ReSPA

Regional School
of Public Administration

METHODOLOGICAL GUIDE FOR COSTING OF GOVERNMENT STRATEGIES

With Examples from Public Administration Reform Strategies

ReSPA activities are funded by the EU

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Authored by
Zuhra OSMANOVIĆ-PAŠIĆ

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The Regional School of Public Administration (ReSPA) is an inter-governmental organisation supporting regional cooperation of public administrations in the Western Balkans. Its activities are supported by the European Commission (EC), and co-funded through annual contributions of the ReSPA Members. ReSPA Members are Albania, Bosnia and Herzegovina, Macedonia, Montenegro and Serbia, while public servants from Kosovo*[1] participate in ReSPA activities funded by the European Commission. The Purpose of ReSPA is to support governments in the Western Balkan region develop better public administration, public services and overall governance systems for their citizens and businesses, and prepare them for membership in the European Union.

CONTACT

Regional School of Public Administration

Branelovica P.O. Box 31,

81410 Danilovgrad,

Montenegro

Telephone: +382 (0)20 817 200

Internet: www.respaweb.eu

E-mail: respa-info@respaweb.eu

1 * This designation is without prejudice to positions on status, and is in line with UN-SCR 1244 and ICJ Advisory Opinion on the Kosovo Declaration of independence

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Foreword

By Ms. Ratka Sekulović

ReSPA Director

Implementation of any government program or strategy requires adequate resources and costs money. To implement programs and strategies effectively, responsible institutions must know the costs associated with their implementation. In addition, the government requires reliable cost information to estimate strategies' financial impact on budget and ensure efficient management of public funds. Provision of cost information also strengthens the quality of strategic documents, as well as transparency and managerial accountability in public sector as a whole. Nevertheless, in practice we often experience implementation failures and budget overruns resulting from poorly costed strategies in different sectors.

Costing of government strategies means estimating physical resources required for their implementation (labour, materials, services, capital items), and valuing these resources in monetary terms. As such, costing is an integral part of strategic planning process, and cost estimates are normally part of action plans supporting the strategy implementation. Costing is the first and most important step in strategy financial management cycle, and also the most important part of strategy fiscal impact assessment.

Recognizing the importance of proper costing for implementation of government strategies, and based on consultations with governments' and donors' representatives, ReSPA has decided to develop this Guide. The Guide provides standardized methodological guidelines for costing of government strategies based on previously developed action plans or similar operational documents. It describes the standardized costing process applicable to any government program or strategy, and illustrates it using examples based on Public Administration Reform (PAR) strategies of countries in the region. A cost calculation tool provided in a separate document enables easy and efficient practical use of the Guide.

ReSPA strongly believes that this Guide will reemphasize the importance of costing in government policy making and strategic planning processes, and provide a valuable reference for future strategy costing exercises in different countries and different sectors. I am particularly pleased to see that this Guide presents relatively complex financial topics in a way that can be easily understood and applied by all civil servants, regardless of their professional background. I wish to express my gratitude to the author for the great work and my appreciation to all stakeholders who provided valuable input for this document.

Abbreviations

BiH	Bosnia and Herzegovina
DEU	Delegation of the European Union
EC	European Commission
FIA	Fiscal Impact Assessment
HRM	Human Resources Management
HRMIS	Human Resources Management Information System
IPA	Instrument for Pre-Accession Assistance
LSG	Local Self-Government Unit
MoF	Ministry of Finance
MPALSG	Ministry of Public Administration and Local Self-Government of the Republic of Serbia
OECD	Organization for European Co-operation and Development
PAR	Public Administration Reform
PARCO	Public Administration Reform Coordinator's Office in BIH
PFM	Public Finance Management
SBS	Sector Budget Support
Sida	Swedish International Development Agency
SIGMA	Support for Improvement in Governance and Management
UNDP	United Nations Development Program
WB	Western Balkans

Introduction

1.1. Problem Statement

Implementation of PAR strategies in the Western Balkans (WB) countries is being severely hampered as a result of their inadequate costing. The strategies are often not supported with well-developed and properly costed action plans indicating funding required for implementation of programs and activities, and financing sources. Lack of sound financial frameworks is also a characteristic of government strategies in general. This results in reduced efficiencies and effectiveness, and ultimately implementation failures. It also has a negative impact on the overall fiscal discipline, because budgets are affected by unexpected expenditure increase or revenue decrease caused by implementing poorly costed programs.

One of the causes of poor costing of government strategies is lack of institutional capacities for developing and implementing sustainable financial frameworks, including capacities for producing cost estimates, identifying financing sources, defining and putting in place functional financing mechanisms, and financial monitoring and evaluation. Lack of coordination among the stakeholders is also an issue. The crosscutting nature of strategies requires involvement of a number of stakeholders in the process of their development and implementation, including government institutions and donors. Relationships among these stakeholders and their roles and responsibilities are often unclear. A more careful analysis of government policy cycle shows that problem is actually more complex and relates to insufficient quality of policy development and strategic planning systems and processes in general. Costing is only one of the elements of these systems, and its quality depends on the quality of other related elements, including primarily planning of programs and activities.

One of the key obstacles to proper strategy costing is lack of written guidelines provided by governments or international organizations. The ReSPA Members and Kosovo* have adopted or are in the process of developing the regulation on strategic planning and conducting fiscal impact assessment (FIA), which defines requirements related to strategic planning process, structure and contents of strategic documents, and assessment of their fiscal impact. This regulation also defines requirements for costing, as one of the key elements of strategic planning and FIA. However, it provides little or no guideline on how the costing process should be organized, what specific steps should be taken, which stakeholders should be involved and data sources consulted, or which costing methods should be applied and how.

Recognizing this problem, several studies conducted by ReSPA recommended producing standardized methodological guidelines for strategy costing[2]. Specifically, the Analytical paper on managing the process of implementation of PAR strategies in RESPA Members notes that "…one of the most prevalent barriers to PAR implementation is the non-alignment of sectorial planning and the medium-term financial planning *and a lack of relevant methodology for this process*" and recommends to ReSPA to strengthen the models for management of strategies by "*developing specific manuals, including the manual on costing of sector strategies".* The Optimization of Public Administration in the Western Balkans Region notes that one of the main public administration process weaknesses is *"lack of consistency in sectoral planning and mid-term financial planning, and a lack of relevant methodology for this process"* and recommends to ReSPA and its members to establish a unified methodology for preparation of sector strategies that includes costing of activities for the sector strategies implementation. One of the proposed cooperation modes is preparation of national and regional guidelines. A need for developing written methodological guidelines for PAR strategies costing was also recognized by ReSPA Members and Kosovo* representatives at the PAR Network meeting organized by ReSPA in January 2017.

1.2. Objectives

The purpose of this Guide is to contribute to developing more sound financial framework for implementation of government strategies in ReSPA Members and Kosovo*. This is expected to be achieved by providing standardized methodological guidelines for costing strategies in general, and PAR strategies in particular. Application of these guidelines should contribute to producing more consistent, reliable and verifiable cost estimates that could serve as a basis for effective and efficient strategy implementation and planning of government and donor support.

Improved quality of cost information is expected to contribute to quality of strategic documents and facilitate the process of their FIA, thus strengthening the overall fiscal discipline and budget management. Improved costing of PAR strategies in particular should enable their better alignment with the Principles of Public Administration published by SIGMA, which serve as a "soft *acquis*" for PAR[3]. These Principles among other require that financial sustainability of PAR strategies is

2 http://www.respaweb.eu/11/library#respa-publications-2016-7

3 The Principles of Public Administration, SIGMA (Support for Improvement in Governance and Management). SIGMA a joint initiative of the **OECD and the European Union** that aims to strengthen the foundations for improved public governance.

ensured and define key requirements that governments need to meet in this area.

Provision of reliable information on funding requirements for implementation of programs and activities in strategic and operational documents will also increase transparency of public spending. This will strengthen managerial accountability for results achieved with government and donor funds spent, thus contributing to better internal financial controls and overall accountability of the public sector.

1.3. Scope

This Guide focuses on costing, as one element of strategy financial management cycle. At the strategy planning stage, costs are assigned to activities and sources and mechanisms of financing are identified. At the implementation stage, funds are allocated based on priorities and financial gap is managed. Spending is then monitored against the plan, and the value achieved for the money spent is evaluated. These other elements of strategy financial management (i.e. prioritization of programs and activities based on their costs, identification of financing sources and mechanisms, management of financial gap, and financial monitoring, reporting and evaluation) are not addressed in details by this Guide. However, the costing guidelines are provided taking into consideration potential implications on these issues, as appropriate.

