliament have select committees that scrutinise the work and expenditure of government. In the House of Commons, responsibilities of departmental select committees include oversight of the policies, administration and spending of particular government departments.
Service-level agreement	Agreement between parties, setting out in detail the level of service to be performed. Where agreements are between central government bodies, they are not legally a contract but have a similar function.
Shareholder Executive	A body created to improve the government's performance as a shareholder in businesses.
Spending review	A cross-government review of departmental aims and objectives and analysis of spending programmes. Results in the allocation of multi-year budgetary limits.
Statement of Excesses	A formal statement detailing departments' overspends and irregular spending as identified by the Comptroller and Auditor General as a result of undertaking annual audits.
Supply	Resources voted by Parliament in response to Estimates, for expenditure by government departments.
Supply and Appropriation Acts	Acts of Parliament, which give formal approval to departmental Supply Estimates. The Main Estimates are approved by a Supply and Appropriation (Main Estimates) Act and the Supplementary Estimates by a Supply and Appropriation (Anticipation and Adjustments) Act.
Supplementary Estimate	The means by which departments seek to amend parliamentary authority provided through Main Estimates by altering the limits on resources, capital and/or cash or varying the way in which provision is allocated. Normally presented in February each year.
Target rate of return	The rate of return required of a project or enterprise over a given period, usually at least a year.
Trading fund	Public sector organisation that has a financing framework allowing it to meet outgoings from commercial revenues. In national accounts they are normally classified as public corporations.
UK Government Investments	A company owned by HMT, established in 2016 through the merger of the Shareholder Executive and UK Financial Investments. Its overarching governance objective is to promote the organisational performance of the UK government's ALBs from the perspective of government as owner.

Value for money	The process under which organisation's procurement, projects and processes are systematically evaluated and assessed to provide confidence about suitability, effectiveness, prudence, quality, value and avoidance of error and other waste, judged for the Exchequer as a whole.
Virement	The use of savings on one or more sections (Estimate lines) or subheads to meet excesses on another section or subhead within the same voted limit in an Estimate.
Vote	The process by which Parliament approves funds in response to supply Estimates.
Voted expenditure	Provision for expenditure that has been authorised by Parliament. Parliament 'votes' authority for public expenditure through the Supply Estimates process. Most expenditure by central government departments is authorised in this way.
Windfall	Monies received by a department which were not anticipated in the spending review.

Annex 23: Her Majesty's Treasury's Orange Book

HM Government

The Orange Book

Management of Risk – Principles and Concepts

Term	Intention
shall	denotes a requirement: a mandatory element
should	denotes a recommendation: an advisory element
may	denotes approval
might	denotes a possibility
can	denotes both capability and possibility
is/are	denotes a description

References are shown in square brackets [] and listed in Annex 6.

The meaning of words is as defined in the Shorter Oxford English Dictionary, except where defined in Annex 5. It is assumed that legal and regulatory requirements shall always be met.

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Alternative format versions of this report are available on request from GovFinance@hmtreasury.gov.uk

Contents

Introduction

In successful organisations, risk management enhances strategic planning and prioritisation, assists in achieving objectives and strengthens the ability to be agile to respond to the challenges faced. If we are serious about meeting objectives successfully, improving service delivery and achieving value for money, risk management must be an essential and integral part of planning and decision-making. While risk practices have improved over time across government, the volatility, complexity and ambiguity of our operating environment has increased, as have demands for greater transparency and accountability for managing the impact of risks. This updated guidance builds on the previous Orange Book to help improve risk management further and to embed this as a routine part of how we operate.

Public sector organisations cannot be risk averse and be successful. Risk is inherent in everything we do to deliver high-quality services. Effective and meaningful risk management in government remains as important as ever in taking a balanced view to managing opportunity and risk. It must be an integral part of informed decision-making; from policy or project inception through implementation to the everyday delivery of public services. At its most effective, risk management is as much about evaluating the uncertainties and implications within options as it is about managing impacts once choices are made. It is about being realistic in the assessment of the risks to projects and programmes and in the consideration of the effectiveness of the actions taken to manage these risks.

This isn't about adding new processes; it is about ensuring that effective risk management is integrated in the way we lead, direct, manage and operate. As an integrated part of our management systems, and through the normal flow of information, an organisation's risk management framework harnesses the activities that identify and manage the uncertainties faced and systematically anticipate and prepare successful responses. Its importance and value to success should not be underestimated.

As with all aspects of good governance, the effectiveness of risk management depends on the individuals responsible for operating the systems put in place. Our risk culture must embrace openness, support transparency, welcome constructive challenge and promote collaboration, consultation and co-operation. We must invite scrutiny and embrace expertise to inform decision-making. We must also invest in the necessary capabilities and seek to continually learn from experience.

This updated guidance has benefited from discussions with stakeholders and practitioners across the public sector and with colleagues from the private sector. We are grateful for their time and their valuable insights.

Scope

The document updates the version published in 2004. Like the original, it sets out the main principles underlying effective risk management in all government departments and arm's length public bodies[1] with responsibility derived from central government for public funds.

This document may be useful to all parts of the UK public sector, as the same principles generally apply, with adjustments for context.

Purpose

This document is intended for use by everyone involved in the design, operation and delivery of efficient, trusted public services. Its primary audience is likely to be:

- executive and non-executive members of the board;
- Audit and Risk Assurance Committee members;
- risk practitioners;
- senior leadership;
- policy leads; and
- programme and project Senior Responsible Officers (SROs).

The board of each public sector organisation should actively seek to recognise risks and direct the response to these risks. It is for each accounting officer, supported by the board, to decide how. The board and accounting officer should be supported by an Audit and Risk Assurance Committee, who should provide proactive support in advising on and scrutinising the management of key risks and the operation of efficient and effective internal controls.

Attempting to define a one-size-fits-all approach to managing risks, or to standardise risk management practices, would be misguided because public sector organisations are different sizes, are structured differently and have different needs.

This document does not set out the procedure by which an organisation should design and operate risk management. It sets out a principles-based approach that provides flexibility and judgement in the design, implementation and operation of risk management, informed by relevant standards[1] and good practice. Where relevant, the reader is directed to other standards and guidance, including related functional and professional standards and codes of practice (see Annex 6). References throughout the document are shown in square brackets [].

The Management of Risk framework is available through AXELOS[2], who manage guides that comprise the recommended best practice for government project delivery and provide advice on their application.

Comply or Explain

The document sets out main and supporting principles for risk management in government. In considering the effectiveness of risk management arrangements, assessing compliance with *Corporate Governance Code*[2] requirements, and overseeing the preparation of the governance

1 Executive Agencies, Non Departmental Public Bodies and Non Ministerial Departments.

2 AXELOS is a company part owned by the UK government. Their guides are available by subscription or individual purchase.

statement, the board shall consider adherence with the main principles, which are mandatory requirements. The supporting principles, which are advisory, should inform their judgements. Departures may be justified if good risk management can be achieved by other means.

The main principles are the core of the document. The way in which they are applied should be the central question for a board as it determines how it is to operate in accordance with the Corporate Governance Code. Each government organisation is required either to disclose compliance or to explain their reasons for departure clearly and carefully in the governance statement accompanying their annual resource accounts. The requirement for an explanation allows flexibility, but also ensures that the process is transparent, allowing stakeholders to hold organisations and their leadership to account.

Structure

The core document is structured around Sections (A-E), based on principles that are designed to provide the "what" and the "why", not the "how", for the design, operation and maintenance of an effective risk management framework.

The principles can be applied within and across departments, arm's length bodies and organisations with linked objectives, and to activity at any level of decision-making.

The principles should be used to inform an organisation's approach to risk management and its own more detailed policies, processes and procedures – the "how". Implementing and improving the risk management framework should support an incremental approach to enhancing risk management culture, processes and capabilities over time, building on what already exists to achieve improved outcomes.

The primary roles and responsibilities for the risk management framework are set out in each Section. The responsibilities and expectations of the board, the accounting officer and the Audit and Risk Assurance Committee are also summarised at Annex 1.

Some explanation of, and guiding principles on, the design and operation of the "three lines of defence" model are provided in Annex 2.

Annex 3 contains questions that may assist in assessing how the principles are applied in defining clear responsibilities, promoting the risk culture, developing capabilities and supporting the effectiveness of the risk management framework.

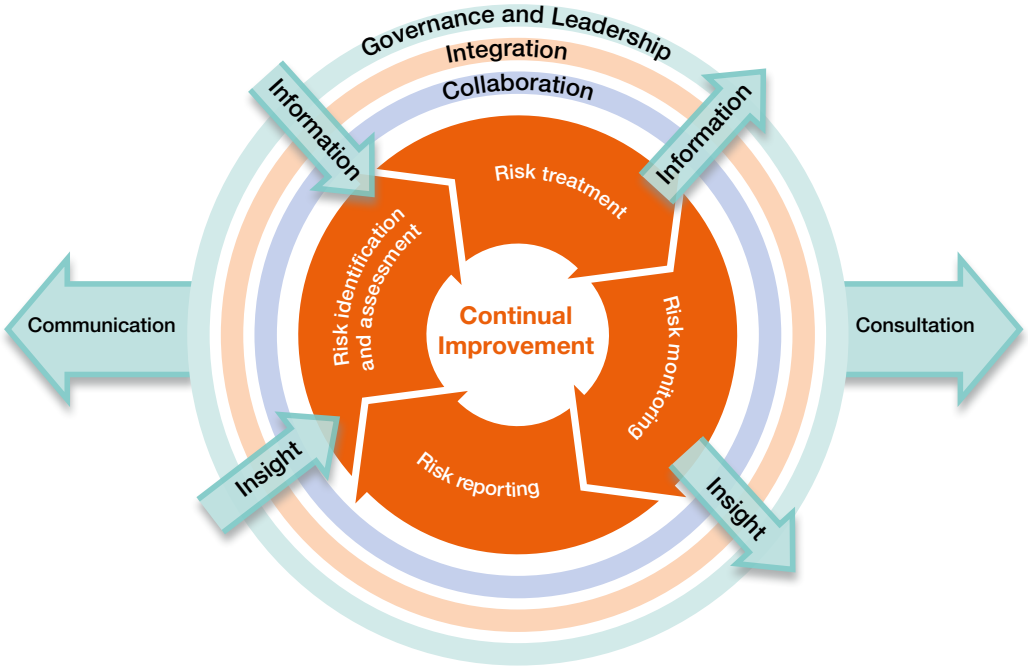
Some common categories or groupings of sources of risk are provided at Annex 4. These may help consider the range of potential risks that may arise; they are not intended to be comprehensive.

Definitions and supportive concepts are provided at Annex 5 of some terms used throughout this document to explain the scope and intended meaning behind the language used.

Annex 6 contains further details of other standards and guidance referenced throughout the document.

Risk Management Principles

Risk Management Framework



The risk management framework supports the consistent and robust identification and management of opportunities and risks within desired levels across an organisation, supporting openness, challenge, innovation and excellence in the achievement of objectives. For the risk management framework to be considered effective, the following principles shall be applied:

A. Risk management shall be an essential part of **governance and leadership**, and fundamental to how the organisation is directed, managed and controlled at all levels.

B. Risk management shall be an **integral** part of all organisational activities to support decision-making in achieving objectives.

C. Risk management shall be **collaborative and informed** by the best available information and expertise.

D. Risk management processes shall be **structured** to include:

   a. **risk identification and assessment** to determine and prioritise how the risks should be managed;

   b. the selection, design and implementation of **risk treatment** options that support achievement of intended outcomes and manage risks to an acceptable level;

   c. the design and operation of integrated, insightful and informative **risk monitoring**; and

   d. timely, accurate and useful **risk reporting** to enhance the quality of decision-making and to support management and oversight bodies in meeting their responsibilities.

E. Risk management shall be **continually improved** through learning and experience.

Section A: Governance and Leadership

Main Principle

A **Risk management shall be an essential part of governance and leadership, and fundamental to how the organisation is directed, managed and controlled at all levels.**

Supporting Principles

A1 Each public sector organisation should establish governance arrangements appropriate to its business, scale and culture[3]. Human behaviour and culture significantly influence all aspects of risk management at each level and stage. To support the appropriate risk culture, the accounting officer should ensure that expected values and behaviours are communicated and embedded at all levels.

A2 The accounting officer, supported by the board, should periodically assess whether the leadership style, opportunities for debate and human resource policies support the desired risk culture, incentivise expected behaviours and sanction inappropriate behaviours. Where they are not satisfied, they should direct and manage corrective actions and seek assurances that the desired risk culture and behaviours are promoted.

CS Code/Brilliant CS values

Brilliant CS

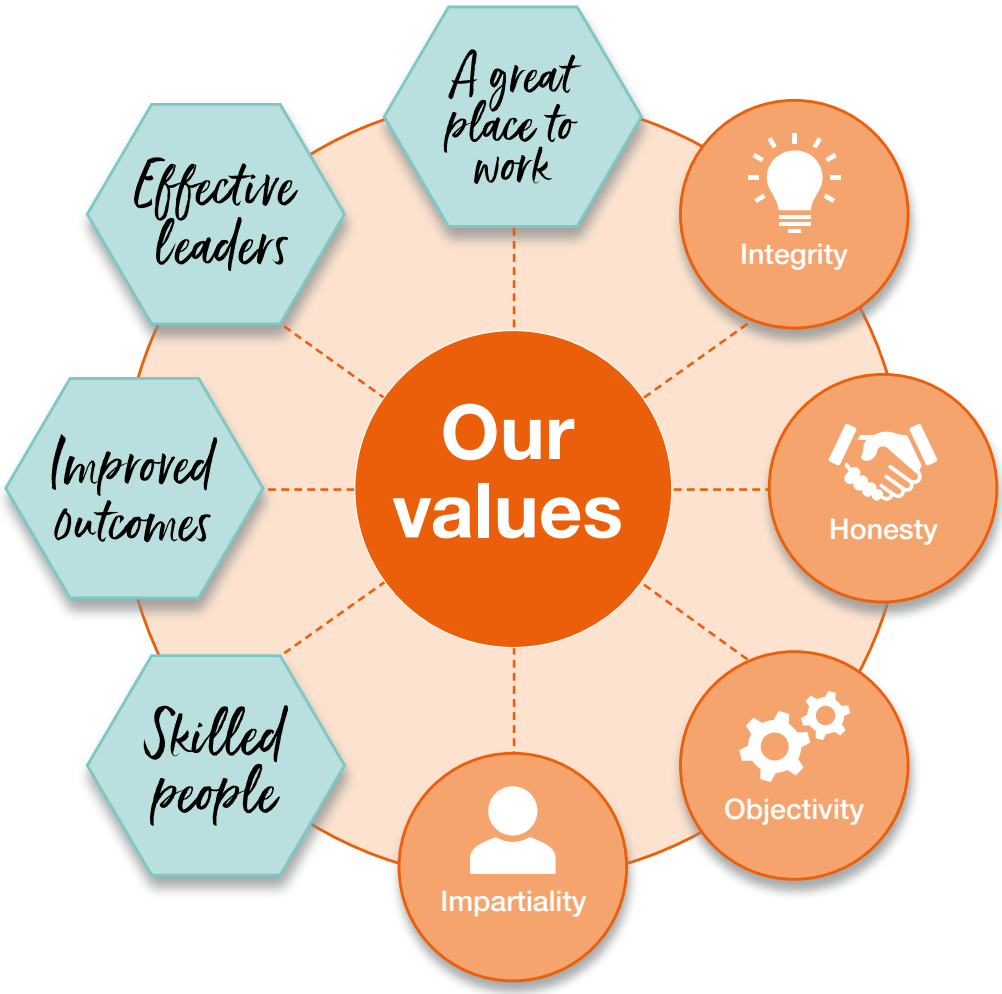
CS Code

'integrity' is putting the obligations of public service above your own personal interests

'honesty' is being truthful and open

'objectivity' is basing your advice and decisions on rigorous analysis of the evidence

'impartiality' is acting solely according to the merits of the case and serving equally well governments of different political persuasions



A3 The board should make a strategic choice about the style, shape and quality of risk management[4] and should lead the assessment and management of opportunity and risk. The board should determine and continuously assess the nature and extent of the principal risks[3] that the organisation is exposed to and is willing to take to achieve its objectives - its risk appetite – and ensure that planning and decision-making reflects this assessment. Effective risk management should support informed decision-making in line with this risk appetite, ensure confidence in the response to risks and ensure transparency over the principal risks faced and how these are managed.

3 A principal risk is a risk or combination of risks that can seriously affect the performance or reputation of the organisation.

A4 The board should ensure that roles and responsibilities for risk management are clear, to support effective governance and decision-making at each level with appropriate escalation, aggregation and delegation. The accounting officer should ensure that roles and responsibilities are communicated, understood and embedded at all levels. The "three lines of defence model" provides a systematic approach that may be used to help clarify the specific roles and responsibilities that are necessary for the effective management of risks within an organisation (see Annex 2).

A5 The board should agree the frequency and scope of its discussions to review how management is responding to the principal risks and how this is integrated with other matters, including planning and performance management processes. Risk should be considered regularly as part of the normal flow of management information about the organisation's activities and in significant decisions on strategy, major new projects and other prioritisation and resource allocation commitments. Risk management should anticipate, detect, acknowledge and respond to changes and events in an appropriate and timely manner. Risks can crystallise quickly; the board and Audit and Risk Assurance Committee should ensure that there are clear processes for bringing significant issues to its attention more rapidly when required, with agreed triggers for doing so as a part of risk reporting (see Section D).

A6 Regular reports to the board should provide a balanced assessment of the principal risks and the effectiveness of risk management. The accounting officer, supported by the Audit and Risk Assurance Committee, should monitor the quality of the information they receive and ensure that it is sufficient to allow effective decision-making.

A7 The accounting officer, supported by the Audit and Risk Assurance Committee, should establish the organisation's overall approach to risk management. An effective risk management framework will differ between organisations depending on their purpose, objectives, context and complexity. The risk management framework should be periodically reviewed to ensure it remains appropriate (see Section E).

A8 The accounting officer should designate an individual to be responsible for leading the organisation's overall approach to risk management, who should be of sufficient seniority and should report to a level within the organisation that allows them to influence effective decision-making. They should be proactively involved with and influence governance and decision-making forums and should establish, and be supported through, effective communication and engagement with the accounting officer, senior management, the board and the chair of the Audit and Risk Assurance Committee. They should also exhibit a high level of objectivity in gathering, evaluating and communicating information and should not be unduly influenced by their own interests or by others in forming and expressing their judgements.

A9 The accounting officer should ensure the allocation of appropriate resources for risk management, which can include, but is not limited to, people, skills, experience and competence.

A10 The accounting officer, supported by senior management, must demonstrate leadership and articulate their continual commitment to, and the value of, risk management through developing and communicating a policy or statement to the organisation and other stakeholders, which should be periodically reviewed.

Section B: Integration

Main Principle

B Risk management shall be an integral part of all organisational activities to support decision-making in achieving objectives.

Supporting Principles

B1 The assessment and management of opportunity and risk should be an embedded part of, and not separate from:

- setting strategy and plans;
- evaluating options and delivering programmes, projects or policy initiatives;
- prioritising resources;
- supporting efficient and effective operations;
- managing performance;
- managing tangible and intangible assets;[5] and
- delivering improved outcomes.

The accounting officer, supported by senior management, should ensure that risks are transparent and considered as an integral part of appraising options, evaluating alternatives and making informed decisions.

B2 Effective appraisal supports the assessment of the costs, benefits and risks of alternative ways to meet objectives.[6] When conducting an appraisal, consideration should be given to the identification and analysis of risks in the design and implementation of options, including: analysis of varying scenarios, sensitivity in forecasts, the objective or subjective basis of assumptions, optimism or status quo bias, dependencies and the inter-relationships between risks. This analysis and evaluation should provide the foundation to understand the risks arising through chosen options and how these will be managed, including how these will be subject to effective and on-going monitoring (see Section D).

B3 Delivery confidence should be supported through the transparent identification of the principal risks faced and how those risks will be managed within business and financial plans.

B4 The board, and those setting strategy and policy, should use horizon scanning and scenario planning collectively and collaboratively to identify and consider the nature of emerging risks, threats and trends. The Government Office for Science ensures that government policies and decisions are informed by the best scientific evidence and strategic long-term thinking.[7] Some other common horizon scanning issues are informed by the Civil Contingencies Secretariat through the National Risk Assessment (NRA).[8]

B5 Government has an inherent role in protecting and assuring the public, which includes taking cost-effective action to reduce risk to a tolerable level and providing accurate and timely information about risks to the public.[9] Policy leads should take explicit steps to involve the public, understand what they are concerned about and why and communicate good information about risk that is targeted to the needs of the audiences involved. Government will:

- be open and transparent about its understanding of the nature of risks to the public and about the process it is following in handling them;
- seek wide involvement of those concerned in decision-making processes;
- act proportionately and consistently in dealing with risks to the public;
- base decisions for intervention on relevant evidence, including expert risk assessment; and
- place responsibility for managing risks to those best able to control them.