Costing guidelines provided in this document are based on the assumption that a high-quality action plan indicating programs, activities, timelines and implementation responsibilities has been developed to support strategy implementation. The Guide is therefore not suitable for costing strategies which are not supported by an action plan or a similar operational document.

The Guide provides generic guidelines for costing of government strategies, as well as additional guidelines for costing of PAR strategies. Both are highly standardized and do not account for differences between sectors or countries. Costing of PAR strategies is affected by differences between the countries institutional set-up, strategic framework and implementation arrangements for PAR, and the countries' overall budget management systems and processes. Differences between PAR functional areas pose an additional challenge. These differences are illustrated using country-specific examples. To meet specific requirements of individual countries, options, rather than directives for addressing particular issues are provided. Several more sophisticated issues are also addressed.

The guidelines for costing of PAR strategies are consistent with those provided by SIGMA, and complement them by addressing additional relevant issues and providing examples. They are also consistent with the countries' existing methodologies on FIA and strategic planning embedded in the relevant regulation, and complement them by providing detailed guidelines on costing process and cost calculations.

Target audience of this Guide are employees in government institutions responsible for coordinating and conducting strategy costing process. These include both financial staff who have the relevant knowledge in this area, as well as technical experts who do not necessarily have financial background. To enable practical application of the Guide by the target audience, key theoretical concepts are first explained, followed by practical guidelines and examples for conducting the costing process.

1.4. Methodological Approach

The process of developing the Guide involved several stages, including desk research, consultations with stakeholders, and drafting and finalizing the document based on the stakeholders' feedback.

Desk research focused on analysing relevant scientific, academic and non-academic literature, as well as relevant regulation and PAR documents of ReSPA Members and Kosovo*. The list of reference documents is provided in Annex 1 – References. Internet search of available literature, including databases of several organizations sharing best practices, shown very few research papers or guidelines on costing of government strategies. No specific PAR-related research or guidelines on costing were found. Several guides on costing specific government services or types of projects were analyzed from the perspective of general approach to the costing process.

Analysis of financial information in PAR strategies, action plans and implementation reports of ReSPA Members and Kosovo* shown variations among the countries. Some of these documents contain very little or no financial information at all, whereas others provide a comprehensive information on resource requirements, costs and financing sources. The quality and comprehensiveness of cost information is generally not at high level. Cost estimates are often incomplete or not based on actual resource requirements, recurrent costs expected to be generated after the strategy implementation period are not clearly indicated, and anticipated sources of financing are not always identified. Significant improvements were noted as a result of technical support provided by SIGMA on a country-specific basis. No comprehensive methodological guidelines for estimating costs of strategies are provided by governments. The regulation on FIA and strategic planning

generally defines requirements for the contents of strategic documents and type of financial information to be included, but provides little or no guideline on how the costing process should be organized and the cost calculated.

A range of relevant stakeholders from ReSPA Members and Kosovo* were consulted, including representatives of line ministries and institutions responsible for PAR coordination, and representatives of budget departments of ministries of finance, as institutions responsible for providing budget guidelines and verifying cost estimates. Several members of ReSPA Working Group for Better Regulation and FIA were also consulted. The consulted donor representatives primarily included PAR program managers/advisors at the Delegations of the European Union (DEU), as the key PAR donor. The consultations have greatly contributed to transparency of the process, better coordination and government ownership, as well as the quality of the Guide. The list of stakeholders consulted is provided in Annex 2 – Stakeholders Consulted.

All government and DEUs representatives consulted strongly supported development of this Guide, recognizing the importance of adequate costing for financial sustainability of strategies and overall budget management, as well as challenges resulting from insufficient capacities and lack of guidelines. They urged for coordination and consistency with initiatives and guidelines provided by SIGMA, as well as with the governments' existing regulation. Given the differences in the countries' budget management systems and quality of strategic financial management, the stakeholders had different recommendations with regard to scope and level of standardization of methodological guidelines, varying from basic standardized guidelines to more sophisticated and comprehensive country-specific guidelines.

As the key EC organization developing and sharing best practices and evaluating the countries' progress towards the EU integrations in the area of PAR, SIGMA was consulted to ensure a coordinated approach and consistencies with the PAR Toolkit currently being developed by SIGMA. SIGMA also provided valuable recommendations on specific technical issues.

1.5. Structure and Contents

The Guide contains this introductory chapter and two additional chapters.

Chapter 2 – Costs and Costing provides **theoretical background** on key conceptual issues. It explains the concept, different perspectives, classifications and types of costs; the concept and basic principles of costing and applications of cost analysis; and different costing methods that can be used in the costing process, their advantages and disadvantages. The aim

of this chapter is to increase the general knowledge of target audience in the relevant areas, so that they can be able to apply it in practice.

Chapter 3 – Guide to Costing Process provides **generic guidelines** for designing and implementing a strategy costing process. It describes the process step-by-step, including planning and preparation phase (defining purpose, objectives and scope of costing, developing costing plan, identifying cost objects, selecting costing methods and defining data management plan), and implementation phase (identifying types and quantities of resources required, estimating their costs, and producing and verifying the cost estimates). Each step is illustrated using **examples** based on PAR strategies and action plans of ReSPA Members and Kosovo*, as well as other examples developed for the purpose of this Guide. Additional PAR-specific guidelines are also provided and different options and approaches discussed where applicable. The aim of this chapter is to increase practical skills of target audience for costing of strategies based on action plans.

To make the costing process more efficient, **cost calculation tool** suitable for costing strategies based on action plans is also developed and provided in a separate MS Excel document as Annex 3 to this Guide, together with instructions for use.

2. Costs and Costing

2.1. Cost Definition and Concepts

2.1.1. Definition

The term “cost” has several different meanings and can be used differently both in literature and everyday language. Cost can be defined as resources used or required for implementation of a particular project, program or activity or delivery of a product or service, expressed in financial terms. There are two main components of costs – the type and quantity of resources used or required, and their value.

Costs are not the same as prices. Some government services do not have prices, because they are provided for free, but still have costs because they require resources for their provision. Also some services may have prices that do not fully reflect their costs. The terms “cost” and “expenditure” are often used interchangeably. However, in some cases this is misleading. Expenditure of an activity or program relates to the amount of financial resources spent and may not necessarily reflect its full costs.

2.1.2. Financial and Economic Costs

Depending on the scope of resources used for a program, activity, product or service, and the way these resources are measured, costs can be viewed as financial or economic.

Financial costs represent actual expenditure of implementing a program or activity, or producing a good or service. They are described as financial outlays, or the amount of money paid or expected to be paid for the resources used. Calculating financial costs of a program or activity requires identification of quantity and price of all resources needed for its implementation, or estimating the level of their expenditure in another way. The concept of financial costs is typically used by accountants.

Economists observe costs in a broader way. In addition to financial outlays made for provision of resources, economists also consider usage of resources for which no money is paid (for example using volunteers to implement activities, or using facilities, equipment or other assets free of charge). Although they are provided for free, these resources have their value because they can be used for alternative purposes (e.g. a volunteer can work on a paid job, a free space can be rented out). Costs

of these alternative uses of resources that have been foregone by using them for a particular purpose are referred to as **opportunity costs** (for example, a salary that a volunteer would earn if he or she worked for money). **Economic costs** therefore also include the estimated value of resources for which no financial transactions are made or for which the price paid is below the cost of using them productively elsewhere. Economists argue that real costs to society of resources used for implementation of a program are their economic costs, and the benefits that could have been obtained from the next best use of resources.

Calculation of economic costs cannot replace calculation of financial costs – it can only supplement it with additional information needed for decision making. Selection of approach in terms of using financial or economic costs depends on the purpose and objectives of cost analysis. If the objective is to calculate how much money is needed to implement a program or activity, then only financial costs should be calculated. If the objective is to assess a program's sustainability, chose between alternative implementation options, or assess its economic impact, then all costs should be considered, including those that are not paid for. Economic cost considerations are especially important in valuing different policy initiatives. Government resources are scarce, and tying them up in implementation of a selected policy initiative makes them unavailable for other initiatives that may be of higher priority.

While financial costs can be calculated either for programs or activities already implemented (retrospectively) or those planned to be implemented (prospectively), calculation of economic costs is typically forward-looking (prospective).

2.1.3. Cost Perspective

Costs of government services, activities, programs or strategies can be analyzed from different perspectives. The perspective of cost analysis is about "whose costs" should be considered. Understanding the perspective is important because different perspectives require analyzing different items for the purpose of different decision problems.

Costs of a government strategy or program can be viewed from three core perspectives – societal, public and private. The **societal** perspective is the broadest and includes all strategy or program-related cost, incurred by all stakeholders including public sector, private sector, households and individuals, and any other group that is incurring the cost. **Public** perspective provides a narrower view taking into account only the cost incurred by the public sector or government. These are costs of implementation of programs and activities by responsible institutions, although these institutions may not finance entire costs of these

programs and activities. For example, from a public perspective, a cost of establishing a system for providing electronic services to citizens would comprise all the cost borne by the government, including personnel costs, software, materials, equipment etc. In lack of government funding, some of these costs could also be financed by donors. **Private** perspective includes the costs of individuals and households incurred as a result of strategy implementation. For example, individuals may be providing funds directly through payment for user fees for using government electronic services. These fees can be viewed as a contribution to recovery of cost borne by the government.

Economic evaluation of strategy is typically concerned with the strategy impact on society as a whole and therefore based on a societal cost perspective. According to economic theory, calculation of strategy costs should be inclusive, taking into account all costs generated by all stakeholders, including those that will be generated in the long run. Such broad perspective also ensures that alternative options for using resources (opportunity cost) are considered in a way that yields maximum benefits for society as a whole. On the other side, **financial evaluation** of strategy is concerned with the strategy impact on public budgets and therefore based on government or public cost perspective. This Guide looks at strategy costs from the public perspective.

2.1.4. Cost Objects and Cost Drivers

A **cost object** is any unit for which the cost is measured or estimated. A cost object may be an input, activity, project, program, output, result, or any other component whose cost needs to be estimated for the purpose of decision making. The following elements are typically viewed as cost objects:

- A project or program composed of several activities can be viewed as cost object in the broadest sense (e.g. “establishment of legal and institutional framework for integrated strategic management”);
- An activity, as a component of a program or project is a more narrowly defined cost object (e.g. “delivering training program on public policy development” or “drafting legislation”);
- An output of activity (e.g. “training delivered to 100 participants” or “the law produced”);
- An input required for implementation of activity (e.g. “expert-day”).

Cost objects should be selected based on the available information and the purpose of costing. A balance between usefulness of cost information and the cost of obtaining it must be made.

A **cost driver** is closely related to cost object. A cost driver drives the amount of cost of a particular cost object. It can be defined as any factor a change in which causes a change in the level of cost of a particular cost object. A cost object may have several cost drivers. In the example of public policy development training activity, cost driver may be the number of trainings provided, or the number of participants trained, because costs increase with this number. Cost drivers can also be related to different approaches to implementing activity. Analysis of cost objects and cost drivers enables better understanding of cost behavior. Information on cost objects and cost drivers can therefore be used to improve program's efficiency.

2.2. Cost Classifications

2.2.1. Cost Items

Costs can be classified in different ways, depending on the purpose of cost analysis. Each classification is useful for different decision making problems. The most common cost classification is by type of physical resources (inputs) consumed for the purpose of delivering a product or service, or implementing a program or activity. The following broad cost categories can be defined:

- Cost of **personnel** (salaries, fringe benefits, taxes and other expenses related to human labor);
- Cost of **materials and services** (office supplies, communication, fuel, accommodation, utilities, maintenance, rent, other services, and any other recurrent input); and
- Cost of **capital assets** (land, building, equipment, vehicle, software).

This classification is also known as classification by **line-item** and is used by governments for planning and recording financial transactions. Line items are determined by the government's chart of accounts.

2.2.2. Budget Classifications

In addition to line-item classification, government expenditures are also classified by:

- **Organization** or institution that generates them (also referred to as "budget user"). Expenditures of each budget user are further classified by line item. Because of their cross-cutting nature and complex implementation arrangements, costs of government strategies are reflected in budgets of several budget users (institutions).
- **Government function** or area of work, such as general public services, health, education etc., each involving several budget users. Functions are defined using the COFOG classification[4]. Costs of sector strategies can be assigned to one particular function, whereas costs of national development strategies are cross-functional.
- **Program**, representing a group of activities that have the same operational goal(s). Programs and subprograms can be defined horizontally across budget users, or vertically within a budget user. The overall program budget structure should be defined based on the relevant strategic framework so that costs of strategies can be easily linked to budget. Program budgeting is therefore the government's key tool for linking strategies with budgets.
- **Source of financing** from which the money for financing of expenditures is secured. These include government mainstream revenues, earmarked revenues, and other sources such as donations, contingencies or own revenues of budget-users. Costs of strategies can be financed from one or all of these sources. A combination of sources is typically used.

2.2.3. Recurrent and Capital Costs

Different types of inputs or resources can be categorized as recurrent or capital items. Recurrent items are those that are consumed in the course of one year. Capital items have useful life of more than a year and a value over a certain threshold, as defined by relevant accounting policy. Costs of salaries, materials and services are **recurrent costs**, whereas costs of capital items (building, land, vehicles, equipment, software) are considered **capital costs**.

4 COFOG – The Classification of the Functions of the Government, published by the United Nations Statistics Department

Distinction between recurrent and capital cost is important for two main reasons. First, costs of capital items are spread over their estimated useful life. This is because capital items are gradually "used up" during each year of program or strategy period. This is known as depreciation. If useful life of a capital item is longer then the programme or strategy period, then the item will have a resale value at the end of the period. Cost of program or strategy during a specified time period includes only the amount depreciated over this period. However, cost of investment (purchase cost) of new items should be calculated to estimate financial impact.

Secondly, maintenance of capital items (buildings, vehicles, software) requires purchase of new recurrent items (services, materials, spare parts) on a regular basis. This means that capital items will generate additional recurrent costs which must be taken into consideration in costing and budgeting processes.

2.2.4. Full and Incremental (Additional) Costs

Based on the approach to measuring the scope of resources employed to implement a project, program or strategy, costs can be classified as full or incremental (or additional). **Incremental (additional) cost** are costs of additional inputs or resources that need to be added on top of existing infrastructure to implement a project, program or strategy. These are for example costs of new staff that needs to be employed, costs of additional materials and services that need to be consumed (trainings, publications, travel), or cost of additional capital items that need to be procured (equipment, software). **Existing cost** of a project, program or strategy are costs of existing infrastructure that will continue to be used for the purpose of implementation. These are for example salaries of existing staff who will be engaged in implementation, costs of general administrative support and overheads (communications, utilities, office supplies), and costs of using existing capital items (depreciation). **Full costs** of a project, program or strategy are the existing costs plus the incremental (additional) costs. Full costs of strategy are therefore costs of all resources employed for the purpose of its implementation.

Incremental costing is more simple then full costing and provides information on direct financial impact of a program or strategy. The government needs this information for the purpose of conducting FIA and budget planning. The major downside of incremental costing however is that it underestimates the cost of existing infrastructure. It also assumes that the existing infrastructure will be available throughout the strategy implementation period, and sufficient to meet the desired results, which may not be the case. On the other side, full costing enables estimating

costs of government reforms in a comprehensive way. This information is required for development planning and negotiating external support, which is very important for transitional countries. However, the downside of full costing is its complexity and implementation cost. The decision between full or incremental costing of strategies should be made based on the purpose of costing and availability and ease of data collection.

2.2.5. Total, Average and Marginal Costs

Based on their relation to cost object, costs can be classified as total, average (unit) or marginal costs. This classification is used for analyzing costs of quantities of outputs of a program, project or activity. The **total** cost is the cost of all resources required for producing a quantity of outputs. Depending on the costing approach, the total costs can be calculated as full or incremental (additional). The **average** or unit cost is calculated by dividing the total cost (full or incremental) with the number of units of outputs. The **marginal** cost is the additional cost generated as a result of producing one more unit of output. Marginal cost is often confused with incremental cost. Both refer to cost of producing additional output. Incremental cost is the additional cost resulting from output increase calculated at program or activity level, whereas marginal cost is the additional cost calculated at the unit of output level.

Average (unit), Incremental and Marginal Costs

Total cost of a training program is 1,000 EUR. Its outputs are 10 trained participants. Average (unit) cost per participant is calculated as 1,000 EUR / 10 participants = 100 EUR. If the number of participants increase by 3, total cost will increase by 3 x 100 EUR = 300 EUR. These additional program costs are called incremental costs. Marginal cost are additional costs per one new participant. They are calculated by dividing incremental cost with the number of new participants: 300 EUR / 3 = 100 EUR. In this case, marginal costs are equal to average (unit) costs.