Section C: Collaboration and Best Information

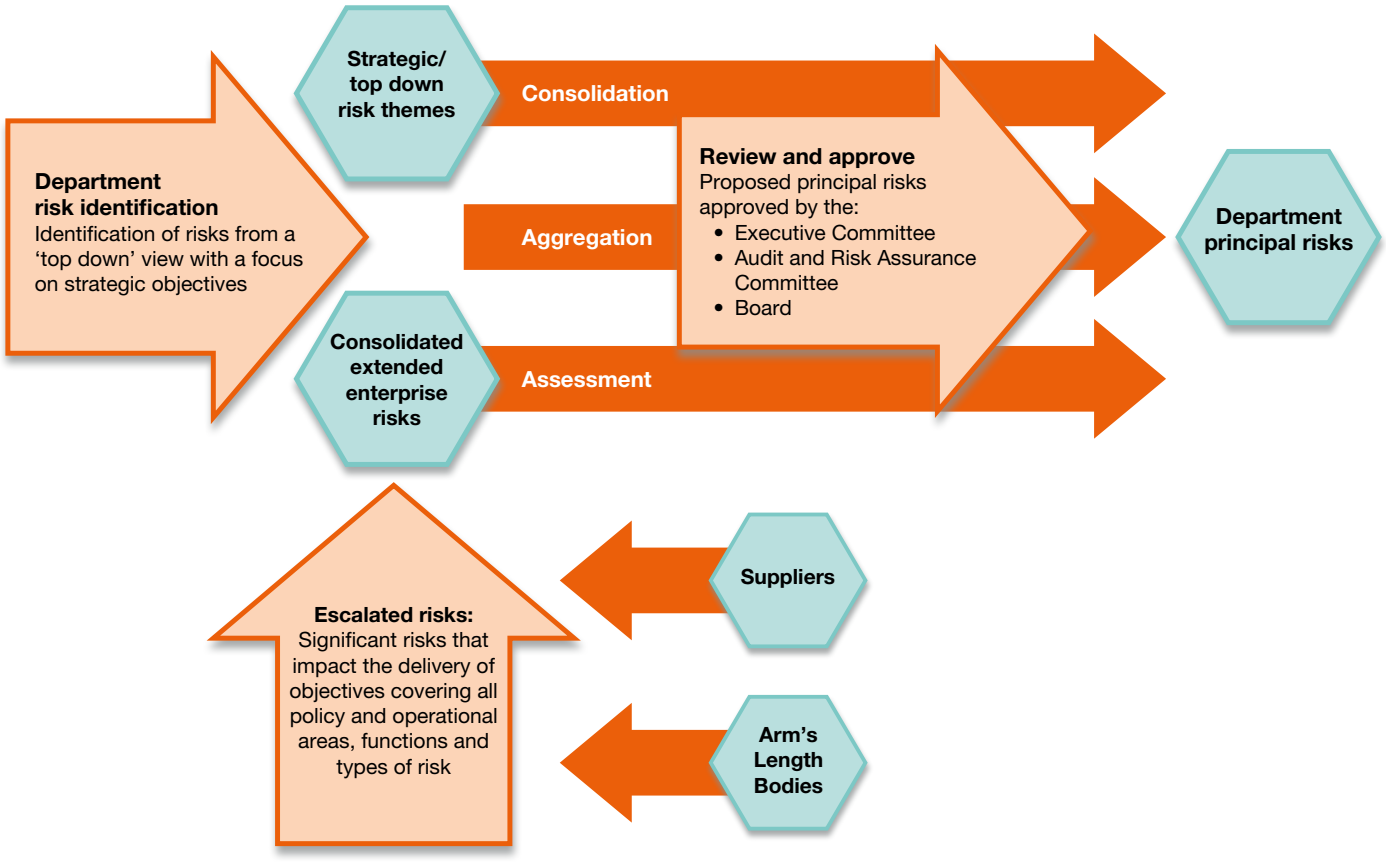
Main Principle

C Risk management shall be collaborative and informed by the best available information and expertise.

Supporting Principles

C1 The accounting officer, supported by the Audit and Risk Assurance Committee, should establish risk management activities that cover all types and source of risk (see Annex 4). There may be many different, but aligned, risk management processes that are applied at different levels within an organisation and across those involved in the end to end delivery of public services. The management of risks and the operation and oversight of internal control should be considered and aligned across this extended enterprise. This requires collaboration and cross-organisational working through a range of public sector, private sector and third-sector partnerships. The risk management framework should be designed to support a comprehensive view of the risk profile, aggregated where appropriate, in support of governance and decision-making requirements.

Risk escalation, consolidation and aggregation



C2 Nearly all government departments sponsor arm's length bodies for which they take ultimate responsibility, while allowing a degree of (or sometimes considerable) independence. Effective relationships and partnership working between departments and arm's length bodies, a mutual understanding of risk, and a proportionate approach to monitoring and reporting are critical. The principal accounting officer[4] should consider the organisation's overall risk profile, including the risk management within arm's length bodies, who should have their own robust and aligned arrangements in place. Informative and transparent management information should enable departments and arm's length bodies to promote transparency and understanding in achieving the effective management of risks, including the timely escalation of risks, as necessary, based on agreed criteria.

C3 Risk management processes (see Section D) should be conducted systematically, iteratively and collaboratively, drawing on the knowledge and views of experts and stakeholders. Information and perspectives should be supplemented by further enquiry as necessary, should reflect changes over time and should be appropriately evidenced. Expert risk assessment methodologies may be highly specialised and may vary depending on the context.

C4 Those assessing and managing risks should consult with appropriate external and internal stakeholders to facilitate the factual, timely, relevant, accurate and understandable exchange of information and evidence, while considering the confidentiality and integrity of this information. Communication should be continual and iterative in supporting dialogue, providing and sharing information and promoting awareness and understanding of risks.

C5 Communication and consultation should also assist relevant stakeholders in understanding the risks faced, the basis on which decisions are made and the reasons why particular actions are required and taken. Communication and consultation should:

- bring together different functions and areas of professional expertise in the management of risks;
- ensure that different views are appropriately considered when defining risk criteria and when analysing risks (see Section D);
- provide sufficient information and evidence to facilitate risk oversight and decision making; and
- build a sense of inclusiveness and ownership among those affected by risk.

Complicated and ambiguous risk scenarios are inherent given the dynamic and/or behavioural complexity in public service delivery, often with no simple, definitive solutions. These risks require whole-system-thinking, aligned incentives, positive relationships and collaboration, alongside relevant technical knowledge, to support multi-disciplinary approaches to their effective management.

4 The Treasury appoints the permanent head of each central government department to be its accounting officer. Where there are several accounting officers in a department, the permanent head is the principal accounting officer.

C6 Functions[5] within and across organisations should play an integral part in identifying, assessing and managing the range of risks than can arise and threaten successful delivery against objectives. Function leads should provide expert judgement to advise the accounting officer to:

- set feasible and affordable strategies and plans;
- evaluate and develop realistic programmes, projects and policy initiatives;
- prioritise and direct resources and the development of capabilities;
- identify and assess risks that can arise and impact the successful achievement of objectives;
- determine the nature and extent of the risks that the organisation is willing to take to achieve its objectives;
- design and operate internal controls in line with good practice; and
- drive innovation and incremental improvements.

5 Functions are embedded in government departments and arm's length bodies, helping to deliver departmental objectives and better outcomes across government.

Section D: Risk Management Processes

Main Principle

D Risk management processes shall be structured to include:

a. **risk identification and assessment to determine and prioritise how the risks should be managed;**

b. **the selection, design and implementation of risk treatment options that support achievement of intended outcomes and manage risks to an acceptable level;**

c. **the design and operation of integrated, insightful and informative risk monitoring; and**

d. **timely, accurate and useful risk reporting to enhance the quality of decision-making and to support management and oversight bodies in meeting their responsibilities.**

Risk Management Processes

Supporting Principles

D1 The accounting officer, supported by their nominated individual responsible for leading the organisation's overall approach to risk management, should ensure the adequate design and systematic implementation of policies, procedures and practices for risk identification and assessment, treatment, monitoring and reporting. Although risk management processes are often presented as sequential, in practice they are iterative.

Risk identification and assessment

D2 Risk identification activities should produce an integrated and holistic view of risks, often organised by taxonomies or categories of risk (see Annex 4). The aim is to understand the organisation's overall risk profile. The organisation can use a range of techniques for identifying specific *risks* that may potentially impact on one or more objectives. The following factors, and the relationship between these factors, should also be considered:

- tangible and intangible sources of risk;
- changes in the external and internal context;
- uncertainties and assumptions within options, strategies, plans, etc;
- indicators of emerging risks;
- limitations of knowledge and reliability of information; and
- any potential biases and beliefs of those involved.

Risks should be identified whether or not their sources are under the organisation's direct control. Even seemingly insignificant risks on their own have the potential, as they interact with other events and conditions, to cause great damage or create significant opportunity.

D3 While each risk identified may be important, some form of measurement is necessary to evaluate their significance to support decision-making. Without a standard for comparison, it is not possible to compare and aggregate risks across the organisation and its extended enterprise. This prioritisation is supported by risk assessment[10], which incorporates risk analysis and risk evaluation.

D4 The purpose of risk analysis is to support a detailed consideration of the nature and level of risk. The risk analysis process should use a common set of risk criteria to foster consistent interpretation and application in defining the level of risk, based on the assessment of the *likelihood* of the risk occurring and the *consequences* should the *event* happen (see Annex 5).

D5 Risk analysis can be undertaken with varying degrees of detail and complexity, depending on the purpose of the analysis, the availability and reliability of evidence and the resources available. Analysis techniques can be qualitative, quantitative or a combination of these, depending on the circumstances and intended use. Limitations and influences associated with the information and evidence bases used, and/or the analysis techniques executed, should be explicitly considered. These should be correctly sourced, appraised and referenced within risk reporting to decision-makers. All business critical analytical models in government should be managed within a framework that ensures appropriately specialist staff are responsible for developing and using the models as well as their quality assurance[11].

D6 Risk evaluation should involve comparing the results of the risk analysis with the nature and extent of risks that the organisation is willing to take - its risk appetite - to determine where and what additional action is required. Options may involve one or more of the following:

- avoiding the risk, if feasible, by deciding not to start or continue with the activity that gives rise to the risk;
- taking or increasing the risk in order to pursue an opportunity;
- retaining the risk by informed decision;
- changing the likelihood, where possible;
- changing the consequences, including planning contingency activities;
- sharing the risk (e.g. through commercial contracts[12]).

The outcome of risk evaluation should be recorded, communicated and validated at appropriate levels of the organisation. It should be regularly reviewed and revised based on the dynamic nature and level of the risks faced.

Risk treatment

D7 Selecting the most appropriate risk treatment option(s) involves balancing the potential benefits derived in enhancing the achievement of objectives against the costs, efforts or disadvantages of proposed actions. Justification for the design of risk treatments and the operation of *internal control* is broader than solely economic considerations and should take into account all of the organisation's obligations, commitments and stakeholder views.

D8 As part of the selection and development of risk treatments, the organisation should specify how the chosen option(s) will be implemented, so that arrangements are understood by those involved and effectiveness can be monitored. This should include:

- the rationale for selection of the option(s), including the expected benefits to be gained;
- the proposed actions;
- those accountable and responsible for approving and implementing the option(s);
- the resources required, including contingencies;
- the key performance measures and control indicators, including early warning indicators;
- the constraints;
- when action(s) are expected to be undertaken and completed; and
- the basis for routine reporting and monitoring.

D9 Where appropriate, contingency, containment, crisis, incident and continuity management arrangements should be developed and communicated to support resilience and recovery if risks crystallise.

Risk monitoring

D10 Monitoring should play a role before, during and after implementation of risk treatment. Ongoing and continuous monitoring should support understanding of whether and how the risk profile is changing and the extent to which internal controls are operating as intended to provide reasonable assurance over the management of risks to an acceptable level in the achievement of organisational objectives.

D11 The results of monitoring and review should be incorporated throughout the organisation's wider performance management, measurement and reporting activities. Recording and reporting aims to:

- transparently communicate risk management activities and outcomes across the organisation;
- provide information for decision-making;

- improve risk management activities; and
- assist interaction with stakeholders, including those with responsibility and accountability for risk management activities.

D12 The "three lines of defence" model sets out how these aspects should operate in an integrated way to manage risks, design and implement internal control and provide *assurance* through ongoing, regular, periodic and ad-hoc monitoring and review (see Annex 2). When an organisation has properly structured the "lines of defence", and they operate effectively, it should understand how each of the lines contributes to the overall assurance required and how those involved can best be integrated and mutually supportive. There should be no gaps in coverage and no unnecessary duplication of effort. Importantly, the accounting officer and the board should receive unbiased information about the organisation's principal risks and how management is responding to those risks.

Risk reporting

D13 The board, supported by the Audit and Risk Assurance Committee, should specify the nature, source, format and frequency of the information that it requires. It should ensure that the assumptions and models underlying this information are clear so that they can be understood and, if necessary, challenged. Factors to consider for reporting include, but are not limited to:

- differing stakeholders and their specific information needs and requirements;
- cost, frequency and timeliness of reporting;
- method of reporting; and
- relevance of information to organisational objectives and decision-making.

D14 The information should support the board to assess whether decisions are being made within its risk appetite to successfully achieve objectives, to review the adequacy and effectiveness of internal controls, and to decide whether any changes are required to re-assess strategy and objectives, revisit or change policies, reprioritise resources, improve controls, and/or alter their risk appetite.

D15 Clear, informative and useful reports or dashboards should promote key information for each principal risk to provide visibility over the risk, compare results against key performance/risk indicators, indicate whether these are within risk appetite, assess the effectiveness of key management actions and summarise the assurance information available. Reports should include qualitative and quantitative information, where appropriate, show trends and support early warning indicators. Understanding and decision-making should be supported through the presentation of information in summary form and the use of graphics and visualisation.

D16 Principal risks should be subject to “deep dive” reviews by the board and Audit and Risk Assurance Committee, with those responsible for the management of risks and with appropriate expertise present at an appropriate frequency depending on the nature of the risk and the performance reported.

Section E: Continual Improvement

Main Principle

E Risk management shall be continually improved through learning and experience

Supporting Principles

E1 The organisation should continually monitor and adapt the risk management framework to address external and internal changes. The organisation should also continually improve the suitability, adequacy and effectiveness of the risk management framework. This should be supported by the consideration of lessons based on experience and, at least annually, review of the risk management framework and the performance outcomes achieved. Annex 3 contains questions that may assist in assessing the efficient and effective operation of the risk management framework.

E2 All strategies, policies, programmes and projects should be subject to comprehensive but proportionate evaluation[13], where practicable to do so. Learning from experience helps to avoid repeating the same mistakes and helps spread improved practices to benefit current and future work, outputs and outcomes. At the commencement, those involved and key stakeholders should identify and apply relevant lessons from previous experience when planning interventions and the design and implementation of services and activities. Lessons should be continually captured, evaluated and action should be taken to manage delivery risk and facilitate continual improvement of the outputs and outcomes. Organisation leaders and owners of standards, processes, methods, guidance, tools and training, should update their knowledge sources and communicate learning as appropriate.

E3 Process/capability maturity models or continuum may be used to support a structured assessment of how well the behaviours, practices and processes of an organisation can reliably and sustainably produce required outcomes. These models may be used as a benchmark for comparison and to inform improvement opportunities and priorities.

E4 As relevant gaps or improvement opportunities are identified, the organisation should develop plans and tasks and assign them to those accountable for implementation.

Annex 1 – Roles and Responsibilities - Board, Accounting Officer and Audit and Risk Assurance Committee

Board

The board of each public sector organisation, informed and advised by their Audit and Risk Assurance Committee, should:

- lead the assessment and management of risk and take a strategic view of risks in the organisation.
- ensure that there are clear accountabilities for managing risks and that officials are equipped with the relevant skills and guidance to perform their assigned roles effectively and efficiently.
- ensure that roles and responsibilities for risk management are clear to support effective governance and decision-making at each level with appropriate escalation, aggregation and delegation.
- determine and continuously assess the nature and extent of the principal risks that the organisation is willing to take to achieve its objectives - its "risk appetite" - and ensure that planning and decision-making appropriately reflect this assessment.
- agree the frequency and scope of its discussions on risk to review how management is responding to the principal risks and how this is integrated with other matters considered by the board, including business planning and performance management processes.
- specify the nature, source, format and frequency of the information that it requires.
- ensure that there are clear processes for bringing significant issues to its attention more rapidly when required, with agreed triggers for doing so.
- use horizon scanning to identify emerging sources of uncertainty, threats and trends.
- assure itself of the effectiveness of the organisation's risk management framework.
- assess compliance with the Corporate Governance Code[2] and include explanations of any departures within the governance statement of the organisation's annual report and accounts.

Accounting Officer

The accounting officer of each public sector organisation, supported by the Audit and Risk Assurance Committee, should:

- periodically assess whether the organisational values, leadership style, opportunities for debate and learning, and human resource policies support the desired risk culture, incentivise expected behaviours and sanction inappropriate behaviours.
- ensure that expected values and behaviours are communicated and embedded at all levels to support the appropriate risk culture.
- designate an individual to be responsible for leading the organisation's overall approach to risk management, who should be of sufficient seniority and should report to a level within the organisation that allows them to influence effective decision-making.
- establish the organisation's overall approach to risk management
- establish risk management activities that cover all types of risk and processes that are applied at different organisational levels.
- ensure the design and systematic implementation of policies, procedures and practices for risk identification, assessment, treatment, monitoring and reporting.
- consider the organisation's overall risk profile, including risk management within arm's length bodies and the extended enterprise.
- demonstrate leadership and articulate their continual commitment to and the value of risk management through developing and communicating a policy or statement to the organisation and other stakeholders, which should be periodically reviewed.
- ensure the allocation of appropriate resources for risk management, which can include, but is not limited to people, skills, experience and competence.

- monitor the quality of the information received and ensure that it is of a sufficient quality to allow effective decision-making.
- ensure that risk is considered as an integral part of appraising option choices, evaluating alternatives and making informed decisions.
- be provided with expert judgements through functions to advise on:
  - the feasibility and affordability of strategies and plans;
  - the evaluation and development of realistic programmes, projects and policy initiatives;
  - prioritisation of resources and the development of capabilities;
  - the design and operation of internal control in line with good practice and the nature and extent of the risks that the organisation is willing to take to achieve its objectives; and
  - driving innovation and incremental improvements.
- clearly communicate their expectation that risk management activities are coordinated and that information is shared among across the 'lines of defence' where this supports the overall effectiveness of the effort and does not diminish any of the 'lines' key functions.

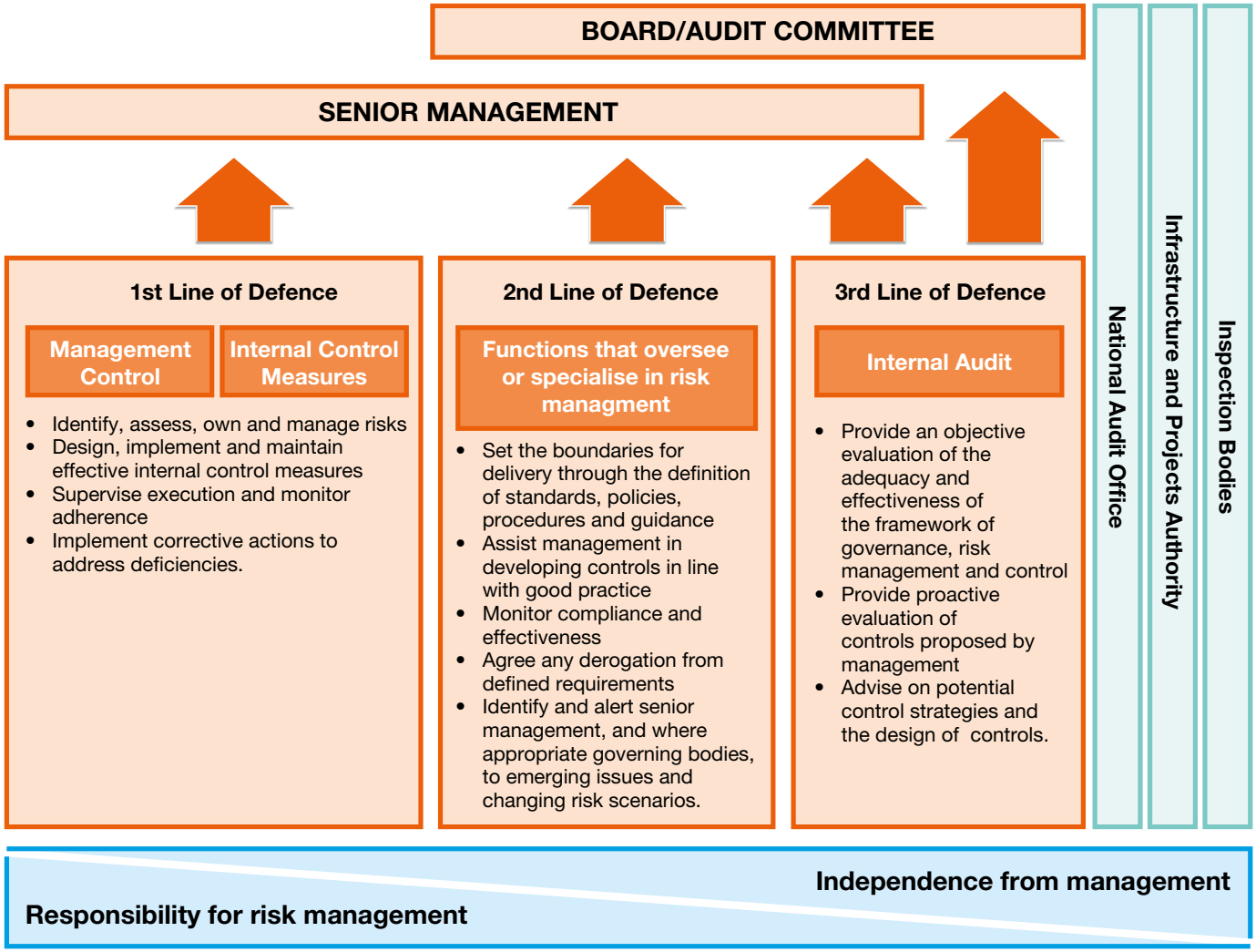
Audit and Risk Assurance Committee[14]

Leading the assessment and management of risk is a role for the board. The Audit and Risk Assurance Committee should support the board in this role. It is essential that the Audit and Risk Assurance Committee:

- understands the organisation's business strategy, operating environment and the associated risks, taking into account all key elements of the organisation as parts of an "extended enterprise";
- understands the role and activities of the board (or equivalent senior governance body) in relation to managing risk;
- discusses with the board its policies, attitude to and appetite for risk to ensure these are appropriately defined and communicated so that management understands these parameters and expectations;
- understands the risk management framework and the assignment of responsibilities;
- critically challenges and reviews the risk management framework, without second guessing management, to evaluate how well the arrangements are actively working in the organisation; and
- critically challenges and reviews the adequacy and effectiveness of control processes in responding to risks within the organisation's governance, operations, compliance and information systems.