Assume that a number of participants increases significantly, for example by 8, and additional rent of training premises or engagement of trainers is needed. Because of this new investment, incremental costs will increase more than proportionally, for example by 900 EUR rather than 800 EUR. Additional cost per one new participant would then be 900/8=113 EUR, and not 100 EUR. In this case marginal cost is higher than average cost.

Depending on the purpose of cost analysis, marginal or average cost is analyzed. Marginal cost is analyzed when deciding about potential expansion of existing programs or activities. Average (unit) cost is used to estimate future costs. Depending on the "unit" or object of costing, a number of unit costs can be defined for a program or activity, such as:

- Unit costs of inputs or resources needed for its implementation, such as salaries, cost of materials, services or capital items;
- Unit costs of immediate outputs of activities, such as cost of training, cost of training day per participant, cost of study tour per participant, etc.
- Unit costs of intermediate outputs or results, such as cost of completing a regulatory reform, cost of introducing electronic system for information sharing etc.

The units above are shown in the hierarchy order – unit cost of input feed into unit cost of immediate output, and the latter feed into unit cost of intermediate output or result. It is therefore relatively easy to calculate unit cost of inputs (for example based on accounting data or market prices), but progressively difficult to make calculations as we move to the next level.

2.2.6. Fixed, Variable and Mixed Costs

Based on changes in their behavior resulting from changes in the scope of a program or activity over a period of time, costs can be classified as fixed, variable or mixed costs.

A **fixed cost** of a program, project or activity includes all costs that remain constant in the short run, despite changes in the scope of a program, project or activity. These costs are fixed for the relevant range of output, and must be paid regardless of the level of output and the resources used. If a training program from our example is being provided by a government agency, its fixed costs would be costs of permanently employed staff, utilities or any other cost that does not change with the number of training participants.

A **variable cost** is one that varies with the changes in scope of program, project or activity in the short run. A change in cost driver will create a change in these costs. If the training is provided to an increasing number of participants (which is the cost driver), then costs of participants' travel and accommodation and training materials will increase. These are variable costs of the training program. The assumption is that they increase linearly in respect to volume change, but this may not be the case for all variable costs. Fixed costs and variable costs make up the total cost.

Mixed costs are those that cannot be classified as fixed or variable, and include semi-variable and semi-fixed costs. **Semi-variable** costs are those that have both variable and fixed component. For example, cost of telephone has a fixed monthly fee and a variable component linked to number and cost of phone calls. **Semi-fixed** costs are those fixed costs that remain constant for a particular range of output, but start to increase when this range is exceeded. As the volume increases, additional investment in expansion of capacities is required. In our example, fixed cost of training will remain fixed only for a limited range (number) of participants. As this number increases, additional investment in new staff or premises will probably be needed.

Time horizon is critical for classifying costs as fixed or variable. This is because there are many costs that are fixed in the short-run but variable in the long-run (salaries, maintenance, depreciation). Essentially, in the long run, all costs are variable. Analysis of costs from the perspective of how they change relative to the changes in volume of activity is useful for making decisions on expansion or reduction of existing programs and activities. Information on variable costs is used for planning and budgeting.

2.2.7. Direct and Indirect Costs

Based on their traceability to cost objects (programs, projects, activities, products or services) costs can be classified as direct and indirect. The total cost of a cost object is comprised of its direct costs and indirect costs.

Direct costs of program, activity or output are those which can be directly linked to the use of particular resources and traced to a program, activity or output in an economically feasible way. This is direct labour, materials, services or capital expenses. For example, direct costs of conducting a policy analysis are costs of external experts engaged to produce the analysis, or costs of related meetings.

Indirect costs (also referred to as overheads) have no direct relationship to cost object, although they must be incurred for the purpose of implementation. They can therefore not be traced to cost object in an easy or economically feasible way. Indirect costs can also be labor, materials, services or capital expenses. In our example of conducting a policy analysis, salaries of staff who provide administrative support, cost of utilities, communication, rent, or usage of joint vehicles or equipment (depreciation) would be indirect costs. Indirect costs are allocated to cost objects using

different allocation basis and methods. For example, indirect salaries can be allocated based on time worked, utility costs based on number of square meters occupied, depreciation based on the usage of capital items etc.

Usually, direct costs are variable costs, while indirect costs are fixed costs, although this does not need to be the case. A cost that is direct to one cost object may be indirect to another cost object. For example, the cost of a computer purchased for the purpose of implementing a two-year training program is direct cost of this program, but its depreciation is indirect cost of training per participant.

To calculate full costs of strategy, both direct and indirect costs need to be estimated. However, for indirect costs this requires extra effort. Economic feasibility of cost traceability is a critical factor to consider in this classification system. Therefore, when deciding whether to treat a cost as direct or indirect, several factors should be considered, including primarily the importance of cost item (its amount) and possibility and ease of data collection for indirect cost allocation.

2.3. Costing

2.3.1. Definition and Importance

Costing is the process of assigning monetary values to inputs, which are required to deliver a particular output. Inputs can be different types of resources, such as labour, materials, services, or capital items. Outputs can be defined as products, services, activities, projects or programs. Strategies are composed of several projects or programs. The total cost of any object is determined by two key components – the resources needed for its implementation, and the costs of these resources. Costing therefore involves two distinctive activities: (a) measuring types and quantities of resources needed for delivery of a particular output, expressed in physical units; and (b) valuation of these resources in monetary terms.

From the **time perspective**, costing can be retrospective, when resources have already been used and costing is done for the purpose of estimating their actual costs; and prospective, when resources have yet to be used and costing is done for the purpose of estimating their future costs over a defined time period. This Guide focuses on prospective costing.

Costing is important because it provides a quantified basis for defining programs and strategies and helps understanding financial impact of government decisions. This contributes to better budget management by forecasting future resource requirements and potential funding gap. Costing also provides a credible basis for mobilisation of funds from budget and donors to ensure sustainable strategy implementation.

2.3.2. Applications of Cost Analysis

Cost analysis involves various activities related to accumulating, examining and manipulating cost data for the purpose of making comparisons or projections. The term "cost analysis" is broader then "costing". Costing or cost estimating essentially involves collecting and analyzing historical data and applying different methodologies to predict future cost. Costing may not be the only purpose of cost analysis. A comprehensive cost analysis can be used as a tool to help governments better understand various financial aspects of their programs. Governments can use cost analysis for the purpose of:

- Fiscal impact assessment, by analyzing incremental costs resulting from implementation of new programs or strategies, or regulatory or policy changes, to assess impact on budget expenditure;
- Assessing efficiencies of existing programs and strategies, by analyzing which programs have high or low costs relative to their outputs;
- Assessing sustainability of existing programs and strategies, by analyzing costs for the purpose of better planning and budgeting, to ensure financial sustainability;
- Making modifications to existing programs and activities, including their expansion, downsizing or replication at other locations or levels;
- Pricing of services, in cases when government programs or strategies involve providing services at charge;
- Choosing between alternative options of service provision, e.g. by private sector, by analyzing economic costs of services;
- Making capital investment decisions, such as procurement or upgrade of capital assets, by analyzing cost of acquisition, maintenance, operating and disposal cost.

Cost information is also used for the purpose of **economic evaluations** of programs or strategies. While cost analysis looks only at the costs of a program or strategy, economic evaluations consider the relationship between the cost and the effect of a program or strategy. One of the most common approaches to economic evaluation is **cost-effectiveness analysis**. It is used to measure and compare the costs and consequences of various interventions so that their relative efficiency can be assessed and decisions on resource allocation made. Costs and effects of different alternatives (e.g. programs or projects) that all work to meet the same result or objective are first analyzed. Cost per unit of effectiveness is then estimated for each alternative, by dividing its cost by the unit of effect. Results of different alternatives are finally compared and the alternative with the lowest cost per unit of effect is selected as the most cost effective.

2.3.3. Key Principles

To ensure producing reliable cost estimates, costing of programs and strategies should be based on several key principles as outlined below.

Clear identification of purpose: Cost information must be analyzed and used to serve a particular purpose. Before starting a costing exercise, the parties involved need to define why the costing is being conducted, and what decisions will be made based on the results of costing. Different purposes require different information on cost and resources, and application of different costing methods. For example, assessment of fiscal impact of a government reform strategy requires only information on incremental (additional) strategy costs, whereas estimating cost of reform requires information on full strategy cost.