Assurance should be obtained on risks across the departmental group. The group should focus on assurances over the management of cross organisational governance, risk and control arrangements to supplement departmental or entity level assurances. Similarly, assurance over the risk and control environment should also encompass services outsourced to external providers, including shared service arrangements, and risks that cross organisational boundaries, for example, in major projects.

Annex 2 – The Three Lines of Defence



Everyone in an organisation has some responsibility for risk management. The "three lines of defence" model provides a simple and effective way to help delegate and coordinate risk management roles and responsibilities within and across the organisation.

The model is not intended as a blueprint or organisational design, but may provide a flexible structure that can be implemented in support of the risk management framework. Functions within each of the "lines of defence" may vary from organisation to organisation and may operate differently.

Neither governance bodies nor senior management are considered to be among the "lines" in this model. They are the primary stakeholders served by the "lines of defence", as they collectively have responsibility and accountability for setting the organisation's objectives, defining strategies to achieve those objectives, and establishing roles, structures and processes to best manage the risks in achieving those objectives successfully.

First line of defence

Under the "first line of defence", management have primary ownership, responsibility and accountability for identifying, assessing and managing risks. Their activities create and/or manage the risks that can facilitate or prevent an organisation's objectives from being achieved.

The first line 'own' the risks, and are responsible for execution of the organisation's response to those risks through executing internal controls on a day-to-day basis and for implementing corrective actions to address deficiencies. Through a cascading responsibility structure, managers design, operate and improve processes, policies, procedures, activities, devices, practices, or other conditions and/or actions that maintain and/or modify risks and supervise effective execution. There should be adequate managerial and supervisory controls in place to ensure compliance and to highlight control breakdown, variations in or inadequate processes and unexpected events, supported by routine performance and compliance information.

Second line of defence

The second line of defence consists of functions and activities that monitor and facilitate the implementation of effective risk management practices and facilitate the reporting of adequate risk related information up and down the organisation. The second line should support management by bringing expertise, process excellence, and monitoring alongside the first line to help ensure that risk are effectively managed.

The second line should have a defined and proportionate approach to ensure requirements are applied effectively and appropriately. This would typically include compliance assessments or reviews carried out to determine that standards[6], expectations, policy and/or regulatory considerations are being met in line with expectations across the organisation.

Third line of defence

Internal audit form the organisation's "third line of defence". An independent internal audit function[15] will, through a risk-based approach to its work, provide an objective evaluation of how effectively the organisation assesses and manages its risks, including the design and operation of the "first and second lines of defence". It should encompass all elements of the risk management framework and should include in its potential scope all risk and control activities. Internal audit may also provide assurance over the management of cross-organisational risks and support the sharing of good practice between organisations, subject to considering the privacy and confidentiality of information.

External assurance

Sitting outside of the organisation's own risk management framework and the three lines of defence, are a range of other sources of assurance that support an organisation's understanding and assessment of its management of risks and its operation of controls, including:

6 In addition to professional standards, functional standards guide people working in and with the UK government. They exist to create a coherent and mutually understood way of doing business across organisational boundaries, and to provide a stable basis for assurance, risk management, and capability improvement.

- external auditors, chiefly the National Audit Office (NAO)[7], who have a statutory responsibility for certification audit of the financial statements;
- value for money studies undertaken by the NAO, which Parliament use to hold government to account for how it spends public money; and
- the Infrastructure and Projects Authority (IPA), who arrange and manage independent expert assurance reviews of major government projects that provide critical input to HM Treasury business case appraisal and financial approval points.

Other sources of independent external assurance may include independent inspection bodies, external system accreditation reviews/certification (e.g. ISO), and HM Treasury/Cabinet Office/ Parliamentary activities that support scrutiny and approval processes.

Coordination, cooperation and communication

The lines of defence have a common objective: to help the organisation achieve its objectives with effective management of risks. They often deal with the same risk and control issues. The accounting officer and the board should clearly communicate their expectation that information be shared and activities co-ordinated across each of the 'lines' where this does not diminish the effectiveness or objectivity of any of those involved.

Careful coordination is necessary to avoid unnecessary duplication of efforts, while assuring that all significant risks are addressed appropriately. Coordination may take a variety of forms depending on the nature of the organisation and the specific work done by each party. It is likely to be helpful to adopt a common 'language' or set of definitions across the 'lines of defence' to ease understanding, for example, in defining risk categories, risk criteria and what is an acceptance level of control or a significant control weakness.

Internal audit and external audit should work effectively together to the maximum benefit of the organisation and in line with international[16] and public sector standards.[17]

7 Some executive NDPBs may have private sector external auditors (either appointed by the relevant Secretary of State or by the Body's Executive) with a reporting line directly to the Secretary of State or to the body rather than through NAO to Parliament.

Annex 3 – Questions to Ask

These questions may assist in assessing how the risk management principles are applied to support the efficient and effective operation of the risk management framework. They should be read in conjunction with the principles set out in this document. The questions are not intended to be exhaustive and not all will be applicable in all circumstances. If the answers to the questions raise concerns, consideration should be given to whether action is needed to address possible areas for improvement.

Governance and Leadership

1. How is the desired risk culture defined, communicated, and promoted? How is this periodically assessed?

2. How do human resource policies and performance systems encourage and support desired risk behaviours and discourage inappropriate risk behaviours?

3. How has the nature and extent of the principal risks that the organisation is willing to take in achieving its objectives been determined and used to inform decision-making? Is this risk appetite tailored and proportionate to the organisation?

4. How are the board and other governance forums supported to consider the management of risks, and how is this integrated with discussion on other matters?

5. How effective are risk information and insights in supporting decision-making, in terms of the focus and quality of information, its source, its format and its frequency?

6. How are authority, responsibility and accountability for risk management and internal control defined, co-ordinated and documented throughout the organisation?

7. How is the designated individual responsible for leading the overall approach to risk management positioned and supported to allow them to exercise their objectivity and influence effective decision-making?

8. How are the necessary skills, knowledge and experience of the organisation's risk practitioners assessed and supported?

9. How has the necessary commitment to risk management been demonstrated?

Integration

10. How are risks considered when setting and changing strategy and priorities?

11. How are risks transparently assessed within the appraisal of options for policies, programmes and projects or other significant commitments?

12. How are emerging risks identified and considered?

13. How are risks to the public assessed and reflected within policy development and implementation?

14. How are National Risk Register risks, that are particularly pertinent to the organisation, recognised in risk assessments and discussions?

Collaboration and Best Information

15. How is an aggregated view of the risk profile informed across the organisation, arm's length bodies and the extended enterprise supporting the delivery of services?

16. How are the views of external stakeholders gathered and included within risk considerations?

17. How does communication and consultation assist stakeholders to understand the risks faced and the organisation's response?

18. How is function and professional expertise used to inform strategies, plans, programmes, projects and policies?

19. How do expert functions and professions inform the identification, assessment and management of risks and the design and implementation of controls?

20. How are functional standards communicated and their adherence monitored across the organisation?

Risk Management Processes

21. How are risk taxonomies or categories used to facilitate the identification of risks within the overall risk profile?

22. How are risk criteria set to support consistent interpretation and application in assessing the level of risk? How effective are these in supporting the understanding and consideration of the likelihood and consequences of risks?

23. How are limitations and influences associated with the information and evidence used with risk assessments highlighted?

24. How are interdependencies between risks or possible combinations of events ('domino' risks) identified and assessed?

25. How dynamic is the assessment of risks and the consideration of mitigating actions to reflect new or changing risks or operational eficiencies?

26. How are exposures to each principal risk assessed against the nature and extent of risks that the organisation is willing to take in achieving its objectives – its risk appetite – to inform options for the selection and development of internal controls?

27. How are decisions made in balancing the potential benefits of the design and implementation of new or additional controls with the costs, efforts and any disadvantages of different control options?

28. How are contingency arrangements for high impact risks designed and tested to support continuity, incident and crisis management and resilience?

29. How is the nature, source, format and frequency of the information required to support monitoring of risk management and internal control defined and communicated?

30. How are new and changing principal risks highlighted and escalated clearly, easily and more rapidly when required?

31. How comprehensive, informative and coordinated are assurance activities in helping achieve objectives and in supporting the effective management of risks?

32. How do disclosures on risk management and internal control contribute to the annual report being fair, balanced and understandable?

Continual Improvement

33. How are policies, programmes and projects evaluated to inform learning from experience? How are lessons systematically learned from past events?

34. How is risk management maturity periodically assessed to identify areas for improvement? Is the view consistent across differing parts or levels of the organisation?

35. How are improvement opportunities identified, prioritised, implemented and monitored?

Annex 4 – Example Risk Categories

Strategy risks – Risks arising from identifying and pursuing a strategy, which is poorly defined, is based on flawed or inaccurate data or fails to support the delivery of commitments, plans or objectives due to a changing macro-environment (e.g. political, economic, social, technological, environment and legislative change).

Governance risks – Risks arising from unclear plans, priorities, authorities and accountabilities, and/or ineffective or disproportionate oversight of decision-making and/or performance.

Operations risks – Risks arising from inadequate, poorly designed or ineffective/inefficient internal processes resulting in fraud, error, impaired customer service (quality and/or quantity of service), non-compliance and/or poor value for money.

Legal risks – Risks arising from a defective transaction, a claim being made (including a defence to a claim or a counterclaim) or some other legal event occurring that results in a liability or other loss, or a failure to take appropriate measures to meet legal or regulatory requirements or to protect assets (for example, intellectual property).

Property risks – Risks arising from property deficiencies or poorly designed or ineffective/inefficient safety management resulting in non-compliance and/or harm and suffering to employees, contractors, service users or the public.

Financial risks – Risks arising from not managing finances in accordance with requirements and financial constraints resulting in poor returns from investments, failure to manage assets/liabilities or to obtain value for money from the resources deployed, and/or non-compliant financial reporting.

Commercial risks – Risks arising from weaknesses in the management of commercial partnerships, supply chains and contractual requirements, resulting in poor performance, inefficiency, poor value for money, fraud, and /or failure to meet business requirements/objectives.

People risks – Risks arising from ineffective leadership and engagement, suboptimal culture, inappropriate behaviours, the unavailability of sufficient capacity and capability, industrial action and/or non-compliance with relevant employment legislation/HR policies resulting in negative impact on performance.

Technology risks – Risks arising from technology not delivering the expected services due to inadequate or deficient system/process development and performance or inadequate resilience.

Information risks – Risks arising from a failure to produce robust, suitable and appropriate data/information and to exploit data/information to its full potential.

Security risks – Risks arising from a failure to prevent unauthorised and/or inappropriate access to the estate and information, including cyber security and non-compliance with General Data Protection Regulation requirements.

Project/Programme risks – Risks that change programmes and projects are not aligned with strategic priorities and do not successfully and safely deliver requirements and intended benefits to time, cost and quality.

Reputational risks – Risks arising from adverse events, including ethical violations, a lack of sustainability, systemic or repeated failures or poor quality or a lack of innovation, leading to damages to reputation and or destruction of trust and relations.

Failure to manage risks in any of these categories may lead to financial, reputational, legal, regulatory, safety, security, environmental, employee, customer and operational consequences.

Annex 5 – Definitions and Supportive Concepts

Governance[2] is the system by which organisations are directed and controlled. It defines accountabilities, relationships and the distribution of rights and responsibilities among those who work with and in the organisation, determines the rules and procedures through which the organisation's objectives[8] are set, and provides the means of attaining those objectives and monitoring performance. This includes establishing, supporting and overseeing the risk management framework.

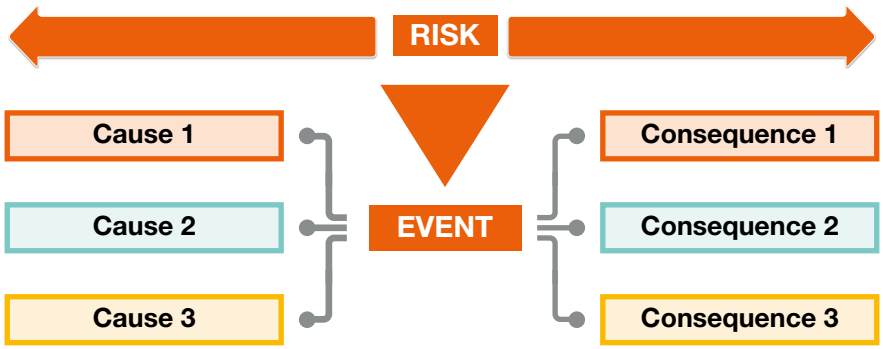
Risk Management is the co-ordinated activities designed and operated to manage risk and exercise internal control within an organisation.

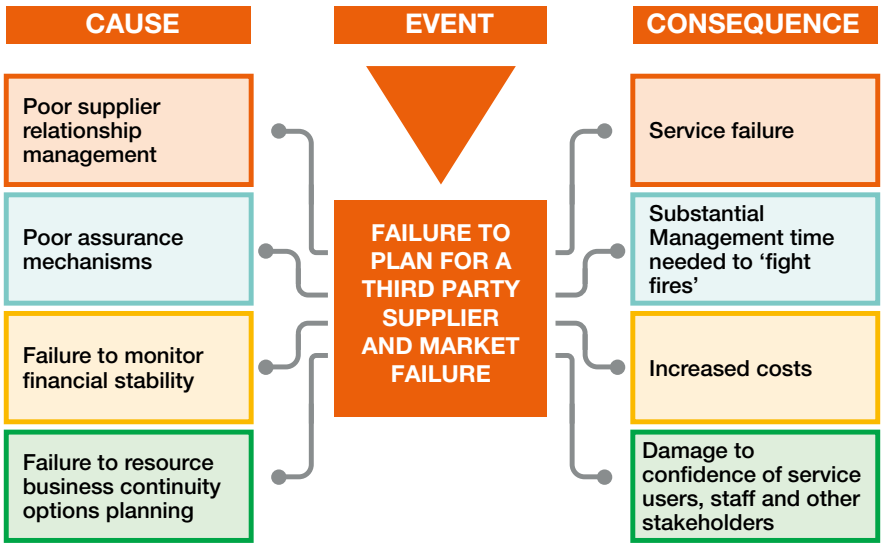
Risk is the effect of uncertainty on objectives. Risk is usually expressed in terms of causes, potential events, and their consequences:

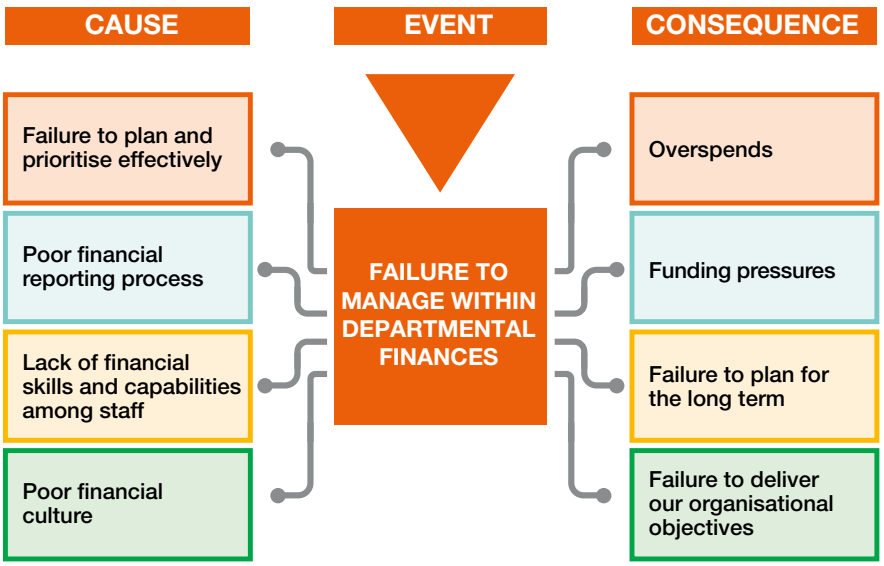
- A *cause* is an element which alone or in combination has the potential to give rise to risk;
- An *event* is an occurrence or change of a set of circumstances and can be something that is expected which does not happen or something that is not expected which does happen. Events can have multiple causes and consequences and can affect multiple objectives;
- the *consequences* should the event happen – consequences are the outcome of an event affecting objectives, which can be certain or uncertain, can have positive or negative direct or indirect effects on objectives, can be expressed qualitatively or quantitatively, and can escalate through cascading and cumulative effects.

8 Objectives can have different aspects and categories – covering efficient and effective operations, financial and non-financial reporting, and compliance with laws and regulations - and can be applied at different levels.

Stating risks: causes, events and consequences







In stating risks, care should be taken to avoid stating consequences that may arise as being the risks themselves, i.e. identifying the symptoms without their cause(s). Equally, care should be taken to avoid defining risks with statements that are simply the converse of the objectives, i.e. failure to achieve the intended output/outcome.

Organisations typically assess consequences using a combination of criteria, which commonly include financial, reputational, legal, regulatory, safety, security, environmental, employee, customer and operational effects. The criteria used should be dynamic and should be periodically reviewed and amended, as necessary. Scales should allow meaningful differentiation for ranking and prioritisation purposes based on assigning values to each risk using the defined criteria.

When assigning a consequence rating to a risk, the rating for the highest, most credible worst-case scenario should be assigned.

The risk analysis process defines the level of risk, based on the assessment of the ***likelihood*** of the risk occurring and the consequences should the event happen. Likelihood is the assessment of something happening, whether defined, measured or determined objectively or subjectively, qualitatively or quantitatively, and described using general terms or mathematically (such as a probability or a frequency over a given time period).

Risk analysis should also consider:

- sensitivity and confidence levels, based on the information available;
- complexity and connectivity;
- time-related factors and volatility; and
- the effectiveness of existing internal control.

Internal Control is the dynamic and iterative framework of processes, policies, procedures, activities, devices, practices, or other conditions and/or actions that maintain and/or modify risk. Internal controls permeate and are inherent in the way the organisation operates and are affected by cultural and behavioural factors.

Where additional action is required to bring the levels of risk within the nature and extent that the organisation is willing to take to achieve its objectives, the organisation should select, develop and implement options for addressing risk through preventive, directive, detective, and/or corrective controls that manage risks to an acceptable level. These might be manual or automated. This involves an iterative process of:

- planning and implementing internal control;
- assessing the effectiveness of internal control;
- deciding whether the nature and extent of the remaining risk after the implementation of internal controls is acceptable; and
- if not acceptable, reassessing options and taking further action where appropriate.

Internal control, even if carefully designed and implemented, might not produce the intended or expected outcomes. Internal control can also introduce new risks that need to be managed.

Assurance is a general term for the confidence that can be derived from objective information over the successful conduct of activities, the efficient and effective design and operation of internal control, compliance with internal and external requirements, and the production of insightful and credible information to support decision-making. Confidence diminishes when there are uncertainties around the integrity of information or of underlying processes.

Annex 6 – References

ID	Description
1	BS ISO 31000:2018(E) - Risk management – Guidelines
2	Corporate governance code for central government departments https://www.gov.uk/government/publications/corporate-governance-code-for-central-government-departments
3	Managing Public Money – Section 4 Governance and Management https://www.gov.uk/government/publications/managing-public-money
4	Managing Public Money – Annex 4.3 Risk
5	Budget 2018: 2.18 The Balance Sheet Review – https://www.gov.uk/government/publications/budget-2018-documents/budget-2018 and Getting smart about intellectual property and intangible assets https://www.gov.uk/government/publications/getting-smart-about-intellectual-property-and-intangible-assets
6	Central Government Guidance on Appraisal and Evaluation - The Green Book https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/685903/The_Green_Book.pdf
7	The Future Toolkit provides guidance on horizon scanning and outlines how scenarios can be used to further investigate emerging risks https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/674209/futures-toolkit-edition-1.pdf
8	The National Risk Assessment (NRA) - a strategic medium-term planning tool that captures examples of civil emergencies that could plausibly affect the UK within its territorial boundaries and should be used to inform integrated emergency management decisions
9	The Principles of Managing Risks to the Public https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/191518/Managing_risks_to_the_public_appraisal_guidance.pdf
10	ISO 31010:2009 is a supporting standard for BS ISO 31000 and provides guidance on selection and application of systematic techniques for risk assessment
11	Guidance on producing quality analysis for government – The Aqua Book https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/416478/aqua_book_final_web.pdf
12	The Outsourcing Playbook - Central Government Guidance on Outsourcing Decisions and Contracting https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/780361/20190220_OutsourcingPlaybook_6.5212.pdf
13	Guidance for evaluation – The Magenta Book https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/220542/magenta_book_combined.pdf
14	HM Treasury Audit and Risk Assurance Committee Handbook, March 2016 https://www.gov.uk/government/publications/audit-committee-handbook
15	Public Sector Internal Audit Standards https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/641252/PSAIS_1_April_2017.pdf
16	International Standards on Auditing - ISA 315 and 610

Annex 24 ICF KPIs

<table>
<tr><td>Short title</td><td>ICF KPI 1: Number of people supported by DFID programmes to cope with the effects of climate change

Please note that this methodology had substantial changes made to it in March of 2013. Please re-read, especially the technical definition/methodological summary and data disaggregation sections.</td></tr>
<tr><td>Type of Indicator</td><td>Cumulative (individual years summed to total): report annual in-year totals only against each milestone. These annual in-year totals should then be summed at the end of the results template to give a cumulative total for the current spending review period (2011/15), the life of the programme and where results will occur outside the life of the programme for total programme benefits.</td></tr>
<tr><td>Key reporting requirements</td><td>Below is a list of key reporting requirements to keep in mind when making your returns. Further details are available in the text below:

<table>
<tr><th>Requirement</th><th>Summary</th></tr>
<tr><td>Is this a DRF indicator?</td><td>Yes</td></tr>
<tr><td>Available for reporting?</td><td>Yes</td></tr>
<tr><td>Methodology changes?</td><td>Yes - substantial</td></tr>
<tr><td>Units</td><td>Absolute number of people</td></tr>
<tr><td>Attribution</td><td>Pro-rata share of public funding</td></tr>
<tr><td>Disaggregation to be reported in results templates</td><td>• Direct vs. Indirect
• Gender</td></tr>
</table>
</td></tr>
<tr><td>Technical definition/ Methodological summary</td><td>Identifying the target number of beneficiaries is now an essential step in the business planning process, and will be a key output/outcome indicator for any programme DFID supports.

<u>Definitions</u>

‘Support’ is defined as direct assistance from the programme in question, with the explicit intention of helping people deal with climate change impacts. It could include for example financial resources, assets, agricultural inputs, training, communications (e.g. early warning systems) or information (e.g. weather forecasting). Whilst almost any development intervention that has the outcome of reducing poverty and therefore vulnerability could be described as supporting people to cope with the effects of climate change, the definition here requires the effects of climate change to be explicitly recognised and targeted by the programme in question[1].

‘People supported’ should relate to populations or households[2] identified by the programme in question with a direct relationship to it.

‘Effects of climate change’ are defined here as the effects of both existing climate variability and the magnified impacts of future climate change. Normally resulting from the primary consequences of climate change of: changes to precipitation, temperature and sea level rise, these may be sudden onset or gradual, and can include floods, droughts, storms, landslides, salination, coastal inundation, heat or cold waves and biodiversity loss.</td></tr>
</table>

[1] At a minimum all programmes with a ‘Departmental Strategic Objective’ (DSO) on climate change and/or a primary or secondary component Input Sector Code on climate change should be included in this indicator, though others may also be eligible.

[2] If the data collected is by household then this figure should be converted into a number of people indicator – see data calculation section

Application

This indicator relates to the UK International Climate Fund (ICF) impact statement from the theory of change[3] for adaptation to climate change: *'Vulnerable people in poor countries are prepared and equipped to respond effectively to existing climate variability and the magnified impacts of climate change'.* This indicator seeks to measure the numbers of people who have received an input of support as a proxy for preparing and equipping them, but does not seek to measure the output of whether this support was successful in reducing the impacts of climate change events or effects on these people, or the outcome of increasing their resilience or reducing their vulnerability to climate change. For the ICF we will seek to capture this outcome of improved resilience to climate change through evaluation and other indicators where possible.

It is desirable to distinguish between numbers of poor people and numbers of vulnerable people, as not all vulnerable people are poor, and it is not always the poorest that are vulnerable, but this methodology does not encompass this definition yet. Future methodological work is planned to provide a more robust and multi-dimensional definition, and to deepen our understanding of who is vulnerable to climate change. Neither does this methodology specify that people supported should be located in poor countries or define which are poor, although it is expected that all interventions will be in developing countries.

This indicator should only cover bilateral spend at this stage. Multilateral and other support (e.g. direct to NGOs), will be collected and calculated separately, to ensure the same individuals aren't double counted, e.g. if supported in different ways (or even the same way) by geographically overlapping programmes.

There are two dimensions of 'support':

1) *Targeted:* defined as whether people (or households) can be identified by the programme as receiving direct support, can be counted individually and are aware they are receiving support in some form. This implies a high degree of attribution to the programme.

2) *Intensity*: defined as the level of support/effort provided per person, on a continuum but broad levels may be defined as:
    a. Low: e.g. people falling within an administrative area of an institution (e.g. Ministry or local authority) receiving capacity building support or people within a catchment area of a river basin subject to a water resources management plan.
    b. Medium :e.g. people receiving information services such as a flood warning or weather forecast by text, people within catchment area of structural flood defences, people living in a community where other members have been trained in emergency flood response.
    c. High: e.g. houses raised on plinths, cash transfers, agricultural extension services, training of individuals in communities to develop emergency plans

These dimensions are not completely exclusive, medium intensity support may be either targeted (e.g. early warning text messages) or not targeted (catchment

[3] See ICF thematic paper on adaptation May 2011 for details on the TOC (Quest number 3721477)

area of a flood defence system). **However high intensity support should always be targeted, and low intensity support cannot normally be considered targeted. Low intensity support *should <u>not</u> be reported* for this indicator**

<u>Categories</u>

There are therefore **<u>2 categories for reporting:</u>**

A) **Direct:** Targeted & High intensity. Must fulfil both criteria e.g. people receiving social protection cash transfers, houses raised on plinths, agricultural extension services, training of individuals in communities to develop emergency plans and use early warning systems.

B) **Indirect:** which covers:
   i) Targeted & Medium intensity: e.g. people receiving weather information and text message early warnings.
   ii) Not targeted & Medium intensity: e.g. people within the coverage of an early warning system, or catchment area of a large infrastructure project (e.g. flood defences), or living in a discrete community in which others have been trained in emergency response

Programmes are **only** required to distinguish direct and indirect support (and not the sub-categories of 'indirect' above – e.g. whether targeted or not)

A third category does not need to be reported at all:

C) **Not Reported:** Indirect and Low intensity: e.g. people benefiting from falling within an administrative area of an institution receiving capacity building support, or catchment area of a Water Resources Management plan or strategy (these numbers can be captured through the programme's own monitoring, and for the ICF the interventions under the 'institutional development' scorecard KPIs).

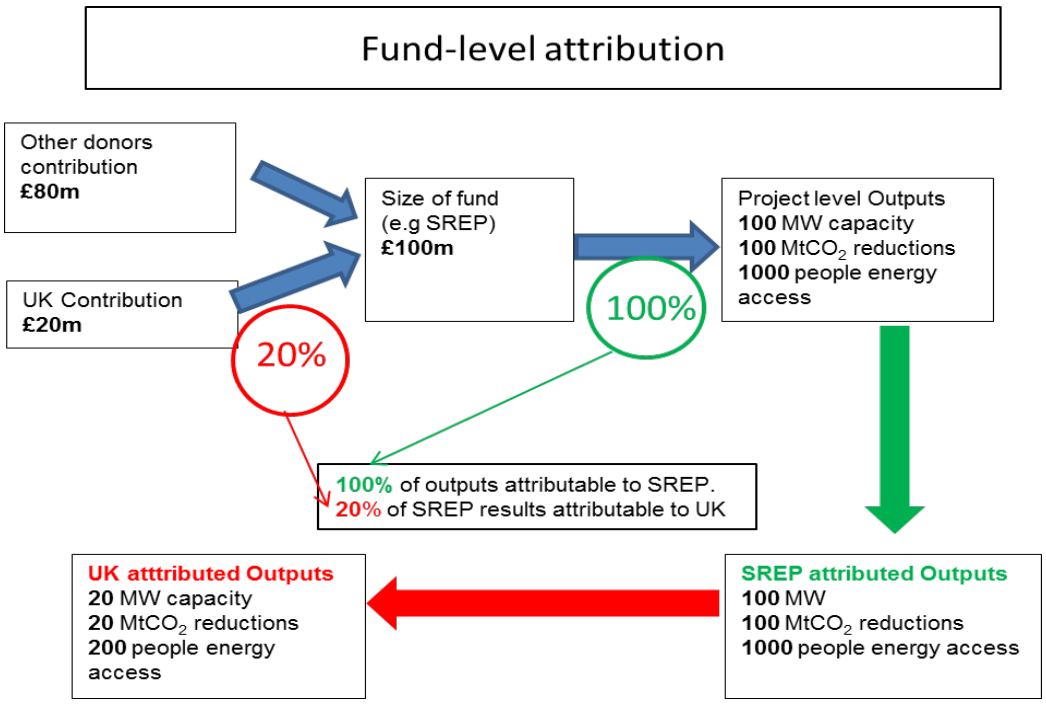
If you are unsure how to break down the number of people your programme supports into these categories please contact the adaptation and water resource management team leads as listed at the end of this document.

Gender:
Reporting by gender has been marked as mandatory. If you are unable to disaggregate by gender please see the additional guidance in the data disaggregation section below.

A single programme may include interventions which are direct and indirect (e.g. a programme which has activities including social protection and early warning

	systems). A single *intervention* may also include people supported directly and people supported indirectly, e.g. individuals trained to develop community emergency plans and use early warning systems would be supported directly, whereas people living in the same community and benefiting from those plans would be supported indirectly *Further information* 2 further optional labels can then be applied within the above categories: 1. The first label is simply: Does this programme fit under any of the sectors prioritised in the ICF adaptation thematic paper? That is: (a) access to social protection (if the programme is defined as an 'adaptation' intervention) including micro-finance and broader social protection/insurance mechanisms; (b) support to water shed and water basin management (both the construction of small-scale infrastructure at household or community level and large-scale support for watershed and water basin management activities; (c) support with urban resilience including resilient infrastructure; (d) support to any community and/or national level disaster risk reduction activities; (e) support for resilient agriculture programmes; (f) support for eco-systems development and coastal zone management programmes; and (g) support for health programmes which are primarily tackling climate change risks. 2. The second label considers the proportion that are poor: What proportion of the beneficiaries are poor? Numbers of poor people could be determined by numbers below a country specific poverty line rather than the international $1.25/day definition. For programmes which have indirect beneficiaries, proportions of poor could be estimated from social vulnerability analyses commissioned as part of the programme preparation or any prior Climate Change Strategic Programme Reviews. *Methodological points to note:* 1. Numbers of people supported through multilateral multi-sector adaptation programmes where UK is major funder will also be included in this indicator. We will be working with the multilateral partners to ensure this headline indicator can be gathered in future. 2. With multi-sectoral support there is scope for double-counting of results, we will therefore ensure that targeted interventions are tagged against one or another sector. 3. Finally, both household and individual data can be collected as part of this exercise. Data on household size should be determined from the most recent national census data or from a nationally representative household survey. If data is collected at the household level, the country office will need to multiply the number of households by the average household size.
Rationale	This is a new area of programming. At a minimum, an overall numbers of people

	supported by climate change support will help demonstrate our impact statement in the Theory of Change for adaptation. Although we are not envisaging all programmes to be able to gather all of the disaggregated levels of data, what is collected will strengthen the story on our adaptation portfolio and strengthen our evidence base. This indicator links clearly to policy priorities around climate adaptation as articulated by the International Climate Fund Board. With limited international consensus on measuring successful adaptation, HMG's development of these and other indicators will be leading the way in the international community.
Country office role	Country offices will be required to report on target beneficiaries, and numbers reached throughout implementation of each programme. This and other ICF indicators should be built into Annual Review progress reports. Progress has already been made with multilateral partners in making their M&E systems more focused on aggregating results. The Pilot Programme for Climate Resilience (one of the CIFs) Adaptation Fund and Least Developed Countries Fund for example have their own results frameworks, will generate results information on a regular basis, there may be a role for country offices in quality assuring the information when it is collected.
Data source	The indicator will be measured through the monitoring and, to some extent, evaluation of DFID bilateral climate adaptation programmes and multilateral programmes, particularly those financed by the UK's International Climate Fund (ICF). In some cases (e.g. on-going programmes in Bangladesh) the data will be generated through project-specific surveys. Where DFID programmes are operated through government (e.g. the Ethiopia PSNP), the data will come from separate commissions. Similarly, data on proportions of poor will be undertaken through individual surveys at project level and then attributed to the programme. Perhaps at a later stage, household level surveys will begin to gather this data more readily. The aggregation for this indicator will be undertaken by CED across all projects/programmes.
Data included	**DRF:** At a minimum all DFID programmes with an explicit climate change purpose are should report on this indicator (primary or secondary input sector code on ARIES).
Formula/Data calculation (including attribution rule)	The indicator is expressed in absolute numbers, so not relevant. However, the data will be aggregated by CED using the numbers provided against sector interventions summed across to arrive at a total figure. It is possible that some of the disaggregated levels of data are provided as percentages. These will then be converted as appropriate into absolute numbers. Where HMG are only funding part of the project, benefits (number of people) should be calculated as a pro-rata share of public funding. For example, if we are funding 10% of a project with 100 beneficiaries, we should claim that 10 of these beneficiaries are attributable to DFID. It is possible for a single programme to reach both direct (targeted and high intensity) and indirect (targeted or not targeted and medium intensity) beneficiaries in which case these should be reported separately. **Fund-level attribution** (i.e. at point of UK investment) should be applied for reporting expected and actual results and headline results/figures used in

	Business Cases (to ensure all projects can report on a consistent basis). This method involves sharing results across all donors that contribute to a fund. All results are attributable to the relevant fund (e.g. CIFs, CP3, GAP) regardless of whether these funds blend with other sources of finance in implementing projects at levels below the point of UK investment. For example, if the UK invests £25m into a fund that totals £100m of public money, the UK would claim 25% of the results from that investment. This applies to all results. The long term ambition is to develop the data availability to enable all projects to use the lowest/most direct level of attribution possible in the future (i.e. project level). Therefore, advisers should be working to develop sufficient data to calculate project level results reports, and where possible, provide this information now alongside headline Fund level results. To note, the distinction between attribution at the project level and at the Fund level (or at point of UK investment) is only an issue where the UK is investing in funds where there are multiple investment levels. 
Most recent baseline	By nature of the indicator the baseline for the programme in question will normally be zero for number of people supported *by DFID*. The possible exception being where the programme is an extension of an existing DFID programme that preceded the current Comprehensive Spending Review. *[For the aggregated total for DFID overall the baseline will be zero at the start of the Comprehensive Spending Review period]*.
Good performanc	The public should be looking for an increase in the absolute numbers receiving support. Through a complimentary ICF evaluation an assessment will also be made of how far people's resilience to climate change has been improved.
Return format	Absolute numbers of beneficiaries only, disaggregated by direct/indirect and gender. Please see Data dis-aggregation section below.
Data dis-aggregation	<u>Data to be disaggregated and reported in the ICF results template:</u>

	- Number of direct or indirect beneficiaries - Gender: • Reporting by gender has been marked as mandatory. If you are unable to report by gender please explain why in the metadata columns of the results template. • We would expect gender disaggregation to be possible for all programmes in the direct category. Where possible gender disaggregation should also be given for the indirect category. • We acknowledge that gender disaggregation will not be possible if household level data are used. If local gender disaggregation data is not available but you have target population data that allows you to give an estimated number then please report this. If an estimate is used then please state this clearly in the metadata column. • It is not intended to present gender disaggregated figures by country/programme but as an aggregated total across programmes. <u>Data to be disaggregated as part of workings and Quest number provided:</u> Disaggregation of the following variables will not be collected as part of the ICF results template. Please include disaggregated data in your working documents and record the Quest number for these documents in the ICF results template. - Thematic sector of programme - Proportion of beneficiaries who are poor
Data availability	It should be possible for country offices (and eventually multilateral partners) to report on beneficiary numbers at least annually (to inform Annual Reviews). CED will collate this information annually. Robust data from programmes already in implementation may be difficult to gather as baselines are unlikely to have been developed in all cases. Therefore we expect the routine M&E of these programmes to be able to generate this information.
Time period/ lag	This will have to be worked through with country offices and multilateral partners, but a 6-9 month lag may be necessary.
Quality assurance measures	We will identify mechanisms for data QA with multilateral partners (possibly using the OECD as an independent arbiter) by June 2013. In DFID, we anticipate that there will be 3 layers of QA: country offices, CED and FCPD. Country offices will need to estimate country-level aggregation, where separate programmes may support the same people in different ways. COs will be in the best position to do this analysis on geographic overlap. CED will need to centrally estimate aggregation between bilateral country programmes and multilateral support, to identify where this overlaps in terms of i) same people in different ways or ii) same people in the same ways e.g. through core support to two multilateral agencies co-financing the same programme. If reporting officers have any concerns about the quality of data or any points that they think CED should be made aware of, then please note this in the ICF (and DRF) results templates. Any comments can usually be added into the free text columns on the far right of each template. Further guidance should be available in the commissioning note.
Data issues	Quality of data will vary, particularly where it is necessary to rely on

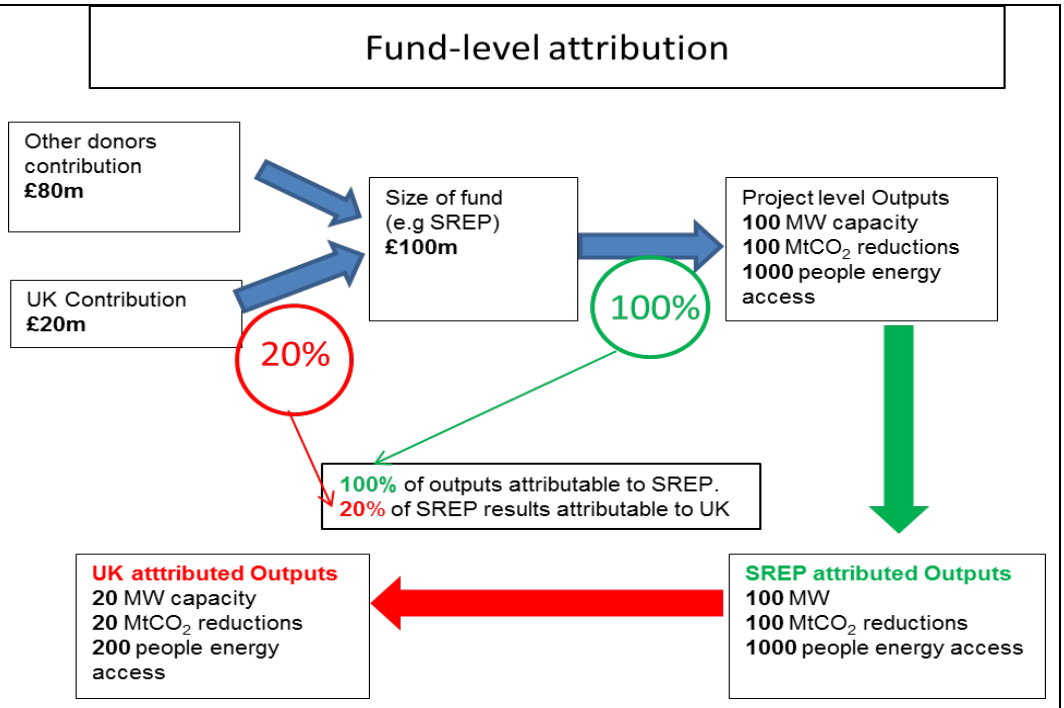
	implementing partners collection of government data systems. We might be able to use different sources of data to triangulate results and strengthen our interpretation of the data. A further assumption is made that the data collected on the 'indirect' category (targeted or not targeted and medium intensity) can still be attributable. As there is no guidance on acceptable attribution proportions for indirect beneficiaries, we are proposing that these are captured in full and no discounting is made. FCPD guidance only exists on targeted attribution.
Additional comments	CED also plans to undertake more methodological work on definitions of vulnerability and will aim to do an evaluation on the impact of the ICF programmes on resilience. At some future date, these indicators can be used in conjunction with the indicator above to strengthen its impact focus. The number of people supported to cope with climate change indicator is new and attempts to measure a new area in development of common international interest. We have shared this methodology with a number of international partners including the MDBs and other donors and a number of these partners have chosen to replicate this methodology in their own reporting.
Lead	Statistical advisor: Alex Feuchtwanger (DFID) a-feuchtwanger@dfid.gsx.gov.uk Subject matter lead: Juliet Field (DFID) j-field@dfid.gov.uk

<table>
<tr><td>Short title</td><td>ICF KPI 2: Number of people with improved access to clean energy as a result of ICF projects</td></tr>
<tr><td>Type of indicator</td><td>Cumulative (individual years summed to total): report annual in-year totals only against each milestone. These annual in-year totals should then be summed at the end of the results template to give a cumulative total for the current spending review period (2011/16), the life of the programme and where results will occur outside the life of the programme for total programme benefits.</td></tr>
<tr><td>Key reporting requirements</td><td>Below is a list of key reporting requirements to keep in mind when making your returns. Further details are available in the text below:

<table>
<tr><th>Requirement</th><th>Summary</th></tr>
<tr><td>Is this a DRF indicator?</td><td>Yes</td></tr>
<tr><td>Available for reporting?</td><td>Yes</td></tr>
<tr><td>Methodology changes?</td><td>No – however clarification on attribution</td></tr>
<tr><td>Units</td><td>Absolute number of people</td></tr>
<tr><td>Attribution</td><td>Pro-rata share of public funding</td></tr>
<tr><td>Disaggregation to be reported in results templates</td><td>• Gender</td></tr>
<tr><td>Key point</td><td>Only include results from off-grid connections, <u>do not</u> include results from on-grid access.</td></tr>
</table>
</td></tr>
<tr><td>Technical Definition / Methodological summary</td><td>Clean energy access refers to:
- New household connections to off-grid renewable energy sources. (To note, on-grid access cannot be included in these figures because once on-grid, it is impossible to determine the energy source).
- Households with more efficient cook stoves, solar lanterns or other clean technologies which generate energy.