Realism: A starting point for costing strategies is a clear definition and understanding of programs and activities that need to be implemented and their outputs. Before even starting the costing process, responsible parties should ensure that programs and activities are realistic and feasible. If the activity cannot be implemented with available resources and it is not likely that the necessary resources will be secured, the activity should be revised, postponed or eliminated.

Efficiency: Efficiency relates to the use of all inputs in producing a given output and can be measured by determining the ratio of useful output to total input. Activities should be implemented with available resources whenever possible. Additional resources should be planned only when this is absolutely necessary and should be used in most productive way. Efficiency is important because of scarcity of government resources.

Conservativism: Conservativism is closely linked to efficiency and means making well-justified and prudent, rather than over-estimated cost estimates. However, conservativism does not mean deliberately under-estimating costs. Over-conservative estimates can lead to initiating programs and activities that are otherwise unaffordable by making them look cheaper. This can affect budgets, especially when significant cost items are under-estimated (e.g. cost of new staff in public administration). When the level of uncertainty is relatively high, contingencies should be planned to mitigate risks associated with conservative estimates.

Consistency: Assuming the cost information will serve the same purpose and that circumstances are similar, costing should be done consistently for all programs and activities. This means that basic assumptions, approaches and costing methods used should be consistent. This will ensure comparability of results.

Participation and consultations: Government programs and strategies are typically cross-cutting and affect several institutions or government levels. Costing cannot be done in isolation. Participation and consultations of all institutions responsible for financing and implementation are needed. The process is often iterative and involves multiple rounds of consultations. Ministry of finance (MoF) should play the central role in the costing process by providing overall guideline and relevant cost data.

Availability of valid data: The quality of input data used in the costing exercise directly affects the quality of output information used for decision making. Input data relates to types and quantities of resources and their costs. Data need to be accurate, consistent, realistic and practical. MoF should advice on data sources to be used, based on purpose of costing and availability of data.

Documenting details and assumptions: Cost calculations are usually done under certain assumptions, such as those on availability of specific resources, inflation trends, implementation and financing options etc. These need to be realistic and explicitly stated. All calculation details such as those on unit costs and quantities of resources need to be properly documented. This will enable better understanding of cost information by decision makers and facilitate future revisions of cost calculations.

Benefits outweighing cost: Costing requires resources, including staff time and potentially external support. Due to complexity and cross-cutting nature of strategies, resource requirements are usually high. When deciding about costing methodology, institutions must balance factors such as timeliness, accuracy or level of details with the cost of costing. The investment made in costing should enable institutions to meet their needs, but in a sustainable way.

2.4. Costing Methods

Based on the level of detail, accuracy and their intended use, cost estimates can generally be classified as rough order of magnitude estimates, which are used when little details on programs are available, and more detailed (budget) estimates, which are used when programs or projects are in their conceptual design stage and activities and outputs can be identified. There are several methods or approaches used for costing government programs and strategies, each involving a different level of accuracy and details. The most commonly used are bottom-up, top-down (or parametric) costing, analogy costing, and costing based on expert opinion.

2.4.1. Bottom-up Costing

Bottom-up costing, also referred to as an engineering approach, is based on detailed analysis of resource requirements and their costs to determine the estimated cost of a project or program. Application of this technique requires breaking down of a project or program into its smallest components typically called activities or actions. Resource requirements (labor, materials, capital items) and their cost is estimated at this lowest level. Cost is calculated by multiplying quantities of resources with their unit cost. The total estimate is built by summing up detailed estimates done at lower levels. Typically, this approach requires a cost analyst to work with the relevant program and finance staff in line ministries and the MoF to obtain details on resource requirements and costs. Since the design is built from scratch, the approach is called bottom-up.

This technique is considered to be the “golden standard” of costing, because it provides the most detailed estimate customized to a specific cost object. It is applied when the estimators know in sufficient details what needs to be done to achieve the desired results, and the information on resource requirements and unit cost can be obtained at reasonable cost. Bottom-up costing allows analytical insight into different components of costs and helps understanding the effects of change (for example, what would happen with the cost of training if it is delivered by an alternative provider).

However, this technique has several drawbacks. First, it is expensive and time consuming. A lot of time often needs to be spent for defining details at the lowest (activity) level. Secondly, an analyst needs to understand each specific activity and tradeoffs in the activity and program design. Next, since there is very little space for unknown factors, it is difficult to use this technique for costing activities or projects where the level

of uncertainty is high. Finally, this technique requires availability or development of an extensive and detailed cost database for different types of programs.

Activity-based costing (ABC)

ABC is a special form of bottom-up approach used for costing of government services. The costs are first assigned from resources to process activities (as fundamental cost objects), and then from activities to their outputs (products or services). The key difference between the ABC and traditional bottom-up costing is in the allocation of indirect costs. In ABC indirect costs (such as indirect labor, utilities etc.) are allocated to outputs through activities that consume them. This gives much more precise results then in traditional costing, where indirect costs are allocated to outputs directly, based on some general allocation basis (for example a percentage of direct cost).

2.4.2. Top-down or Parametric Costing

With parametric costing, also referred to as top-down costing, the cost of a new program is estimated based on a validated relationship between historical cost and technical characteristics of similar programs. This relationship is determined based on the analysis of historical data for several similar programs. For example, cost of new training program is estimated based on technical characteristics and costs of previous similar trainings. Technical characteristics may relate to program's volume, scope or complexity (e.g. number of participants and institutions; geographic coverage, complexity of training etc.). It is important to identify those technical characteristics that most influence or drive the program cost (e.g. number of trainings directly affects the cost of program, but complexity of training may not be relevant). The assumption is that the same factors that affected cost in the past will continue to affect future costs.

Parametric relationship can be defined as simple rates (e.g. cost of training is 1,000 EUR/participant) or factors (e.g. travel cost is 10% of total training cost), but also as more complex mathematical expressions, formula or regression equations. Whichever is the case, the goal is always to create a statistically valid cost estimating relationship using historical data. This relationship is then used to estimate the cost of the new program by entering its specific characteristics into the parametric model or formula.

Parametric costing is normally used when activities or resource requirements cannot be defined in details to use the bottom-up approach. It is also used for estimating costs of standardized activities or outputs, and for allocation of indirect costs. Its major advantage is

that it is reasonably quick and easy to apply and clearly shows main cost driver(s). The main disadvantage is that it lacks details. Also, establishing a credible cost estimate relationship requires access to relevant historical data for several activities or programs, which may be difficult to obtain. Confidence in results therefore depends on how valid the relationships are between cost and the physical attributes.

2.4.3. Analogy Costing

Analogy costing, or estimate by analogy is based on the assumption that new programs or projects are evolved from those already implemented, but have different features or components. The costs of new programs or their components are therefore estimated based on actual costs of a similar program, with adjustments to account for differences between the requirements. For example, if the previous project in amount of 1 mil EUR involved construction of a 500 m^2 building and the new project will involve construction of similar building of an area of 800 m^2, the cost of the new project can be roughly estimated as: 1 mil EUR / 500 x 800 = 1,6 mil EUR, assuming linear relationship between the projects.

Analogy costing often relies on expert opinion. However, adjustments should be based on quantitative rather than qualitative inputs as much as possible. The method is similar to parametric (top-down) costing. The main difference is that parametric costing is based on historical data of several previously implemented projects, whereas the analogy costing is looking at only one highly similar project.

This method is often used as a cross-check for bottom-up method. Its main advantage over the bottom-up costing is that it looks only at differences between projects, which saves time. It can also be used before detailed project requirements are known. The main disadvantages are that it relies on a single data source and can be used only when a similar program was implemented. Also, there is a tendency to be subjective in making adjustments, without a rational justification.

2.4.4. Expert Opinion

Costing based on expert opinion or expert judgement is not really a calculation technique. Typically, the cost analyst interviews several experts independently, reviews results and combines them into a single best estimate. Since it is not backed up with supporting data, this approach is considered to be too subjective. Objectivity can be improved if cost analyst checks and documents data obtained from experts. This approach is used in absence of other valid data to make a cost estimate – for example in costing completely new types of projects. Its main

advantage is that it accounts for differences and special circumstances, as well as impact of different variables. The key downsides are lack of objectivity and difficulties in documenting factors. Because of these downsides, this approach should be used occasionally, ideally to complement other methods or to cross-check their results.