Clean energy is generated from both combustible and non-combustible renewables. Non-combustible renewables include geothermal, solar, wind, hydro, tide and wave energy. Combustible renewables and waste include biofuels (biogas, ethanol, biodiesel); biomass products (fuelwood, vegetal waste, pulp and paper waste, animal waste, bagasse), municipal waste (waste produced by the residential, commercial and public service sectors that are collected by the local authorities for disposal) and industrial waste; all for the production of power.</td></tr>
<tr><td>Rationale</td><td>Energy access is crucial to development; other services such as education, communication, refrigeration and better access to information are contingent on, or enhanced by, energy access. More efficient cook stoves etc also have health and time co-benefits. This is particularly the case for women/children who often suffer more from the negative impact of indoor air pollution and have to spend time collecting fuel wood. Clean energy should also partly displace fossil fuels resulting in lower carbon emissions.</td></tr>
<tr><td>Country office role</td><td>For each of their climate change programmes, country offices will need to assess the number of additional people given access to clean energy as a result of their projects and supply this information to FCPD. Collated data will be quality assured and finalised by DFID’s Climate and Environment Department and FCPD.</td></tr>
<tr><td>Data sources</td><td>Use of project level M&E (e.g. household surveys, project reporting) enables the tracking of clean energy access for ICF funded projects.</td></tr>
</table>

	Data on household size should be determined from the most recent national census data or from a nationally representative household survey.
Reporting organisation	DFID internal
Data included	Number of households with improved access to clean energy, based on average number of people in a household.
Formula/Data calculation (including attribution rule)	If data is collected at the household level, the country office will need to convert the number of households into the number of people. The country office will need to multiply by the average household size. Where HMG are only funding part of the project, benefits (number of people) should be calculated as a pro-rata share of public funding. For example, if we are funding 10% of a project with 100 beneficiaries, we should claim that 10 of these beneficiaries are attributable to DFID. If several donors are active in the same region only those beneficiaries which are directly and closely linked to the ICF activities should be counted. If this is difficult to determine, all beneficiaries should be counted and the numbers proportioned according to the contribution by different donors. **Fund-level attribution** (i.e. at point of UK investment) should be applied for reporting expected and actual results and headline results/figures used in Business Cases (to ensure all projects can report on a consistent basis). This method involves sharing results across all donors that contribute to a fund. All results are attributable to the relevant fund (e.g. CIFs, CP3, GAP) regardless of whether these funds blend with other sources of finance in implementing projects at levels below the point of UK investment. For example, if the UK invests £25m into a fund that totals £100m of public money, the UK would claim 25% of the results from that investment. This applies to all results. The long term ambition is to develop the data availability to enable all projects to use the lowest/most direct level of attribution possible in the future (i.e. project level). Therefore, advisers should be working to develop sufficient data to calculate project level results reports, and where possible, provide this information now alongside headline Fund level results. To note, the distinction between attribution at the project level and at the Fund level (or at point of UK investment) is only an issue where the UK is investing in funds where there are multiple investment levels.

	
Worked example	DFID provides X number of households with solar lanterns. Household surveys through project M&E will identify the number of new households who have access to clean energy due to the ICF project compared to the initial baseline and forecast of those who would have bought solar lanterns anyway. Ideally the project level data will also be disaggregated by income level. X is then multiplied by the average household size as set out in the census or national household survey. Results are attributed at the point of UK investment (Fund level) and shared across all donors that contribute to a fund.
Most recent baseline	The baseline should reflect the situation prior to ICF funding being provided and anticipated projections of what would happen without the ICF. For long running programmes the baseline should be taken as 2010 unless otherwise stated. The baseline should align with the economic appraisal in the project design.
Good performance	An increase in the number of people with improved access to clean energy.
Return format	Number of people with improved access to clean energy due to the ICF project. Where the data exists, number of poor people with improved access to energy due to the ICF project should be reported. This could be determined by numbers below a country level poverty line rather than the international $1.25/day definition. This can be done using country level data or more subnational level data. See data dis-aggregation section below for where these figures should be reported.
Data dis-aggregation	<u>Data to be disaggregated and reported in the ICF results template:</u> - Gender: • Reporting by gender has been marked as mandatory. If you are unable to report by gender please explain why in the metadata columns of the results template.

	• We acknowledge that gender disaggregation will not be possible if household level data are used. If local gender disaggregation data is not available but you have target population data that allows you to give an estimated number then please report this. If an estimate is used then please state this clearly in the metadata column. • It is not intended to present gender disaggregated figures by country/programme but as an aggregated total across programmes. <u>Data to be disaggregated as part of workings and Quest number provided:</u> Disaggregation of the following variables will not be collected as part of the ICF results template. Please include disaggregated data in your working documents and record the Quest number for these documents in the ICF results template. - Income levels - urban/rural - source of improved energy access (e.g. off-grid connection; more efficient cook stove; solar lantern; etc)
Data availability	Will vary by source. Likely to be a few months if using routine project reporting data, longer if using household surveys.
Time period/ lag	Annual review and project completion reports should be aligned with data availability.
Quality assurance measures	It is recommended that, where possible, data collection is undertaken by a third party that is not directly involved with implementing the project. If reporting officers have any concerns about the quality of data or any points that they think CED should be made aware of, then please note this in the ICF (and DRF) results templates. Any comments can usually be added into the free text columns on the far right of each results template. Further guidance should be available in the commissioning note.
Data issues	**Poor people** Ideally, the indicator 'number of poor people with improved access to clean energy as a result of ICF projects' should be reported. Where viable, this should be incorporated into the M&E design of the project. However, this data may not be available for all projects. Where poverty data is available, numbers of poor people should be determined by a poverty metric relevant to that country (e.g. numbers below a country's national poverty line, community poverty assessment, first quintile income levels) rather than necessarily the international $1.25/day definition. This could be gathered using country level data or more sub-national level data. Whichever metric is used in the project should be stated in the return. Given all ICF projects happen in developing countries, this is used as a proxy that we are reaching the poor. There are limitations to this proxy as many countries in which the ICF works are unequal. **Children** The total number of individuals as calculated includes children. Children benefit from clean energy access at the household level as it enables them to e.g. do their homework. The other benefit from clean energy is in terms of health - indoor air pollution from cook stoves using dirty fuel is responsible for the

	deaths of 2 million women, girls and children under 5 (WHO/UNDP methodology, 2009). Women and children often suffer disproportionately from the effects of indoor air pollution and spend more time collecting fire wood. **On-grid** It is not possible to disaggregate grid electricity by source (clean vs. fossil). Furthermore, providing energy to the grid does not necessarily translate into access as new connections would need to be established simultaneously. This indicator therefore excludes on-grid energy. Any measurements of energy access are likely to be conservative and be a subset of results as improved access to the grid cannot be measured. Instead, the indicator to be examined should be 'installed capacity of clean energy' which is also a priority indicator for the ICF.
Additional comments	N/A
Lead official	Statistical advisor: Alex Feuchtwanger (DFID) a-feuchtwanger@dfid.gsx.gov.uk Subject matter lead: Steven Hunt (DFID) s-hunt@dfid.gov.uk

Methodology for reporting against KPI4 – Number of people whose resilience has been improved as a result of project support

Background

KPI4 is a Key Performance Indicator (KPI) in the DFID-funded International Climate Fund (ICF). However, the indicator can be used for any project for which increased resilience is an objective. It is an outcome indicator in DFID's **Building Resilience and Adaptation to Climate Extremes and Disasters** (BRACED) portfolio log-frame.

KPI4 measures the number of people with **improved resilience due to a project intervention.** This means:

(a) KPI4 measures number of people with a **change** in resilience;
(b) KPI4 focuses on change in **those attributes of resilience affected by the project** in question;
(c) KPI4 is **not** a measure of absolute resilience.

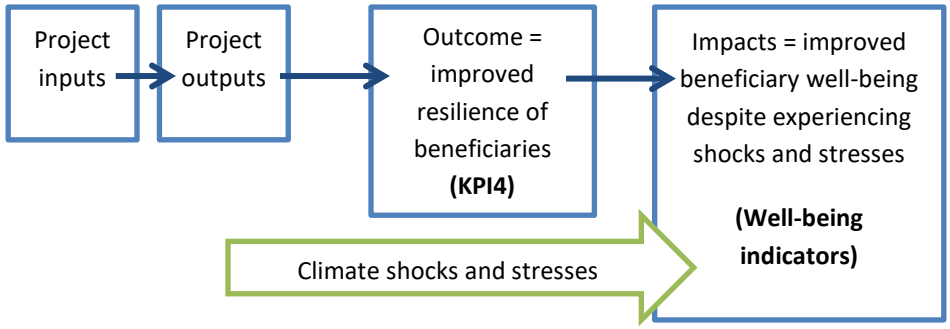
This guidance outlines a step-by-step methodology to help ICF and BRACED projects (i) identify context-specific resilience indicators, (ii) use these indicators to track changes in resilience resulting from project activities, and (iii) use the indicators to report against ICF KPI4. Some of these steps are associated with a range of methods and approaches that involve varying levels of complexity and rigour. For each of these steps, a table is provided illustrating what is required for three different standards: bronze, silver and gold. The bronze standard describes minimum standards for measurement, analysis and reporting as required by DFID. The silver and gold standards describe optional additional measures that may enhance the rigour of resilience monitoring and evaluation (M&E), that can be taken where circumstances allow and where this will add value to a project M&E system in terms of reporting and learning. Where a step is not associated with a table of criteria for bronze, silver and gold standards, a project is expected to follow the recommendations in that step.

Here, resilience to climate shocks and stresses (that may be intensifying as a result of climate change) is considered to be a composite attribute possessed by each individual that represents their **ability to anticipate, avoid, plan for, cope with, recover from and adapt to (climate related) shocks and stresses**. Improved resilience means that an individual is better able to maintain or improve their well-being despite being exposed to shocks and stresses. KPI4 measures how many people have experienced improvements in this attribute as a result of the project that is being monitored.

KPI4 is applicable to projects that target (directly or indirectly) individuals and households. In these contexts KPI4 will be derived from context-specific indicators of resilience at the individual or household level. However, it is also possible to apply KPI4 to resilience projects aimed at institutional capacity building or policy change. This means answering the question 'How many people have had their resilience improved through this increased institutional capacity' or 'how many people have had their resilience improved through this change in policy?'.

At what level in the log-frame/theory of change should KPI4 be measured?

KPI4 will normally be an **Outcome Indicator.** This is because project related change in resilience to climate shocks and stresses is usually an outcome of one or more project activities and outputs. Increased resilience should mean that people are less likely to suffer losses, damages, and declines in their well-being when they encounter a shock or stress. Improved human well-being and a reduction in losses and damages resulting from climate shocks and stresses is the ultimate purpose of climate change adaptation programmes, as measured by the programme impact indicators and shown in Figure 1.



Theory of change (ToC): without the project, beneficiaries would have been less resilient to climate related shocks and stresses and therefore performance of well-being indicators (e.g. income, deaths) would be worse than in the 'with project' scenario

Figure 1. General theory of change for resilience.

Normally, at the start of a project, the indicators from which KPI4 is to be derived represent certain attributes that the project's Theory of Change **predicts** will make individuals less vulnerable to climate related shocks and stresses. Later, if the project monitoring system is sufficiently robust, it should be possible, after the project's outputs have affected a sufficient number of people and if climate related shocks and stresses have occurred, to correlate KPI4 components with actual well-being impacts. At this stage KPI4 can be adjusted to be closer to a proven indicator of resilience. This is an important learning process. Good resilience indicators – measured before a shock or stress occurs - should be significantly correlated with indicators that capture losses, damages and changes in well-being associated with that shock or stress, measured after it has occurred. In other words, resilience indicators should be **predictive** of future changes in well-being resulting from shocks and stresses.

KPI4 measures the resilience of INDIVIDUALS

Resilience as a concept can apply to individuals, households, communities, systems, ecosystems, etc. **KPI4 is concerned specifically with the change in resilience of individuals.** However, it is recognised that the resilience of an individual also depends on the resilience of the household, community, systems and ecosystems in which they live – therefore the context in which the individual lives is very much part of the resilience story we are trying to understand and to measure.

This means that if a project improves the resilience of all members of a household – then all members of the household would be counted. KPI4 counts the resilience of individuals because

there can be large differences, even within the same household, in how individuals are affected by either a project intervention or by a climate related shock or a stress.[1] We are very interested in these differences, and also in the differential outcomes of any project intervention on different categories of individual. As a result of these intra-household differences in resilience and project impacts, KPI4 should always be disaggregated by gender. Disaggregation based on other categories of beneficiary may also be desirable.

KPI4 units, attribution, and dealing with a changing context

There are no agreed units in which 'resilience' is measured. This is because resilience is extremely context specific. Therefore resilience is dealt with as a relative attribute in each specific local context. Individuals can be considered 'more' or 'less' resilient to climate related shocks and stresses as a result of the context in which they live, and of their gender, age, poverty level, type of livelihood, geographical location etc.

A project intervention may make individuals more or less resilient to shocks and stresses. KPI4 is defined in such a way as to take into account the change specifically due to a project intervention:

KPI4 - Number of people whose resilience has been improved as a result of project support

Therefore, we are not measuring the absolute level of resilience – but rather the relative change in resilience due to the project intervention – and specifically the number for whom this change is positive. This means that KPI4 may not necessarily show the trend in overall resilience[2] (whether it is getting better or worse) – because it focuses on the change that can reasonably be attributed to the project.[3] This focus is achieved by choosing to measure specific aspects of resilience that the project targets or is expected to affect (see example in Table 1).

Table 1. Example – choosing aspects of resilience that reflect the project intervention

Project intervention	Possible aspect of resilience to measure[4]
Improved flood early warning systems	Number of men/women using improved flood early warning systems to reduce risks to their lives and/or property
Labour based safety net	Number of men/women accessing the safety net system (or planning to access it if the measurement takes place in advance of the shock)
Drought resistant agricultural techniques	Number of men/women with sustained adoption of the crops/techniques promoted by the project (e.g. exhibiting a sustained behaviour change)

[1] In Bangladesh, for example, of the 140,000 people who died from the flood-related effects of Cyclone Gorky in 1991, women outnumbered men by 14:1.
[2] By overall resilience we mean resilience due to all possible factors – whether they are relevant to the project intervention or not.
[3] Of course the overall trend is very important in the overall project design, and is an important part of the context against which KPI4 should be reported.
[4] In each case the aspect of resilience being measured would be based on the project theory of change backed-up by evidence as described in Steps 2 and 3.

STEP BY STEP GUIDE TO DEFINING AND MEASURING KPI4

1. Identify beneficiaries, shocks and stresses, and their consequences

Describe the resilience context using the DFID Resilience Framework (Figure 2). This is usually done as part of the project design, and should involve a combination of methods including participatory assessments.

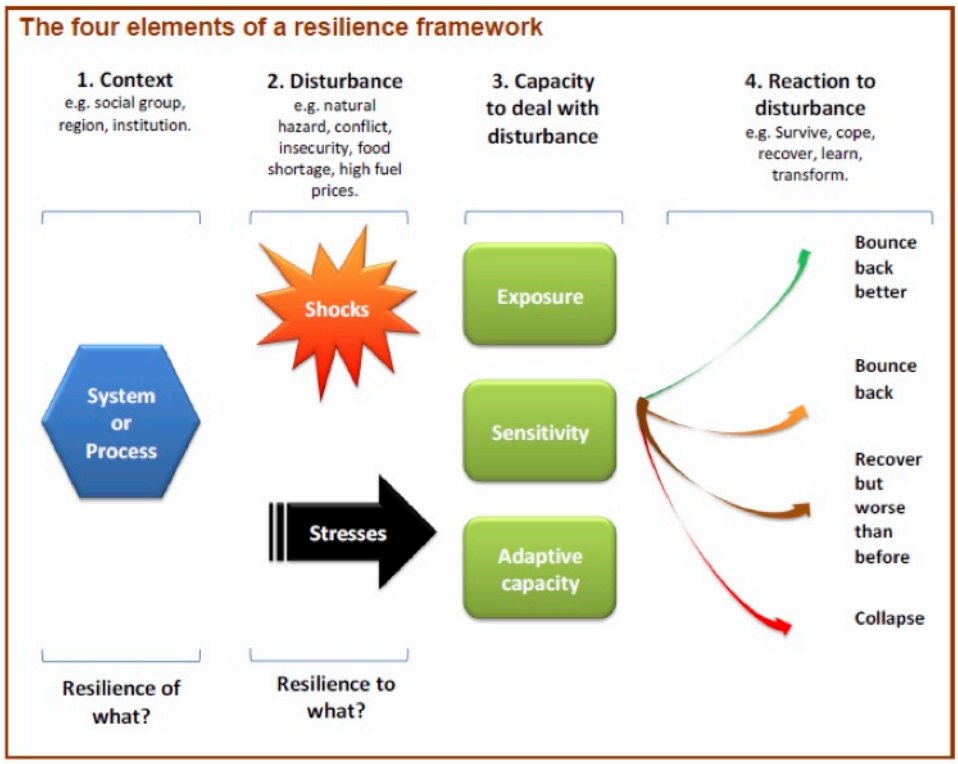


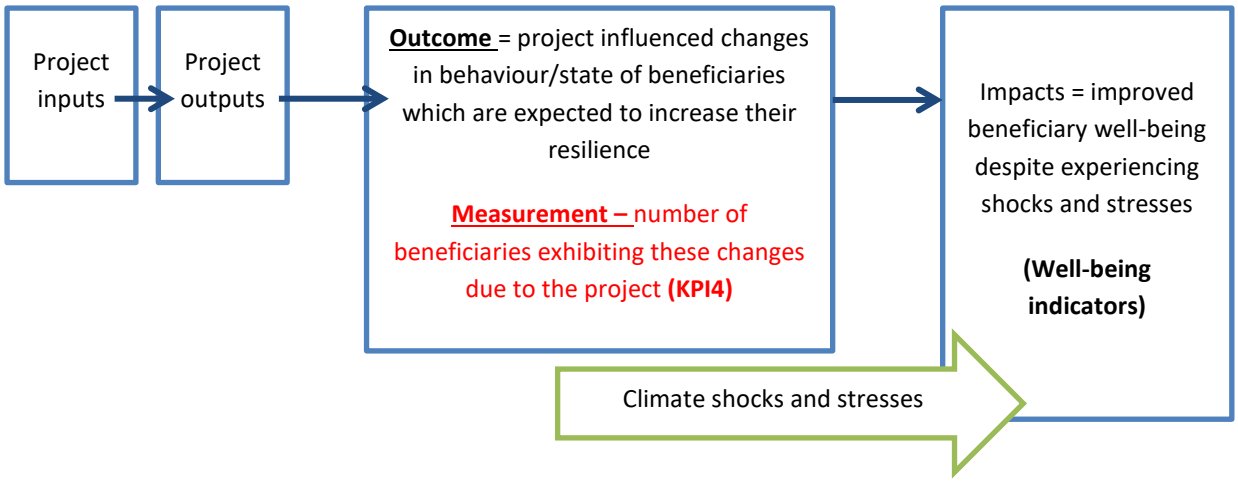
Figure 2. The DFID Resilience Framework.

a. Identify key climate shocks and stresses to which people need to be more resilient (Element 2). This should include existing shocks and stresses and potential future shocks and stresses over timescales relevant to the project. A project may develop indicators to track changes and variations in shocks and stresses, to provide a context for the interpretation of project results. However, such indicators are outside the scope of this guidance on KPI4.
b. Identify key consequences of climate shocks and stresses such as losses, damages and negative effects on human well-being (e.g. increased poverty, worse health outcomes, etc.) (Element 4). The long-term impacts to which the project contributes will be the amelioration of these consequences, represented by indicators that measure changes in human well-being and changes in losses from shocks and stresses. These indicators will be developed and measured as part of the wider project M&E system and are outside the scope of this guidance on KPI4.
c. Identify the key systems and processes (Element 1) on which individuals and households depend, and that influence their resilience to climate related shocks and stresses.