2.4.5. Advantages and Disadvantages of Different Methods

Each of the costing methods has its own advantages and disadvantages, requires availability of specific data, and involves different level of detail and accuracy. While some methods are relatively cheaper and result in rough estimates (such as analogy costing), others are more detailed and costly (such as bottom-up). In principle, bottom-up and top-down costing should be considered as the main costing methods. Analogy costing should be used when these two methods cannot be properly applied, and expert opinion should be used to supplement the results of all methods. Key advantages and disadvantages of different methods and their application is summarized in Table 1.

Table 1: Advantages, Disadvantages and Application of Different Costing Methods[5]

Method	Advantages	Disadvantages	Application
Bottom-up	Detailed estimate Enables easy trail Flexible in assigning costs	Expensive Requires details Requires cost data	Distinct activities for which resource requirements can be estimated in details
Top-down (parametric)	Relatively quick Supports discipline Objective Clearly indicates cost drivers	Lacks details Requires historical data Credibility of parametric relationship	The main program/ activity characteristics are known and data on several similar programs/ activities are available
Analogy	Relatively quick Few data required	Tendency to subjectivity Questionable accuracy Unclear cost drivers	Program details are unknown but data on similar program are available; Cross-checking
Expert opinion	Accounts for differences and special circumstances Captures impact of different variables	Not documented Tendency to subjectivity	Program details are unknown and no data on previous program(s) are available Complementing and cross-checking

5 Adjusted based on "Cost Estimating and Assessment Guide", Unites States Government Accountability Office, 2009

Selection of costing methods requires a thorough consideration of costs and benefits associated with using them. The selected methods should enable the government to meet the costing objectives, with the benefits of costing outweighing its cost. Factors to consider include:

- The objective of costing - costing for the purpose of budget planning requires higher level of accuracy then costing for the purpose of producing a project fiche.
- Availability of data and resources - methods that provide higher level of detail and accuracy require much more high-quality data and human and financial resources then methods that provide less precise estimates.
- The time available - even if high level of accuracy is required and data and resources are available, short deadlines can sometimes push for quick and rough estimates.

Different methods are not mutually exclusive and can all be used together in one costing exercise. Costing government strategies in fact requires a combination of methods. For example, bottom-up costing can be used for distinct activities with clear outputs; parametric costing for programs or activities for which less detail is available; and analogy costing for replication of similar programs. Expert judgement should be used for programs that are first of their kind or to complement other methods.

3. Guide to costing process

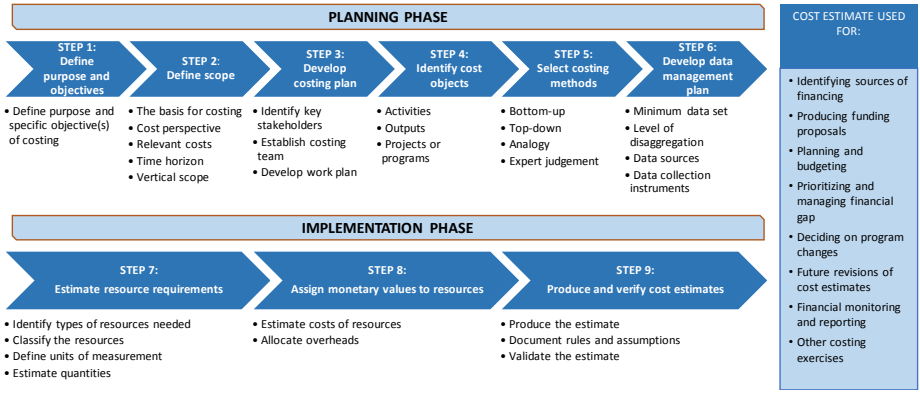
3.1. Overview of the Costing Process

In order to ensure that costing exercise generates the necessary information, it is important to follow a clear plan. The costing process involves a number of steps, each requiring specific information and resulting in specific outputs. These steps can be summarized in two major phases:

- **Planning phase**, which involves defining purpose, objectives and scope of costing, developing costing plan, identifying cost objects, selecting costing methods, and developing data management plan.
- **Implementation phase**, which involves estimating types and quantities of resources required and their costs, based on data collected, and producing and verifying cost estimates.

The costing process is illustrated by graph 1. Although the steps are presented sequentially, in practice the process is dynamic and involves many iterations. For example, depending on the availability of data and resources (step 6), it may be necessary to redefine costing objectives, the scope, cost objects and costing methods (steps 1-5). The process is described in a very comprehensive way. However, the steps are not prescriptive. Depending on the objectives of costing and resources available for the specific costing exercise, the process should be adjusted and simplified as needed.

Graph 1: Strategy Costing Process[6]



6 Adjusted, based on "Costing of Health Services for Provider Payment", Özaltin, A., and C. Cashin, Joint Learning Network for Universal Health Coverage, 2014

The following sections describe individual steps of the process in more details. General guidelines applicable to all strategies are first provided, followed by examples based on PAR strategies as well as additional PAR-specific guidelines where applicable. The last section discusses possible uses of the resulting cost information in the context of strategy's overall financial management.

3.2. Defining Purpose and Objectives

3.2.1. General Guidelines

The first step in conducting the costing exercise is identification of decision problem and decision makers' objectives. The purpose of the costing exercise is the overall reason for conducting the costing from the perspective of policy-makers. Specific objectives describe what exactly the costing exercise needs to deliver in order to help the policy making process. The purpose and objectives in fact define how the cost information will be used and whether this will be for an ad-hoc or ongoing decision making.

Cost estimates of government programs and strategies may have two broad purposes:

- To support resource allocation as part of budget management process, by providing estimates of funding needed to implement programs or strategies; and
- To assist in making selection between alternative programs and activities, and evaluating affordability of programs and their performance against plans.

Specific objectives defined to support these broad purposes may include:

- Assessing how the implementation of new programs or strategies will affect budget expenditures over a medium-term period, to support budget planning (as part of FIA);
- Assessing financial gap for implementation of existing or new programs or strategies, to secure the necessary funds from budget or donors;
- Estimating full cost of government reforms or other initiatives for the purpose of better development planning or negotiating external donor support;

- Assessing efficiencies of ongoing initiatives, to identify potentials for cost reductions and savings;
- Deciding on modification, extension, scope reduction, or replication of ongoing initiatives;
- Choosing between alternative ways of program delivery to meet the desired results (cost effectiveness analysis).

Costing and Fiscal Impact Assessment

Estimating costs of strategy is not the same as conducting its FIA. Costing is only one segment of FIA and relates to assessing the strategy's impact on budget expenditure increase. FIA also includes assessment of impact on expenditure decrease, as well as on revenue increase and decrease.

Understanding the purpose and objectives of costing is important, because it influences the rest of the steps in the costing process, including the cost perspective, types of cost to be estimated, time horizon of costing, data requirements including the level of details and accuracy, and costing methods to be used. Different stakeholders, including government and donors, may have different policy and programmatic requirements for costing approaches. Defining the costing purpose and objectives is an opportunity to communicate and align different interests, and understand how the results will meet the different needs.

3.2.2. PAR Examples

According to PAR strategies and action plans of ReSPA Members and Kosovo*, costing is generally done for the purpose of government budget planning and ensuring sustainable implementation. Specific objectives are focused on estimating the strategy's mid-term financial impact on government budget, estimating financing gap, and obtaining the necessary additional funds from donors and budgets.

Example of Costing Objective

To estimate the amount of additional funds that need to be secured from government budget and donors during the period 2018-2020 for implementation of all programs and activities defined in Action Plan for implementation of the state-level PAR Strategy 2018-2022.

In principle, the decision on the purpose and objectives of PAR strategy costing should be made by the government, based on the intended use of cost information. In addition to estimating financial impact of PAR strategy, the government's objective may also be to estimate its full costs. This information is often required for the purpose of obtaining external donor support or using specific financing modalities, such as IPA II Budget Support. Other donors also sometimes require information on government co-financing when making their financing decisions. Information on full costs of strategy also helps institutions responsible for implementation to understand total resource requirements and plan accordingly. Finally, this information may be needed for the purpose of development planning.

Fiscal Impact of PAR Strategies

Implementation of PAR strategies may also result in budget expenditure decrease in mid to long run. The public administration "rightsizing" initiatives are expected to have such impact. In long-term PAR strategies are expected to contribute to government revenue increase, through increased efficiency of public services, improved business environment and enhanced economic activity. These considerations are part of PAR strategies' FIA and go beyond costing.