2. Develop a project theory of change

A theory of change should have been developed during the project design phase. If your project doesn't have a ToC you will need to develop one.[5] The theory of change describes the links between project outputs and outcomes, and between outcomes and impacts. It makes explicit the assumptions behind project design. The theory of change should articulate how project outputs will improve resilience, and with what changes (e.g. in behaviour, assets, access to certain resources, etc.). These are the changes that will need to be measured so that a project can report against KPI4, as in Figure 3.

Figure 3 – Illustration of where KPI4 fits in the ToC



A theory of change may be revised throughout the lifetime of a project as new information and learning about resilience becomes available. The theory of change developed during the project design phase therefore might be updated based on the results of any participatory assessments conducted to identify factors important for resilience that will be measured in order to report against KPI4 (see Steps 3 and 4 below).

The next five steps explain how we identify and measure the changes expected to increase resilience. Step 8 explains how we assess the attribution of any change to our project, and Step 9 addresses how to report the results for KPI4.

3. Identify factors affecting resilience that the project is expected to influence

A project's theory of change and/or log-frame should describe the factors that affect the resilience of beneficiaries, and how the project will influence these factors to improve resilience. These will be factors that affect people's ability to anticipate, avoid, plan for, cope with, recover from, and adapt to climate shocks and stresses. These factors, and the actions required to improve resilience, can be identified using a combination of methods, including surveys, questionnaires, interviews, and

[5] Guidance on developing Theories of Change is available here:
http://r4d.dfid.gov.uk/pdf/outputs/mis_spc/DFID_ToC_Review_VogelV7.pdf
http://zunia.org/post/sea-change-cop-ukcip-guidance-note-3-theory-of-change-approach-to-climate-change-adaptation-pro

participatory assessment (Box 1). This should be done during the project design phase. However, this may result in a quite superficial characterisation of resilience (for example based on the understanding of project staff rather than beneficiaries), in which case a more detailed assessment of the factors affecting resilience might be appropriate as part of the development of an M&E system. For example, this might be appropriate where a project indicates that specific outputs will enhance 'coping capacity' or 'adaptive capacity' (see Box 2 for an exploration of the difference between coping capacity and adaptive capacity). In such cases, further participatory assessment of the factors that help people to cope or adapt might be required early during project implementation, so that these factors can be represented by indicators (Step 4) that tell us whether coping or adaptive capacity has improved as a result of the project's intervention.

Participatory assessments might provide information that can be used to refine a project's theory of change, by identifying previously neglected factors influencing resilience, by providing more nuanced narratives about how different aspects of resilience interact, and by providing further detail about the mechanisms that determine who is least/most affected by climate shocks and stresses, and why.

When considering the factors that are important for resilience, that a project will seek to influence, it may be helpful to consider the **dimensions** of resilience (Box 2).This is a way of checking whether all the relevant aspects of resilience that might link project outputs to intended project impacts have been considered. Not all of these dimensions will be relevant in a specific project context, and this procedure is intended to provide some light-touch quality assurance rather than to be prescriptive.

At the end of this step, project M&E staff should have identified a set of factors that are important for resilience, and that are expected to be influenced by the project.

It is also useful to list any factors affecting resilience that the project is unlikely to influence. Changes in these factors might act to increase or reduce resilience in general, and such changes need to be understood to provide context for the interpretation of project results. A discussion of how to interpret project results in the light of wider trends towards reduced or increased resilience is outside the scope of this guidance. However, it is important to identify such trends where possible.

Box 1. Using participatory methods to identify determinants of resilience

Participatory assessment can be used to identify factors that influence resilience, and to prioritise these factors in order of importance. Focus groups, consultations using H-forms (see below) and participatory resilience rankings can be used to understand the 'resilience context' of a project, to identify factors and processes to be targeted by a project, to identify factors and processes that can be measured to determine whether resilience has increased or decreased, and to prioritise these factors in order of importance.

1. Characterisation of Resilience using Focus Groups

(a) Organise a representative series of focus groups covering different respondent types (women, men, youth etc.), livelihood types and geographical spread.
(b) Discuss emerging climate shocks and stresses, and what elements makes some people or households more 'able to cope' than others? While the group should lead the discussion with people making their own suggestions, some prompting may be required to ensure all elements are covered here, it might be useful to use a checklist based on the 'dimensions' of resilience detailed in Step 2.
(c) Discuss the capacity of local institutions to provide support in times of emergency.
(d) Prioritise the elements of resilience (this can be done by drawing each 'element' on a card – and getting

the group to arrange the cards in order of priority on the ground).

(e) For each 'element', get the group to characterise what different levels of 'ability to cope' look like (e.g. use a three point scale of high, medium and low ability). Where different 'dimensions' of resilience are defined, this process might be repeated for each dimension, for example: ability to cope in the short term, ability to adapt in the longer term, ability to access a key resource, etc.

(f) Get the group to consider what the key things that individuals, the community and outside organisations can do to enhance 'the ability to cope/adapt' for each element – this should provide the link between interventions and elements of resilience (it is also an important reality check to ensure the proposed project interventions are relevant to the resilience elements prioritised by the community).

(g) Across a number of such FGs, the results from step (d), combined with information from key informants and past locally relevant experience, and knowledge of the proposed intervention, should be used to identify the elements of resilience to be used to measure KPI4, and to construct appropriate context-specific indicators (Step 3).

(h) Baseline and monitoring data might be collected by getting focus groups to identify how many people in their community are in each level of 'ability to cope'. Alternatively, beneficiaries might be sampled by getting individuals to estimate which level they are in.

2. Use of scale or H-forms

Another way of approaching the gathering of baseline and monitoring data, without the need to define levels in advance, is to use an scale or H-form. This is a form with a horizontal axis running between two extremes (e.g. very low ability to cope and very high ability to cope), which forms the 'H'. Respondents place a cross at a position along the horizontal axis to indicate their own situation. Responses can be converted into categories or scores based on the position of the cross along the horizontal axis. Changes in positions along the axis over time can be assessed to monitor how resilience is changing. Reasons for a low or high score for a particular individual, or general factors that determine whether a score is low or high, can be noted at the appropriate extremes of the 'H', e.g. using cards or post-it notes. These can provide similar information to that generated in activities (b) and (c) above (the latter if people are asked to arrange answers in order of importance). Information similar to that in activity (g) might also be recorded as part of an H-form exercise.

3. Participatory resilience rankings

Well-being ranking is an established technique for enabling a group of key informants to rank the 'well-being' of households in a specific community. It should be possible to use a similar methodology to rank households according to 'ability to cope with climate change'. Such an approach can be used:

(i) To monitor change over time, and interrogate reasons for changes in resilience, thus also providing information on attribution/contribution.

(j) As a starting point for discussion of components of resilience and associated indicators (why are these households at the bottom? What are their key characteristics?, etc.), and thus as an aid to the definition of resilience indicators.

Improved resilience is viewed as an outcome, and improved well-being as an impact, in the resilience theory of change (as shown in Figure 1 above). Participatory well-being rankings are also useful for tracking changes in well-being over time that can be linked (or not) with changes in resilience over time. Well-being rankings therefore complement resilience rankings by allowing us to test (i) a project's theory of change (ii) the appropriateness of the resilience indicators selected, and (iii) the extent to which improved resilience results in improved well-being in the longer term.

Box 2. Dimensions of resilience

A number of studies define 'dimensions' of resilience, which have similarities to the five dimensions or 'capitals' defined in earlier livelihood frameworks. For example, a study by Oxfam GB defines five dimensions of resilience which were applied to a study of disaster risk reduction in Ethiopia's Somali region[6]. A study commissioned by DFID and undertaken by the authors of this guidance reviewed a number of methodologies for measuring resilience, and identified nine, very broadly defined, 'dimensions' of resilience based on these methodologies[7]. These are listed below. Dimensions 1-5 were common to all the methodologies reviewed that defined dimensions of resilience. Dimensions 6-9 represent factors that were identified by a subset of the methodologies reviewed. It is not recommended that these dimensions are used in a prescriptive manner. However, they may be useful as a loose framework for guiding the process of identifying contextual factors that are important in influencing resilience.

1. **Assets,** including physical and financial assets, food and seed reserves, and other assets that can be deployed or realised during times of hardship to help people absorb losses, and recover from stresses and shocks. Debt could be considered as a negative asset.
2. **Access to services**, including water, electricity, early warning systems, public transport, and knowledge and information that helps people plan for, cope with and recover from stresses and shocks, and how vulnerable these services are themselves to shocks and stresses.
3. **Adaptive capacity**, including factors that specifically enable people to anticipate, plan for and respond to changes (for example by modifying or changing current practices and investing in new livelihood strategies). The ability to adapt to changes in any of the other dimensions listed here might also be included.
4. **Income and food access**, including the vulnerability to shocks and stresses of income sources and food supplies (including food prices/ability to purchase or otherwise access food, and the vulnerability of food supply chains to local and remote shocks and stresses).
5. **Safety nets**, including access to formal and informal support networks, emergency relief, and financial mechanisms such as insurance.
6. **Livelihood viability**, in terms of the extent to which an individual's livelihood can be sustained in the face of a shock or stress, or the magnitude of shock or stress that can be accommodated before a livelihood ceases to be viable.
7. **Institutional and governance contexts**, including extent to which governance processes, institutional mechanisms, policy environments, conflict, and insecurity constrain or enable coping and adaptation. It can include community level capacity to cope with and adapt to shocks and stresses and to support those living within it.
8. **Natural and built infrastructural contexts**, including extent to which coping and adaptation is facilitated or constrained by the quality of built infrastructure (e.g. roads), the quality/functioning of environmental systems/natural resources (e.g. health of ecosystems providing livelihoods), and geographical factors (e.g. remoteness) and the vulnerability of the infrastructure to shocks and stresses.
9. **Personal circumstances**, including any factors not covered by other dimensions that might make an individual more or less able to anticipate, plan for, cope with, recover from, or adapt to changes in stresses and shocks. These might include psychological resilience, past experience of coping, personal connections (social capital), health, socio-economic status, etc.

Coping capacity versus adaptive capacity

A commonly used dimension of resilience is 'adaptive capacity', which addresses people's ability to modify their behaviour and (e.g. livelihood) practices to respond to longer-term changes in climate and other phenomena. It is important to consider the relative importance of factors that affect people's ability to cope in the short term, and factors that affect their ability to adapt in the longer term. This will depend on the nature

[6] Hughes, K. 2013. A Multidimensional Approach for Measuring Resilience. Oxfam GB Working Paper. Paper presented at the Expert Consultation on Resilience Measurement Related to Food Security sponsored by the Food and Agricultural Organization and World Food Program, Rome, Italy, February 19-21, 2013

[7] Brooks, N., Aure, E. and Whiteside, M. 2014. Assessing the impact of ICF programmes on household and community resilience to climate variability and climate change. Evidence on Demand for DFID.

of the stresses and shocks faced, and the timescales with which a project is concerned. Coping capacity should not be built at the expense of adaptive capacity where this risks locking people into systems or behaviour that may be more resilient to some shocks (e.g. those faced in the near term) but at greater risk of catastrophic collapse from others (e.g. those to which populations might be exposed in the medium to long term). While participatory assessments may be very effective at identifying factors important for coping capacity (based on recent historical experience), they may be less useful in identifying factors that can help people adapt, due to a lack of historical precedent on which to base such identification. Nonetheless, where climate trends are already well established, factors that have enabled people to adapt to recent changes might be identified.

4. Develop indicators of resilience

Develop indicators that capture the aspects of resilience identified in Step 3 **that the project seeks to address or is likely to influence**. These indicators need to link project outputs with intended project impacts in a way consistent with a project's theory of change and with the overall resilience theory of change (Figure 1). Resilience indicators track the changes that are expected to occur at the outcome level, as a result of project interventions.

Beneficiaries should have a role in the selection and verification of indicators, which will be highly context-specific, and this can be via an extension of the participatory processes associated with Step 3 above. Resilience indicators should clearly link project outputs (the mechanisms through which the project seeks to increase resilience/reduce vulnerability) with the factors that make people resilient, based on the findings of participatory surveys and other methods as detailed in Step 3.

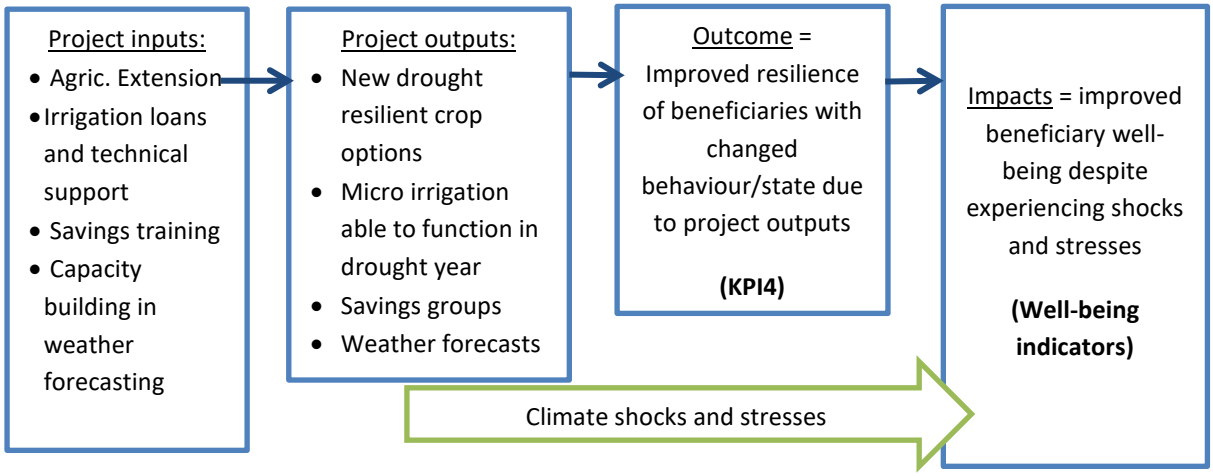
Resilience indicators and their relation to project outputs

Resilience indicators should seek to capture changes in people's behaviour or circumstances that will make them better able to anticipate, avoid, plan for, cope with, recover from, and adapt to the shocks and stresses that they are likely to face in the foreseeable future. As projects will be designed to deliver outputs that (it is assumed) will deliver such changes, measures of resilience might be based on the uptake of project outputs. Such indicators would seek to measure how many beneficiaries (i.e. people receiving support from a project) actually translate that support into the changes in practices or circumstances in which it is intended to result. These indicators might also seek to measure the sustainability of such changes (e.g. will they persist after the project ends?). Box 3 provides an example of the measurement of resilience attributes for a project that promotes the adoption of drought resistance crops and the use of micro-irrigation, and supports the development and dissemination of seasonal or shorter-term forecasts and savings schemes. These measurements are combined into a single indicator of resilience (see also discussion below).

In the example in Box 3, indicators 1-4 effectively measure changes in behaviour to which project outputs are thought to have contributed, and which the research conducted as part of the project design process has indicated should increase the resilience of beneficiaries to climate shocks and stresses. Indicator 5 (current savings) measures a change in circumstances that may be due to a number of project outputs (i.e. participation in the savings groups and income from the micro-irrigation), and which is also expected to contribute to increased resilience in its own right.

Box 3. Example: Project X develops project related resilience measure

Project X has used existing experience and a series of structured qualitative enquiries to identify a Theory of Change. They have identified increasing unpredictability of rain as a major cause of shock and stress. A combination of project inputs have been designed to address this :



Theory of change (ToC): a combination of adopting a drought resilient crop, using micro-irrigation, family membership of a saving group and making use of weather forecasting for deciding when to plant constitutes improved resilience due to the project, which will enable well-being to be maintained in a drought year.

Building on focus group discussions and pilot experience with the project activities, Project X decides to use five resilience indicators that are closely linked to the outputs of the project and can be easily surveyed by asking 'yes/no' questions of beneficiaries. It can therefore count the number of beneficiaries that are:

1. Growing one or more drought resistant crop on > ¼ ha for > 2 years
2. Using micro-irrigation on > 1/10 ha
3. Have used a weather forecast in last 2 years to decide when to plant
4. A family member in a savings group
5. Current savings > $20

Focus group discussions by Project X suggest that the combination of indicators may be important in conferring resilience. It also wants to avoid the possibility of double counting if the same beneficiary fulfils more than one indicator. Project X therefore decides to create a project specific composite resilience index, and as it doesn't have information on which is most important in conferring resilience it decides to weight each equally. It therefore assigns a score of one to each indicator satisfied and zero to any not satisfied and adds these together:

Indicator	Yes	No
1. Adopted one drought resistant crop on > ¼ ha	1	0
2. Using micro-irrigation > 1/10 ha	1	0
3. Have used a weather forecast in last 2 years to decide when to plant	1	0
4. A family member in a savings group	1	0
5. Current savings > $20	1	0
Total project attributable[8] resilience score	**0-5**	

Project X has therefore produced a single measure of predicted resilience, with a range of 0-5, that is closely

[8] Assigning the degree of attribution is discussed in section 8

linked to the changes it is promoting as a project. How this resilience score is used to calculate KPI 4 will be explained in following sections.

Different types of indicators

Indicators are often considered to be either qualitative or quantitative. However, in practice this distinction may be somewhat artificial. Household surveys or focus groups may ask questions that seek to elicit perceptions/opinions from beneficiaries. These are usually considered as generating qualitative data/information. However, a project might convert the qualitative responses to such questions into quantitative data for analysis. For example, beneficiaries may be asked whether they think their new crop combination is significantly more, slightly more, the same, slightly less or significantly less drought resistant than the traditional combination. These answers can be used to assign scores (e.g. from 1-5) to beneficiaries, which can be manipulated quantitatively.

Quantitative indicators, whether measured directly or derived from qualitative information, can be of three types:

1. **Binary,** usually where the answer is yes or no, and a score of 0 or 1 is assigned according to whether or not a beneficiary meets a particular criterion.
2. **Categorical or score based**, based on assigning a beneficiary a score (e.g. 0-3 or 0-5) representing a category or level of resilience (e.g. low, moderate, high). Score-based indicators are discussed in more detail below.
3. **Continuous**, based on measurement of a continuous variable such as household income, time to recover from a previous shock, etc.

All of the above types of indicator can be used to track changes in resilience. In practice, a project may use a diverse mixture of these indicators, all of which can be used to indicate whether an individual has become more or less resilient over time. However, if a project seeks to combine different indicators into one or more composite indices, there are a number of issues that need to be considered, as discussed below.

Individual indicators versus composite indices

A project will need to decide whether it will use composite indices, constructed by aggregating individual indicators, or use individual, disaggregated indicators. The options with respect to aggregation are as follows:

A. **Do not aggregate, and use a number of individual indicators**, each representing a different aspect of resilience that is relevant to the project, which are measured and recorded separately for each individual sampled.

B. **Develop several composite indices**, each perhaps representing a different ***dimension*** of resilience that is relevant to the project, e.g. income & food access, safety nets, access to services, adaptive capacity, etc. (Box 3). See Box 4 for a discussion of the construction of composite indices.

C. **Develop a single composite index**, combining all the elements of resilience that are relevant to the project. This may involve combining individual indicators or a number of already composite indicators. See Box 4 for a discussion of the construction of composite indices.

Where a project employs one or more composite indices, it is strongly recommended that the disaggregated data representing the individual constituent indicators are preserved. This enables the relative importance of individual indicators and the factors they represent to be interrogated, which is important for understanding how and why resilience has changed. This is vital both for learning and for assessing the contribution of the project to individual measured changes in resilience.

Box 4. Constructing and using composite indices

Where a project uses one or more composite indices it may be necessary to aggregate a number of different types of indicator (e.g. qualitative, quantitative, continuous, binary, etc.). This will require the conversion of all the indicators to be aggregated into a common format. This may be achieved in either of the following ways:

1. Convert to scores, e.g. 1-3 or 1-5

Conversion of indicators into discreet scores means that a composite index can be constructed by adding or averaging scores across its constituent indicators. Conversion to scores can be carried out as follows for different types of indicators:

- **Categorical indicators** can be created from qualitative information by associating different answers to survey questions with different scores. For example, a survey might ask beneficiaries how well they think they would cope with a drought of a particular severity if it occurred within the next few months, and score them from 1-5 based on which of 5 options they gave as an answer. The horizontal axis on an H-form can be divided into a number of equal divisions, and scores assigned based on the division into which a beneficiary's answer falls.
- **Binary indicators** can be given a score of 1 or 0 and combined into composite indices as in the Project X example in Box 3 above.
- **Continuous variables** can be converted into scores by dividing the actual or possible range of a variable into a number of divisions (e.g. 5). A beneficiary will then be assigned a score (e.g. 1-5) based on the value of the variable they report (e.g. household or individual income, value of certain assets, time spent collecting water etc.). The divisions used for a continuous variable should be the same for baseline and subsequent sampling.