3.3. Defining Scope

3.3.1. General Guidelines

Defining scope of strategy costing means deciding on several key parameters, including basis for costing, cost perspective, relevant costs, time horizon, and vertical scope.

Basis for Costing

Basis for costing is the relevant strategic document which will be costed. Government strategic documents can be analysed from several different ways:

- Based on hierarchy, they can be classified to strategies (the highest level and most complex documents), plans (medium level) and programs (lower level).
- Based on their horizontal scope, they can be country-wide, setting the country's development goals for all sectors; sector-specific, setting a reform agenda for a particular sector (e.g. transport, justice); or multi-sectoral, addressing a cross-cutting policy issue (e.g. gender equality).
- Based on their vertical scope, strategic documents may involve one or more government levels.

Strategic documents are normally accompanied with operational or **action plans** to support implementation. A well-designed action plan that clearly indicates programs or projects, expected results, activities, outputs, timeframe and responsibilities should be the basis for costing. The likelihood of producing reliable cost estimates is proportional to the quality of this information. Strategies not supported with adequate action plans are at implementation risk, because they lack a solid basis for operational and financial planning by responsible institutions.

Depending on complexity of strategy, several mutually aligned action plans may need to be developed to address different horizontal areas or government levels. In such cases, each action plan needs to be costed separately, ensuring there is no double-counting or omissions. A clear indication of implementation and financing responsibilities in all action plans is of critical importance in this process. This Guide assumes that a single high-quality action plan for strategy implementation is in place.

Cost Perspective

This is about whose costs will be estimated – that of the society as a whole, the public (government), private sector or individuals. This depends on the purpose and objectives of costing. If the objective is to assess financial impact of strategy on budget or to estimate its total cost for the purpose of government resource planning, the cost will be calculated from the public or government perspective. If the objective is to conduct economic evaluation for the purpose of analysing the impact of strategy on economic welfare, costing will be done from a broader societal perspective. In the latter case, the cost of private sector, individuals and households will also need to be calculated. Because strategies are most commonly costed for the purpose of government resource planning, this Guide is based on the **public cost perspective**.

Relevant Costs

This is about which costs will be calculated. This depends on purpose and objectives of costing and cost perspective. Costing from the public perspective normally requires estimating **financial cost**, i.e. financial outlays for resources that will be consumed for the purpose of implementation. Either **full or incremental** financial cost can be estimated. For example, if the objective is to estimate the strategy impact on budget (as in the example of PAR Strategy from the previous section), only incremental cost will be estimated. This is the cost of additional resources required for implementation, such as salaries of additional staff or cost of materials, services and capital items. If the objective is to estimate total cost of strategy as a government reform initiative, full costing is required. In this case costs of existing resources that will be used to support the implementation will also need to be calculated, although additional funds will not be required for these resources (e.g. costs of existing staff who will work on implementation and related overheads, including depreciation of capital assets). Costing from the societal perspective is even broader and requires calculation of **economic** cost. In this case, opportunity cost of resources used for free would need to be calculated in addition to full financial cost. In line with the common objectives of strategy costing, this Guide is focused on financial costs.

Time horizon

Time horizon in strategy costing is the period of time for which the cost is estimated. Strategies are normally produced for mid to long-term period ranging from three to five, sometimes to ten years. Because of uncertainties associated with long-term planning, costing can be done accurately and meaningfully only within **short to mid-term**. It is normally not possible to provide reliable long-term estimates. However, rough long-term estimates are needed when assessing economic impact of strategies or estimating full costs of government reforms. They are also useful for synchronisation of government and aid planning with national and sector long-term development goals.

Action plan for strategy implementation should ideally cover the period of three years, to enable better linking of strategy cost estimate with government mid-term and annual budgets and work plans. Cost estimates should be provided by fiscal year, with the first year ideally being most detailed, to feed into annual budget. Revisions of cost estimates should ideally be made annually, on a rolling basis. Action plans may also be developed and costed for a period longer than three years, for example to match the strategy period. This enables making more comprehensive cost estimates for the strategy, but it

also raises uncertainties in planning and thus affects the credibility of estimates. A balance between comprehensiveness and credibility of cost estimates is therefore needed.

Time-horizon in costing is associated with several important cost considerations. Inflation impact is one of them. Implications on recurrent costs of strategy, costs of capital items and unit costs should also be considered, as explained below.

Given that strategies have long-term impact on budgets, it is important to distinguish their **one-off (temporary)** and **recurrent (permanent)** costs[7]. One-off costs of strategy are related to resources consumed only once during the implementation. Recurrent costs of strategy are related to resources that will be consumed periodically over a period of time after the implementation. For example, procurement of capital assets such as computers or software will generate one-off purchase cost, but also recurrent cost of maintenance and licenses over the period of their useful life. A certified training program will generate one-off cost of training delivery (trainers' fees, materials, participants' costs) and potentially recurrent recertification costs. Employment of new staff for an indefinite period of time will generate recurrent cost of salaries (compared to budget baseline), whereas salaries of temporarily engaged staff will be one-off cost. Recurrent costs of strategies are often overlooked in practice, which results in budget overruns and implementation failures. Annual amount of these costs should be estimated, along with indication of time period over which they are expected to occur.

Capital items purchased to support the implementation may not be fully depreciated and have resale value at the end of strategy implementation period. Only the amount depreciated represents the cost of strategy during this period. However, the total cost of new capital items (i.e. the cost of investment) should be calculated to estimate the strategy's financial impact.

Time can impact **unit costs**. Over a longer time period unit cost may change as a result of different factors. For example, they can be higher during the learning curve phase, and then decrease as a result of learning effect or greater efficiencies. Technological development can also reduce some costs in the longer run (such as software, equipment etc.).

7 The term "recurrent costs" is generally used for all non-capital costs (salaries, materials and services).

Vertical scope

Action plan may be implemented at several **government levels**. This means that activities are implemented and cost generated by institutions at central and lower levels. Different implementation arrangements affect the cost estimate:

- Some programs or activities may be implemented independently at each level using the same approach. Costs are calculated independently for each level and summarized for the total costs.
- Other programs may operate directly from the field, through municipalities up to the central-level. In such cases the lowest level (municipality) is usually the point of service delivery where data on resource requirements and cost should be obtained. Moving up to the higher levels makes it increasingly difficult to make cost estimates, because these levels typically provide administrative, logistic or technical support. Direct costs are therefore calculated at the lowest (service delivery) level and costs of higher levels added as overheads, if applicable.

Decision makers need to decide which costs at each organizational level will be included. This depends on responsibilities of decision-makers and the way in which the results of costing will be used. For example, if activities will be implemented at both central and lower government levels and the government wants to estimate their total budget impact, cost requirements at all levels should be calculated. If, however the central government wants to estimate only the cost impact on central budget, costs to lower levels can be ignored for the purpose of specific costing exercise.

3.3.2. PAR Examples

The WB countries cost their PAR strategies based on action plans. PAR is a complex process that involves different institutions from different government levels. This horizontal and vertical complexity affects both, strategy development and implementation. Several distinct strategies and accompanying action plans are therefore often developed under the PAR umbrella to ensure more efficient implementation.

Examples of PAR Strategies' Scope

- Being under direct jurisdiction of the MoF, public financial management (**PFM)** is addressed by a separate strategy in all WB countries. The PAR strategies of Serbia and Montenegro contain objectives related to PFM, but refer to separate strategic and operational documents. A need for developing a separate PFM reform strategic document also stems from the EU criteria for provision of Budget Support under IPA II assistance.

- In **Serbia**, PAR strategy is an umbrella strategy based on which several sub-sectorial strategies and action plans are developed. Apart from the PFM Reform Program, Decentralization Strategy and E-Government Strategy which are explicitly envisaged by the PAR Strategy, similar status among other have the strategies on professional development of employees in PA and the Public Procurement Development Strategy. The PAR Strategy Action Plan 2015-2017 includes activities and costs related to development of some sub-sectorial strategies. Costs of their implementation are included in the respective sub-sectorial action plans.

- In **Kosovo***, PAR framework includes three pillars which fall under responsibility of three institutions. The Strategy on Modernisation of Public Administration 2015-2020 relates only to the pillar for which the Ministry of Public Administration is responsible and includes the areas of civil service and human resource management (HRM), service delivery and accountability. The remaining two pillars (policy and legislation development and coordination and PFM) fall under responsibility of the Office of Prime Minister and the MoF, respectively. These are addressed by separate strategies and costed action plans.