The above techniques mean that qualitative, binary and continuous indicators can all be converted into scores (essentially becoming categorical indicators) that can be summed or averaged to create the composite index. Depending on the nature of the individual indicators used to construct the index, the resulting scores might be associated with levels of resilience (e.g. very low, low, moderate, high, very high). **However if all the indicators that make up the composite indicator are considered to have the same weight – then they should be converted to the same range before they are added or averaged (i.e all with range 0-1, or all with range 1-3 or all with range 1-5).**

2. Convert into a value within a continuous range, e.g. 0-1

Another way of harmonizing different indicators is to standardize them so that they all represent a range of values from, for example, 0-1 or 0-100. This can be done by dividing indicator values (as associated with different beneficiaries) by the maximum value in the range (to yield a range from 0-1). This maximum value might be a maximum possible value (e.g. number of days in a year or season when a beneficiary had two meals), or a subjective reference value (e.g. income of wealthiest household). This technique works well for continuous variables and can also be applied to categorical or score based indicators or composite indices constructed from these categorical indicators.

Once all the relevant indicators have been standardized to the same range, they can be summed or averaged. Depending on the nature of the individual indicators, thresholds might be defined above or below which beneficiaries are assessed as resilient.

Weighting indicators within a composite index

If composite indices are to be used, project staff will need to determine how their constituent indicators should be weighted, based on their relative importance. This identification of weights might involve statistical assessment, based on the strength of the correlation between individual resilience indicators and the impact indicators that are relevant to the project. However, weights are more usually assigned on a subjective basis according to the perceptions of beneficiaries, project staff, or other stakeholders or experts. No/equal weighting might be applied where there are no strong grounds for judging some indicators to be more important than others. Multiple indicators that are strongly related to each other will represent a de facto weighting in favour of the factor(s) they measure: in the example in Box 3 all five indicators are given equal weights, but there are two indicators related to savings, meaning that savings will be weighted as more important than the factors represented by the other indicators.

General considerations when developing indicators

The following general points should be kept in mind when developing indicators:

a. For the purposes of reporting against KPI4 the indicators need to focus on those aspects of resilience **influenced by the project**, and not all the possible factors that might affect resilience. However, monitoring other aspects or dimensions of resilience not directly targeted by the project might be useful for understanding unexpected results (Step 5), and for understanding changes to the wider resilience context.

b. For formal reporting, KPI4 only requires that indicators measure whether resilience has improved. Normally projects will have to decide what change in indicator score constitutes sufficient improvement to report against KPI4 (i.e. to say that resilience has increased) for a given indicator in a given context. This may involve estimating the change in numbers exceeding a specific threshold before and after the project. However, while collecting data for reporting against KPI4, projects may collect data that can be analysed in a range of ways for additional learning. For example, Project X counts the numbers crossing different resilience thresholds, but could also calculate average resilience scores before and after the project, and the (different) percentage improvements for males and females or for other types of beneficiary (see Box 6 below). All this information can be helpful for learning about project outcomes, in addition to reporting against KPI4.

c. Different indicators might be appropriate for measuring changes in resilience for different groups of beneficiaries (e.g. differentiated by gender, livelihood, etc.). This does not preclude later aggregation to calculate overall numbers with improved resilience, or aggregation of numbers moving from one resilience category to another (e.g. medium to high).

d. When aggregating numbers with improved resilience due to different overlapping components of a project, some thought is needed to avoid double counting.

e. In the case of indicators based on continuous variables or categories, the crossing of a particular threshold may be required in order to say that resilience has actually improved. For example, a small increase in water availability may be insufficient to improve the resilience of cropping systems if it means that critical deficits are still experienced during critical periods. In this example, resilience might be said to have improved only if water availability exceeds a certain threshold, which might be measured in terms of quantity (e.g. if water is stored locally for irrigation) or duration (e.g. where water is made available during certain periods of deficit by releasing it from regional storage facilities such as dams).

Table 2 sets out the criteria for meeting Bronze, Silver and Gold standards in indicator development.

Table 2. Different standards for the identification and construction of indicators.

	Bronze	Silver	Gold
Type of indicator and evidence base	Indicators based on ToC informed by key informants with limited empirical evidence or participatory information from a representative sample of potential beneficiaries. Indicators may measure direction of travel only (e.g. subjective indicators that ask beneficiaries whether they are more or less vulnerable with respect to different factors).	Indicators based on a ToC informed by either empirical evidence (e.g. previous experience in a similar context of the resilience outcome indicators being correlated with well-being impact) **OR** informed by robust participatory inquiry with representative samples of future beneficiaries.	As Silver, with indicators informed by a combination of empirical and participatory evidence.
Weighting of indicators	All indicators given equal weights (composite indices) or treated as equally important (individual, disaggregated indicators).	Relative importance of indicators considered, with weights or importance assigned based on subjective criteria.	More quantitative approach to assigning of weights, e.g. through statistical assessment of proportion of impacts (reduced losses, improved well-being) predicted by each indicator and/or robust evidence from participatory enquiry.
Thresh-olds and relation-ships between indicators	Indicators are assumed to be independent and incremental (i.e. higher score means more resilience; improvement in larger number of indicators means bigger improvement in resilience).	Evidence that project has considered importance of thresholds and coupling between indicators (e.g. improvement required in multiple related indicators for resilience to be said to have improved).	As Silver, with empirical evidence used to identify thresholds and sets of coupled indicators.

5. Establish how to identify unexpected consequences

Project M&E systems should include mechanisms for identifying and tracking potential 'unintended consequences' of the project on resilience (Box 5). At the very least these should include provision for open-ended qualitative questioning of beneficiaries at regular intervals, e.g. using key informants to ask if any unintended consequences have been noticed.

Unintended consequences are often discovered at the evaluation stage. However it is far preferable to identify, mitigate and monitor any unintended consequences from early on.

If some **potential unintended consequences** are identified in advance these might be tracked using additional indicators. For a project to demonstrate increased resilience as required by KPI4, improvements in indicators associated with targeted aspects of resilience would need to be accompanied by evidence that the project had not resulted in a deterioration in other aspects of resilience due to 'unintended consequences'. This might be achieved by using 'unintended consequences' indicators or by obtaining beneficiary feedback on the presence or absence, nature and extent of any unintended consequences (or a combination of both).

Box 5. Example – potential unintended consequence of Project X

Project X is promoting both more resilient food crop production and participation in savings groups. A potential unintended consequence was identified in project planning, namely that households might sell small amounts of stored crops on a fortnightly basis in order to meet the savings requirements of the savings groups, leading to a reduction in level of crop stored, and therefore undermine resilience.

Therefore Project X introduced an additional factor into its monitoring – the amount of crop remaining in storage at the start of the hungry period. This enables Project X to track whether saving groups participants end up with less grain in store and factor in this potential unintended consequence into its programming.

Treatment of unintended consequences for bronze, silver and gold standards is summarised in Table 3.

Table 3. Different standards for addressing unexpected consequences and confounding factors

	Bronze	Silver	Gold
Unintended consequences	Evidence that unintended consequences have been considered, e.g. at start of project with follow up qualitative assessments	Clear mechanism for tracking unintended consequences with regular review	Tracking unintended consequences using indicators developed for this purpose

6. Develop a sampling methodology

Most projects have identified beneficiaries – these may be people living in the geographical area covered by the project, particular types of individual or household, or people involved in one or specific project activities. Projects need to know the number of their target beneficiaries and they will need to identify a sample of their beneficiaries at intervals in order to measure changes in resilience indicators over time.

Projects do not need to survey every individual, but need to make sure the sample chosen is representative and of sufficient size that results may be scaled up to the beneficiary population as a whole with the required level of confidence. Projects should seek statistical advice on sample frames and sample numbers, as well as on the use of different sampling techniques used for large-scale household or individual surveys, panel surveys that track the same individuals over time, and/or focus group approaches that collect more qualitative data. The sampling approach selected,

including the sample size calculation will have implications for how the number of people with improved resilience is counted, as discussed below in Step 8.

Projects will need to identify how frequently they will sample beneficiaries to measure changes in resilience using the indicators developed under Step 4. At the very least, projects will need to gather baseline data before or very close to the start of the project, and a further set of data at the end of the project for comparison with the baseline data. However, more frequent sampling during a project's lifetime may be desirable, where resilience indicators are expected to exhibit changes on sufficiently rapid timescales. Such sampling might be done annually.

Continuing to monitor beneficiaries after the project has ended (ex-post) is useful to test whether any improvements in resilience have been sustained, and to examine the longer-term influence of a project. It is conceivable that some changes in resilience may not be apparent until after a project has ended, making ex-post monitoring and evaluation essential.

Where resilience indicators are to be compared with impact indicators (an issue that is outside the scope of this guidance), the latter might need to be measured after a project has ended because of the timescales associated with the evolution and impact periods of some climate stresses and shocks. Table 3 provides guidance on sampling intervals for different measurement standards.

Quantitative measurement of KPI4 should be complemented by some qualitative explanatory inquiry on stakeholder perceptions - to understand the reasons why changes in the predicted elements of resilience did or did not actually contribute to improved well-being and why.

Measurement of resilience indicators should ensure that data can be disaggregated so that results may be examined for different beneficiary categories. At the very least data should be disaggregated by gender. However, there may be systematic differences in resilience, and in the extent to which a project improves resilience, between other categories of beneficiary. These categories might be based on age, location, livelihood, or other social, economic or cultural differences (Table 4). However projects should note that if they wish to analyse and present data disaggregated beyond gender, this is likely to require significantly larger sample sizes. Statistical advice should be sought on sample sizes.

Table 4. Different standards for sampling

	Bronze	Silver	Gold
Timing	Baseline and end	Include an ex-post measurement	Include one or more ex-post measurements
Disaggregation[9]	Gender	Gender + other pre-determined classes	A range treated as independent 'explanatory' variables

[9] With a greater level of disaggregation the survey sample size will need to be larger – statistical advice should be sought.

Counter-factual	Before/after	Use of some mechanism to compare 'with/without' such as a phased intervention approach (e.g. where some beneficiaries start receiving project inputs at an earlier stage than others)	Some experimental or quasi-experimental design.

7. Calculate numbers of individuals with improved resilience as measured by indicators relevant to project activities and outputs

This step describes a number of approaches for calculating the numbers of people with improved resilience as measured by project-relevant indicators. These indicators measure changes in aspects of resilience targeted by or potentially influenced by the project (these aspects of resilience may also be influenced by factors outside the project). They will include indicators intended to capture unexpected consequences as described in Step 5. The resilience of some individuals may increase, while that of others decreases. What is being reported in KPI4 is the net change (i.e. numbers with improved resilience minus numbers with worsened resilience).

The approach selected for calculating the numbers of people with improved resilience will depend on the sampling methods and types of indicators used. Different ways of calculating numbers with improved resilience will be needed depending on whether data are collected using panel/ longitudinal studies that sample the same individuals over time, or random sampling that involves different individuals for each sampling time. The method of calculation will need to be modified further depending on whether the project employs multiple indicators, multiple composite indices, or a single composite index. The calculation of numbers with improved resilience for different sampling methods, and different approaches to aggregation, is discussed below.

This step does not address the extent to which the measured changes can be attributed to the project; this issue is addressed below in Step 9.

1. Panel data / longitudinal studies that sample the same individuals

Where the same individuals are sampled over time, it is possible to look at how the resilience of these 'representative' individuals changes between two sampling period. Given a sufficient sample size, the proportion of sampled individuals with improved resilience can be assumed to represent the proportion of beneficiaries with improved resilience, allowing absolute numbers with improved resilience to be estimated. This process can be repeated for different groups of beneficiaries such as men, women, different livelihood groups or age cohorts, etc. As indicated in Step 7 above, statistical advice should be sought on appropriate sample sizes, with larger samples being required where data are to be disaggregated.

Different approaches will be required for the analysis of panel data depending on the nature of the indicators used, as discussed below.

A. Single indicator or composite index

Where a single composite index is used to measure resilience, KPI4 is calculated from the number or people in the sample showing a sufficient change in indicator value or index score in the desired direction, minus the number showing a change in score in the opposite direction.

B. Multiple composite indices or small number of individual indicators

Where more than one composite index or a small number (e.g. <5) of individual indicators is used, the number of people in the sample with improved resilience might be the number showing an improvement in one or more index/indicator and no deterioration in the others, minus the number showing a deterioration in one or more index/indicator and no improvement in the others. Individuals who show a mixture of improvement in some indices/indicators and deterioration in others should be viewed as having neither improved or reduced their resilience, and should not be included in the calculation. However, their numbers should be recorded.

This methodology might be refined where there are grounds for arguing that deterioration in some indicators/indices is outweighed by an improvement in others. This might be based on the numbers of indicators showing improvement/deterioration, or on the relative importance of different indices/indicators. These grounds will depend strongly on context and the nature of the indicators used.

C. Multiple disaggregated indicators (large number)

Where a large number (e.g. ≥5) of individual indicators is used, a practical approach to establishing whether resilience has improved for a beneficiary is to examine whether improvements are seen in a minimum number of indicators X, with deterioration in a maximum number of indicators Y. The values of X and Y should be set by project staff, based on their understanding of the aspects of resilience represented by the indicators. If the factors represented by the indicators are such that resilience improves incrementally for each indicator that shows an improvement, then (project-relevant) resilience may be said to have improved as long as X is greater than Y.

However, the different factors that contribute to resilience might interact in a non-linear manner, meaning that indicators do not represent incremental improvements in resilience. In such cases, X might be significantly greater than Y, and a necessary condition for improved resilience might be that a set of 'core' indicators show an improvement or remain stable. These core indicators might be related to each other in such a way that an improvement in one indicator only translates into improved resilience if it is paired with improvement or stability in one or more other indicators. For example, an improvement in a beneficiary's access to a certain resource (e.g. grazing land) might only improve their resilience if the quality of that resource is maintained (e.g. sufficient pasture is available) and their access does not bring them into conflict with other users (e.g. conflicts over access/use are rare).

Whether indicators can be treated as demonstrating incremental improvements in resilience, or whether more complex relationships between indicators mean that improvements must be seen in a core group of indicators, must be judged by project M&E staff. Once staff have considered these context-specific factors to determine how to define improvements and deteriorations in resilience,

they can calculate the net number of beneficiaries with improved resilience in a similar manner to A and B.

2. Periodic surveys

A succession of random representative surveys, collecting resilience indicator information from different people/households at different points in the project cycle, can tell us how many people are at a certain level of resilience or within a certain resilience category (e.g. low, moderate, high) at a given point in time, and therefore how overall numbers in these categories change over time. However, they do not allow us to track changes in the resilience of particular individuals over time as we would in a longitudinal study. Neither can we add changes in the numbers of people in different categories to calculate numbers with increased or decreased resilience across the entire range of categories, due to uncertainties about the way people move between categories. For example, if the number of people in the low resilience category decreases by 100 and the number of people in the high resilience category increases by 100, is this the result of 100 people moving directly from the low to high category, or of 100 people moving from the low to moderate category, and a further 100 moving from the moderate to high category? Numbers with increased resilience would be twice as great in the latter case.

The most practical way of measuring numbers with improved resilience through the use of periodic random sampling is to define a single threshold and estimate the net change in numbers above this threshold between two sampling periods. This will be the number with improved resilience that can be used for reporting against KPI4. This approach is illustrated for Project X in Box 6.

This 'net change' in resilience may mask significant changes in individual resilience:

- If some beneficiaries fall below the threshold as others rise above it, project staff may want to estimate how many beneficiaries have crossed the threshold in each direction – not just the 'net' number;
- Project staff may want to know by how much individual beneficiaries have improved (or reduced) their resilience, not just whether, and many, beneficiaries have crossed a single, fixed threshold.[10]

Beneficiaries may experience improvement or deterioration in resilience without crossing the threshold, meaning that the use of a single threshold is likely to underestimate changes in resilience. Longitudinal studies are much better at revealing nuances of change over time for different categories of beneficiary.

3. Measuring 'direction of travel' in a sample survey

Within a survey, in addition to collecting data representing the values of resilience indicators in a particular point in time, it is possible to ask supplementary questions regarding whether a particular indicator is increasing, staying the same or decreasing (e.g. has the amount of money you have saved increased, decreased or stayed the same since this time last year?). This type of question is particularly useful for KPI4, as it provides direct information on the numbers who report

[10] There may also be a danger of concentrating on the 'quick wins' just below the threshold, which are easy to get above it, rather than the more intractable vulnerable categorise.

improvements in resilience and in resilience indicators. This 'direction of travel' information can be used to show perceived changes in resilience in a single survey, or to triangulate resilience indicator data from a series of surveys at different times – perhaps providing an indication of how many beneficiaries are becoming more resilient, staying the same, or becoming less resilient, to help explain the net number crossing a threshold as described above.

Results from 'direction of travel' questions can also be used to estimate KPI4 directly. However, project staff will have greater confidence in their measurement of resilience where questions on the 'direction of travel' are used to complement quantitative indicators such as those described above. Used in isolation, 'direction of travel' information would qualify a project for the bronze rating in terms of calculating changes in resilience. If used in isolation, a context specific decision would need to be made on how many indicators would need to move in the 'right' direction to indicate an improvement in resilience as relevant to the project, and thus be counted for KPI4.

Box 6. Example - Project X calculates numbers of individuals with improved resilience as measured by indicators relevant to project activities and outputs, represented by a scoring system

We saw in Box 3 how Project X had constructed an individual's resilience score ranging from 0-5. Project X, following statistical advice, conducted a representative sample survey at the beginning and end of the project of its 10,000 beneficiaries. From these surveys it was able to estimate the number of its beneficiaries in each resilience score category at the baseline and end of the project:

Resilience score	Number of individuals			
	Baseline		End line	
	Female	Male	Female	Male
0	2,000	1,000	500	500
1	2,000	1,000	500	500
2	1,000	1,000	1,000	1,000
3	250	750	2,000	1,000
4	250	750	1,000	1,000
5			500	500
Total	**5,500**	**4,500**	**5,500**	**4,500**

Project X decides that to be considered significantly resilient an individual should have a resilience score of three or more. It therefore calculates that at the baseline only 500 females and 1,500 males of its 10,000 beneficiaries were above this threshold. However by the end of the project 3,500 females and 2,500 males are above the threshold. Therefore Project X estimates that 3,000 females and 1,000 males had improved resilience from below to above the threshold measured by its resilience score. Estimates of attribution of this change to Project X are discussed in the next section.

Note: In addition to just counting the numbers crossing a resilience threshold, the figures can tell us much other interesting information. For instance the average scores at the baseline and end line can be calculated and the percentage increase for females and males calculated.

4. Estimating number of individuals from household surveys

An issue for many projects will be how to calculate KPI4 resilience data for individuals using data from surveys conducted at the level of the household.

There will usually need to be a number of context specific assumptions made when estimating individual numbers from household survey data. Some of these assumptions can be informed by questions in the household survey – such as the numbers in the family, ages, sexes etc. Some other assumptions will require qualitative enquiry and perhaps some detailed intra-household investigation.

At the most basic (bronze) level, if a household reports a change in resilience, information on household size and composition can be used to estimate numbers with improved resilience. It is important to estimate numbers and sexes from the actual sample households showing improved resilience – rather than multiplying up from the average household composition across the whole area – as households with increased resilience could be bigger or smaller, or with more or fewer beneficiaries of a particular type (e.g. female) than the average.

At the next level (silver), the calculations for bronze would be complemented with qualitative information on how different resilience indicators affect different household members. For example, it might be found that only women are involved in savings groups, and the resilience benefits from their participation only benefit the woman involved and their pre-school aged children. Therefore only these would be counted in relation to this indicator. In another example, a safety net might comprise a school feeding programme for children at primary school in times of shock. Qualitative inquiry might be required to assess whether the benefits from this also extended to other family members (more family food for everyone else) or not – and the calculation done accordingly. In yet another context it might be found that improved household level resilience indicators affect all household members more or less equally, and therefore the estimates made at the bronze level still hold true – but with stronger supporting evidence).

At the gold level some additional intra-household individual quantitative data collection and analysis would be used to track actual expression of resilience indicators at the individual level – preferably in relation to actual shocks and stresses.

Table 5. Different standards for calculation of numbers with improved resilience

	Bronze	Silver	Gold
Survey type	Simple direction of travel survey showing numbers with resilience indicators improving, staying the same, deteriorating	Combination of change in numbers exceeding a threshold and direction of travel survey information Or, panel/longitudinal tracking of resilience indicator change.	As silver but within an experimental or quasi-experimental design
Calculation of individual numbers from	Simple multiplication from numbers and sexes in households exhibiting	As bronze, but numbers adjusted or ratified by qualitative intra-household	Intra-household data either tracked individually (e.g. in panel survey) or overall

household survey data	increased resilience indicators	information	numbers adjusted through quantitative intra-household data collection and analysis.

8. Attribution - estimate numbers with improved resilience as a result of the project

Once the number of people[11] with improved resilience based on project-relevant indicators has been calculated (Step 7), the extent to which such improvements can be attributed to the project – directly or indirectly - needs to be addressed. At the very least this should consist of a convincing narrative that links measured changes in resilience to a project's theory of change. This should be based at least in part on participatory methods using beneficiary perceptions and feedback that address why measured changes in resilience as represented by the indicators developed under Step 3 did or did not occur.

A (hypothetical) **counterfactual scenario** could be presented describing the situation that would be expected to pertain if the project had not been implemented. This might simply compare the situation before and after project intervention(s), with the situation before the project representing the counterfactual. However, this needs very careful interpretation – as so many other elements are likely to be changing (including the presence or absence of climate shocks over a particular period), and so it is difficult to attribute differences in resilience as represented by relevant indicators purely to project interventions. In such a case, an argument should be presented as to why resilience would not have improved anyway, for example due to other factors or processes outside of the project context (e.g. government investment, changes in the wide economic context, and improvement in climatic conditions, etc.).

When a project is introduced in stages across an area it may be possible to compare the situation (and the resilience as represented by relevant indicators) of beneficiaries at different stages of intervention. Comparisons can be made between beneficiaries at earlier stages and those at later stages, with the former representing a type of counterfactual.

Some projects might employ a more experimental approach such as that of a randomised control trial (RCT). Control groups should have similar characteristics to beneficiaries and be exposed to the same stresses and shocks. Assessment of the resilience of control groups might involve qualitative narratives bolstered by secondary data/evidence, or the tracking of resilience among control groups using similar indicators to those applied to the beneficiaries (although this might present practical and ethical challenges). Panel surveys might also be employed, but specialised advice should be sought on how to conduct these for such a purpose. The instances in which rigorous comparisons based on randomised control trial methodologies are applicable are expected to be rare. Stern et al. (2012) conclude that only some 5% of development programmes are suitable for RCTs, although such approaches are increasingly popular in the field of development (see Box 7 for some key references on the use of control groups and RCTs). It should be stressed that most projects are not expected to use control groups. Rather, this is an option whose feasibility can be explored if it is viewed by project staff as potentially realistic and useful.

[11] Disaggregated by gender and possibly other categories

Box 7. Key references on the use of control groups and randomised control trials

Barahona, C. 2010. *Randomised Control Trials for the Impact Evaluation of Development Initiatives: A Statistician's Point of View*. ILAC Working Paper 13.

Gilbert, N. 2013. International aid projects come under the microscope: Clinical-research techniques deployed to assess effectiveness of aid initiatives. *Nature* 493, 462-463.

Humphreys, M., de la Sierra, R. S. and van der Windt, P. 2012. *Social and Economic Impacts of Tuungane: Final Report on the Effects of a Community Driven Reconstruction Program in Eastern Democratic Republic of Congo*. Columbia University.

Stern, E., Stame, N., Mayne, J., Forss, K., Davies, R. and Befani, B. 2012. *Broadening the Range of Designs and Methods for Impact Evaluations: Report of a study commissioned by the Department for International Monitoring & Evaluation.* DFID Working Paper 38.

Using some or all of the above methods, project staff should estimate what proportion of the people with improved resilience (as measured by the project-relevant indicators) can be said to have experienced improved resilience ***as a result of the project*.** For example, what is the difference in the percentage of people with improved resilience based on these indicators in target and comparison groups? What proportion of people providing feedback attribute improved resilience (partly or wholly) to assistance provided by the project? Some projects might choose to survey beneficiaries to calculate the level of contribution from a project. This might be done by asking beneficiaries whether the project contributed 'not at all', 'a little', 'somewhat', 'a lot', or 'exclusively' to any measured improvements in resilience. Other projects might seek to express the contribution of a project in percentage terms, as illustrated in the example Box 8 below.

Attribution-related questions such as those identified above should be built into any relevant questionnaires, survey forms and reporting templates. There may need to be some intra-household adjustment (or verification) of household survey data as described in the preceding section and illustrated in the example in Box 8.

Of course, any deterioration in resilience resulting from the project should also be addressed in a similar manner, based on the main project-relevant indicators and any indicators designed to capture unintended outcomes.

The information derived from such questions, or from comparisons with control groups, can be used to adjust the overall number with increased resilience as calculated in Step 7, to provide a figure for numbers with increased resilience that can be attributed in whole or in part to the project.

Box 8. Example – Project X looks at attribution

Project X has already calculated that a net figure of 3,000 females and 1,000 males have increased resilience as measured by its project specific index. However it is aware that other NGOs and the government are also working on similar activities in the same area (introducing drought resistant crops, savings groups etc.). Project X estimates that it is the biggest intervention in these sectors and that about 50% of the change might be attributable to them, and 50% to interventions by other organisations. To check this it also organises a number of focus groups in the area to discuss the changes (e.g. crop adoption, saving group participation etc.) and what has motivated individuals to change their behaviour. The focus groups confirm that in about 50% of cases, Project X was the main or only instigator of change, whereas in the remaining 50% other organisations could claim the credit. The focus groups also concluded that, although female resilience had generally benefitted more from the interventions, this hadn't been disproportionately due to the activities of Project X than the other actors, and therefore the same attribution % should apply to both males and females.

Therefore project X decided that it could claim 50% of the credit for increased resilience for both the females and males. It therefore reported that while 3,000 females and 1,000 males had increased measured resilience, of these, 1,500 of the females and 500 of the males were estimated to be mainly due to its project activities.

Table 6 details the different standards for addressing project contribution to improved resilience.

Table 6. Different standards for addressing attribution.

	Bronze	Silver	Gold
Attribution narrative	Simple explanation of how & why resilience has changed by project staff	Participatory enquiry based explanation of how and why resilience has changed. Include those who failed to benefit.	Participatory enquiry based explanation complemented by other evidence, e.g. timing of changes in factors/processes represented by indicators in relation to project activities/ outputs. Include those who failed to benefit
Assessment of contribution	Project 'contributed to' improved resilience of X number of people	Qualitative description of extent to which project contributed, e.g. significantly contribution, one of several factors, resilience would not have been improved without project; describe for different groups of beneficiaries	Quantitative characterisation that indicates the % of the total numbers with improved resilience that can be attributed to the project and/or the degree of change that can be attributed to the project.
Counter-factual	Before/after	Use of phased intervention approach to examine differences in resilience (and if possible impacts) across groups at different levels of intervention for different sampling periods.	Some experimental or quasi-experimental design (e.g. use of control groups, areas or populations).

9. Report numbers with improved resilience as a result of project support (KPI4)

To report against KPI4 a project needs to provide a figure for the **number of people whose resilience has been improved as a result of project support (disaggregated by gender).**

The number reported is the number with improved resilience linked to the project (numbers calculated in Step 7 and adjusted as described in Step 8) minus the number with reduced resilience linked to the project as a result of unintended consequences (Step 5).

Along with this headline number, it may be useful (for evaluation and learning at both the project and programme level) to report other information. Some projects might disaggregate their numbers based on categories other than gender (e.g. age, livelihood, location, etc.[12]), and add comparative information on which categories have changed most or least. This could be backed-up by explanatory information from qualitative methods.

Where a project has developed methods for measuring the degree of change in resilience (e.g. based on a simple or more complex scale), numbers of people moving from one category of resilience to another, or whose resilience has changed by more than X points, might be reported. It may also be interesting to look at the individual indicators that make up any composite indices. For example, which indicators have contributed most and least to the measured changes in resilience? This may yield information on which component of a complex project has been most effective in building resilience.

A description might also be given of those in the target area who failed to benefit from the project, with an explanation as to why this was the case.

Reporting of KPI4 should also be accompanied by some contextual information detailing how factors driving resilience that are not related to the project are changing.

Table 7 summarises the KPI4 reporting requirements for bronze, silver and gold standards.

Table 7. Different standards for reporting against KPI4

	Bronze	Silver	Gold
Headline indicator	Number	Number	Number
Categories of resilience	Improved, same, deteriorated	A simple scale	A more complex scale with the ability to divide into explanatory variables
Disaggregation	Gender	Gender + number of pre-determined categories	Gender + other categories that have been found to be associated with, systematic, statistically significant differences in indicators/ scores, based on quantitative

[12] However it should be noted that this may require increased sample size.

			assessment of indicator data
Those failing to benefit	Not required	Identify those unable to benefit from the project in area housing target population.	Quantify those unable to benefit from the project (i.e. how many people); how has their resilience changed (qualitative description or tracking using equivalent/ comparable indicators to those used for beneficiaries)
Characterisation of wider resilience context	Simple description by project staff of process and trends influencing resilience at large (i.e. outside of project context)	Estimate direction of change for processes and trends influencing resilience at large (i.e. outside project context)	Quantitative description of processes and trends influencing resilience at large (i.e. outside project context) with narrative of how beneficiaries' experiences differ from wider context

Contacts

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<table>
<tr><td>Short title</td><td>ICF KPI 5: Number of direct jobs created as a result of ICF support</td></tr>
<tr><td>Type of indicator</td><td>Cumulative (individual years summed to total): report annual in-year totals only against each milestone. These annual in-year totals should then be summed across milestones to give a cumulative total for the current spending review period (2011/16).</td></tr>
<tr><td>Key reporting requirements</td><td>Below is a list of key reporting requirements to keep in mind when making your returns. Further details are available in the text below:

<table>
<tr><th>Requirement</th><th>Summary</th></tr>
<tr><td>Is this a DRF indicator?</td><td>No</td></tr>
<tr><td>Available for reporting?</td><td>Yes</td></tr>
<tr><td>Methodology changes?</td><td>No – however clarification on attribution</td></tr>
<tr><td>Units</td><td>Absolute number of direct jobs</td></tr>
<tr><td>Attribution</td><td>Pro-rata share of public funding</td></tr>
<tr><td>Disaggregation to be reported in Knowledge Platform</td><td>• Gender</td></tr>
<tr><td>Disaggregation not reported in Knowledge Platform</td><td>• Skill level (skilled unskilled)
• Contracts (have contract/don’t have contract)</td></tr>
</table></td></tr>
<tr><td>Technical Definition / Methodological summary</td><td>This indicator aims to measure jobs created directly by ICF funded projects and programmes, disaggregated by men/women, skill level and whether employees have contracts.

The creation of unskilled jobs will be used as a proxy for employment which is accessible to the poor, who by definition have less access to education and opportunities. This will be distinguished by level of education of the employee (i.e. jobs which do not require graduation from primary school will be classified as unskilled employment, those jobs which require graduation from secondary school, or some on the job apprenticeship will be regarded as skilled). Contractual as well as non-contractual employment will be counted as a measure of formal/informal employment, and to ensure situations such as self-employment by women in the solar industry are included.

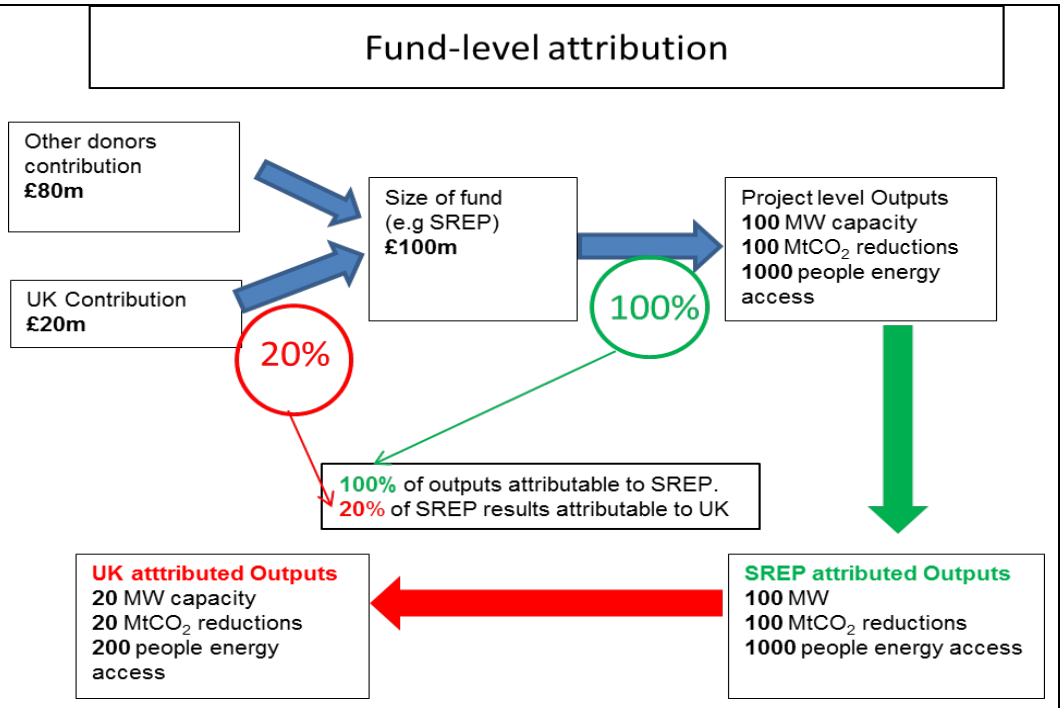
The number of new jobs created as a direct result of ICF support will be reported as annual totals and summed to give a cumulative total for the life of ICF funding.

The International Labour Organisation (ILO) and United Nations Energy Programme (UNEP) define green jobs as ‘any decent job that contributes to preserving or restoring the quality of the environment, including employment in green industries, in green occupations, and in environmental jobs.

1. Employment in green industries: Jobs in low carbon development focus on employment in green industries, defined as all jobs in green sector enterprises, or all persons who were employed in at least one green enterprise, whether it was their main or secondary job. Green industries are those enterprises where all or the majority of goods and services produced are green, as well as those industries handling and selling green goods and services. (This would include India’s barefoot female engineers who have new jobs and training to maintain small scale solar installations). For Low Carbon Development (LCD) goods or services supported for implementing or maintaining a low carbon pathway, and jobs arising through improving access to energy would be</td></tr>
</table>

	included. The indicator *will not measure jobs in agriculture for LCD* unless the programme is explicitly involved in the supply and use of clean fuels or resource efficiency processes. As many developing economies are agriculture-based, the penetration of LCD risks over exaggeration if the definition is expanded to include agriculture. 2. **Green occupations** are defined as those in green or non-green enterprises associated with greening production processes, in their own place of employment. This might best cover the definitions of green jobs associated with agriculture – and could potentially be used by the adaptation and forestry themes. 3. **Environmental jobs** are defined as those which have a direct link to protecting or enhancing environmental quality. These activities typically provide public goods where no private markets exist eg in national parks. The ICF will also measure the proportion of the workforce in the environmental goods and services sector at the country level. Environmental goods and services (EGS) refers to those involved in the 'deployment of clean energy, and in the support of environmental and emerging low carbon activities', as defined (in the UK context) by a report for BIS (Innovas solutions, 2009). This excludes agriculture.
Rationale	An intended outcome of greater investment in LCD, adaptation and forestry is the increased prosperity of people in developing countries, and increased resilience of the poor. Jobs and employment are a critical co-benefit of low carbon development, and vital in creating a supportive political economy environment, not least amongst domestic constituencies, in persuading low and middle income countries to adopt low carbon pathways. Research by ILO and UNEP indicates that green investment can contribute positively to job creation. This indicator will provide data which contributes to and deepens that analysis. Jobs created through forest plantations, smallholder agricultural schemes, and outgrower schemes are also highly significant for the broader rural economy. However, the distinction between adaptation, agriculture and low carbon themes is not entirely mutually exclusive. The creation of green jobs in the low carbon sector will contribute to resilience, through offering alternative or additional livelihoods strategies. And the use of agricultural products such as *bagasse* for energy production, for example, has positive impacts on employment at the farm level, in terms of creating new jobs and distribution networks. The ILO have provided comments on the use and definition of this indicator, and aim to use all relevant data and research at the 2013 International Conference of Labour Statisticians to further develop statistical standards and internationally harmonised statistical indicators for the employment impacts of greening the economy. We are working closely with the ILO, and with colleagues in the CIF admin unit and the multilateral development banks, who have committed to using a jobs indicator in response to requests from bilateral donors. There will also be scope for programmes to coordinate with representatives in country offices.
Country office role	Indicator (i) for each of their climate change programmes country offices will need to work with partners and other stakeholders to track this indicator. We envisage that where possible, staff will coordinate with local ILO offices; (ii) no

	role – will be calculated by desk based research at central level, supported by staff in country offices as and when appropriate. This has already been budgeted for in the concept approved under ICF financing.
Data sources	(i) Project level M&E. Discussions with partners in the Climate Investment Funds suggest that many private sector investment programmes are already beginning to measure this indicator (eg Asian Development Bank CTF programmes). (ii) Country level data available from business/commerce Ministries (where possible). The overall proportion should be a weighted average (by population) of the individual proportions in each country. Data from labour force surveys and on Small and Medium Enterprises (SMEs) will be used to triangulate data, where available.
Reporting organisation	DFID internal
Data included	
Formula/Data calculation (including attribution rule)	(i) Direct jobs created by ICF funded projects. (ii) The proportion of the workforce working in the environmental goods and services sector (i.e. number of people in the environmental goods and services industry/ total number of people in the workforce). Where HMG are only funding part of the project, benefits (number of people) should be calculated as a pro-rata share of public funding. For example, if we are funding 10% of a project that creates 100 jobs, we should claim that 10 of these jobs are attributable to DFID. **Fund-level attribution** (i.e. at point of UK investment) should be applied for reporting expected and actual results and headline results/figures used in Business Cases (to ensure all projects can report on a consistent basis). This method involves sharing results across all donors that contribute to a fund. All results are attributable to the relevant fund (e.g. CIFs, CP3, GAP) regardless of whether these funds blend with other sources of finance in implementing projects at levels below the point of UK investment. For example, if the UK invests £25m into a fund that totals £100m of public money, the UK would claim 25% of the results from that investment. This applies to all results. The long term ambition is to develop the data availability to enable all projects to use the lowest/most direct level of attribution possible in the future (i.e. project level). Therefore, advisers should be working to develop sufficient data to calculate project level results reports, and where possible, provide this information now alongside headline Fund level results. To note, the distinction between attribution at the project level and at the Fund level (or at point of UK investment) is only an issue where the UK is investing in funds where there are multiple investment levels.

	
Worked example	a. Project works in urban areas to use waste for energy. Waste pickers are included in the programme design, and x will be engaged in collecting and sorting waste for power generation, of which x% will have formal contracts. Currently y% of z waste pickers are women, and that will be equalled or exceeded as employment becomes available. b. Solar installation projects train x women as engineers, resulting in a new livelihoods stream available to women who previously had no access to skilled employment. Results are attributed at the point of UK investment (Fund level) and shared across all donors that contribute to a fund.
Most recent baseline	(i) Assuming the investments are new, the baseline will be zero; (ii) Needs to be calculated. The baseline should reflect the situation prior to ICF funding being provided and anticipated projections of what would happen without the ICF. For long running programmes the baseline should be taken as 2010 unless otherwise stated. The baseline should align with the economic appraisal in the project design.
Good performance	Increased net jobs will result in more prosperity, and greater **security** of employment. It will help create new jobs in rural areas as eg decentralised power products are rolled out. It will also create a new potential work-stream for **women**, as the sector will be less bound by traditional concepts of male/female roles. Such jobs will also improve resilience, as **poor people** have access to alternative forms of livelihoods.
Return format	Absolute number of direct jobs created.
Data dis-aggregation	<u>Data to be disaggregated and reported in the ICF results template:</u> - Gender: • Reporting by gender has been marked as mandatory. If you are unable to

	report by gender please explain why in the metadata columns of the results template. • We acknowledge that gender disaggregation will not be possible if household level data are used. If local gender disaggregation data is not available but you have target population data that allows you to give an estimated number then please report this. If an estimate is used then please state this clearly in the metadata column. • It is not intended to present gender disaggregated figures by country/programme but as an aggregated total across programmes <u>Data to be disaggregated as part of workings and Quest number provided:</u> Disaggregation of the following variables will not be collected as part of the ICF results template. Please include disaggregated data in your working documents and record the Quest number for these documents in the ICF results template. - Skill level - Contracted or not
Data availability	Annually
Time period/ lag	Data should be available annually after programme reviews.
Quality assurance measures	If reporting officers have any concerns about the quality of data or any points that they think CED should be made aware of, then please note this in the ICF results template. Any comments can usually be added into the free text columns on the far right of each ICF results template. Further guidance should be available in the commissioning note. Labour and employment statistics are complex yet essential. The choice of two indicators will help us to triangulate data in-country, and provide a greater depth of analysis of changes and their impact. This work will be linked to and influence a broader international process on the defining and measurement of green jobs. It will also be included in evaluations and reviews, where more scope will exist to link with economy-wide analyses and input-output tables defining green economy issues (led by and currently being piloted by ILO), as well as used alongside case studies which will investigate the extent to which employment is 'decent' i.e. constitutes an improvement in standard and quality of living. Triangulation could also take place using national labour and SME surveys.
Data issues/ risks and challenges	The distinction between adaptation, agriculture and low carbon themes is not mutually exclusive. The creation of green jobs in the low carbon sector will contribute to resilience, through offering alternative or additional livelihoods strategies. The use of agricultural products such as *bagasse* for energy production, also has positive impacts on employment at the farm level, in terms of creating new jobs and distribution networks. These are all issues which would be analysed and assessed as part of a good social impact analysis for new programmes anyway, and the impact and implications of such programmes could be regularly monitored to ensure positive impacts were supported, and the risk of negative impacts minimised. The indicator will also measure only the creation of direct gross jobs, rather than consider whether jobs are additional or displaced from other industries. This will be an area for analysis during evaluations of ICF investments. The ILO is developing input-output tables to measure net job creation in pilot countries,

	with the aim of rolling out the methodology with partner countries. Some basic methodologies and analyses have already been piloted, which indicate that net job creation is positive for green investments. Direct creation of jobs is also a first order indicator, measurement of related jobs which, for example, depend on forest resources could also be assessed as part of a more in-depth evaluation exercise. Likewise for 'decent' employment. Contracted work is measured as a proxy for this, though we do not want to exclude informal or self-employment, which can still have a significant impact on key issues such as women's empowerment, or household incomes. The extent to which work is 'decent' could also be the subject of a more in-depth evaluation exercise.
Additional comments	
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