For the purpose of government resource planning, costs are estimated from the **public** sector perspective. This also includes the **donor** perspective, because the funding gap is usually covered by donors.

All the WB countries estimate only **incremental financial costs** of their PAR strategies. These are costs of additional resources required for implementation (e.g. additional staff to be employed, travel, rent, expert support, other external services, capital items). Costs of activities for which no additional resources are required are marked as zero. This approach is generally in line with the stated objectives of costing. However, it does not always enable meeting specific information requirements. For example, information on full costs is required by DEUs for the purpose of defining the amount of Sector Budget Support (SBS) through IPA II. Also, this approach is based on the assumption that the existing resources will be sufficient and available to support the implementation (e.g. existing staff will provide the necessary support using the existing infrastructure). In practice this may not always be the

case, and existing human resources may be insufficient to reach the targets.

Examples of Costing Scope

- When planning the costing exercise, **Serbia** intended to calculate full costs of its PAR Action Plan 2015-2017. However, this was not possible due to lack of resources and data available for costing. In order to provide at least a rough estimate of total resources required for implementation, the Ministry of Public Administration and Local Self-Government (MPALSG) collected information on estimated number of staff in responsible institutions who will be fully engaged in implementation of reform activities. According to the data collected, at least 179 employees from four institutions directly responsible for implementation and several line ministries and other state administration bodies will be engaged. This number does not include two institutions that did not provide the requested data. The equivalent cost amount was never calculated.

- Incremental costs of **Montenegro** PAR Action Plan 2016-2017 were estimated at approximately 8,7 mil EUR (also including the cost impact in 2018-2020). In the process of SBS negotiations it was concluded that this amount was underestimated. The Government was requested to estimate costs of existing contribution through salaries and other costs. In absence of formal guidelines and resources for the costing exercise, this contribution was roughly estimated at 6 mil EUR in 2017, and includes salaries of all staff working in institutions responsible for implementation. The cost of staff employed in line ministries, administrative bodies, administration with public powers and self-government units involved estimated at 483 mil EUR was also considered. The SBS amount was set at 15 mil EUR, including 3 mil EUR technical assistance.

Action plans and corresponding cost estimates are developed for a period ranging from two to five years. Annual cost estimates are rarely provided, and recurrent costs of strategies are generally not clearly indicated. Table 2 summarizes different approaches applied by the countries.

Table 2: Time Horizon for Costing of PAR Strategies of the WB Countries

Country	PAR Strategy	Action plan for Implementation of PAR Strategy	Annual estimates provided	Planned Revisions
ALB	Crosscutting PAR strategy 2015-2020	Action plan 2015-2017 is annex to the Strategy and contain rough estimates for 2018-2020. These will be revised during the mid-term evaluation in 2017, when new Action Plan will be developed.	No	Annually
BiH	Draft Strategic Framework for PAR 2017-2022	Action plan 2017-2020 is to be developed and adopted after the strategy adoption. A separate Action plan for 2021-2020 is planned to be produced.	No	Not defined yet
KOS*	Draft Strategy for modernization of PA 2015-2020	Implementation Plan 2015-2017 is part of the Strategy. It is to be reviewed and updated every two years.	Yes	Bi-annually
MKD	Draft PAR Strategy 2017-2022	Action plan 2017-2022 is part of the Strategy. It is not fully costed. Costing and defining of financing mechanisms are activities envisaged by the Action plan.	No	Data not available
MNE	PAR Strategy 2016-2020	Action plan 2016-2017 is part of the Strategy. Implementation of some activities is tentatively planned for 2018-2020 and indicative estimates are provided. Action plan 2018-2020 is being developed as part of mid-term evaluation in 2017.	For the total amount only	Bi-annually
SRB	PAR strategy adopted in 2014, no specified time period	Action plan 2015-2017 is annex to the Strategy and matches budget and IPA programming cycle. Action plan 2018-2020 is being developed as part of mid-term evaluation in 2017.	No	Every three years

In all the countries, PAR action plans assume implementation of activities at all government levels. In BiH the implementation status of cantons and local self-government units (LSGs) is still unclear. Although cost estimates account for expenditures at all levels, financing sources generally reflect only amounts expected to be secured from the central level budget and donors. Only in Montenegro the Action plan indicates the amount of expected financing from LSGs' budgets.

3.4. Developing Costing Plan

3.4.1. General Guidelines

Before starting the costing exercise, responsible institution should identify key stakeholders that will be involved in the process, establish the costing team, and develop a work plan with schedule of activities.

Relevant Stakeholders

The costing process should be initiated and led by the ministry or other government institution or body responsible for strategy development. This institution should engage other relevant stakeholders, in line with the objectives of costing and horizontal and vertical scope of strategy. The process should be organized in close collaboration with the MoF. Given the complexity of government strategies, a range of stakeholders need to be engaged. As a minimum, all institutions directly responsible for implementation (as per the action plan) should be involved. Institutions responsible for development planning, non-governmental organizations, donor or development organizations and academia should be involved as needed. If activities will have cost implications on lower government levels, these levels should also be involved. If the lead institution lacks capacity to carry out the process, it should engage external experts. The relevant stakeholders should principally be involved in all phases of the costing process. Although involvement of all stakeholders at the planning and preparation phase may provide better results, it can sometimes make the process of designing the costing exercise more complicated.

Costing Team

Costing should be conducted by a multidisciplinary **team** or **working group** composed of representatives of relevant stakeholders. The team may be formal or informal, bigger or smaller. It should be flexible, to enable establishment of sub-teams and engagement of additional members on as-needed basis. This body should be responsible for collecting and analysing data and producing the cost estimates.

The composition and skills of costing team depend on the type and purpose of cost estimate and quantity and quality of data. More complex and detailed estimates require larger teams and more time and effort. Since the cost estimates are developed with limited knowledge of what the final outcomes will be and based on a number of assumptions, the costing team will be dealing with a great level of risk. The members

should therefore include both technical experts with skills in relevant technical areas, and financial experts with cost analysis skills. Technical experts from institutions responsible for implementation should provide information on type and quantity of resources needed for implementation of programs and activities. Financial staff from these institutions should provide information on institution-specific costs and assist in calculations. Representatives of the MoF budget department should provide the overall guidance and verify unit costs, as well as the final cost estimate. Ideally, the team should include persons who have experience and skills in estimating all cost elements of the strategy. Since this is rarely possible, external technical or financial experts usually need to be engaged.

Centralisation of the costing process through the costing team represents the best practice because it facilitates the use of standardized processes, supports consistencies and independence of cost estimates, easier identification of experts and more efficient and effective use of resources and skills. On the other side, “decentralised” process where individual stakeholders provide own estimates for programs and activities they are responsible for can result in ad-hoc processes and inconsistencies. The major advantage of a decentralised process however is better access to technical expertise.

Work Plan

At its initial session the costing team should discuss the purpose, objectives and scope of the costing exercise and estimated available data and data gaps. This will enable effective communication of what the costing exercise aims to achieve and identification of roles and responsibilities of individual members. An analytical approach to costing typically involves development of a costing work plan, detailing specific tasks, responsibilities and due dates. Whether a costing team is big and formal or smaller and less formal, a coordinated approach of all stakeholders and clear definition of responsibilities is needed.

Strategy costing process usually requires holding a number of consultative meetings. Separate meetings should ideally be held with institutions responsible for implementation, or working groups responsible for different functional areas, if applicable. The process is often iterative and requires several revisions until the final estimate is produced. It is important to ensure that consistent approach is applied by all the groups. This can be achieved by providing guidelines and ensuring participation of the members of lead institution at all meetings.

3.4.2. PAR Examples

The countries use different approaches to organizing the PAR strategy costing process. As a rule, costing is done as the last step in action plan development process. It is coordinated by institution responsible for action plan development and normally conducted by government technical and financial experts with the assistance of external experts. The quality of consultations varies among the countries. Involvement of MoF is generally insufficient. Approaches applied by different countries are summarized below.

Examples of Costing Process Organization

- In **Kosovo***, the costing process was characterized by strong leadership of the Ministry of Public Administration as the coordinating institution, active engagement of institutions responsible for implementation, and commitment of the MoF. Once the activities and other action plan elements were finalized, the Ministry of Public Administration engaged external expert to assist in costing and assigned a three-member team from the Department of PAR Management to work directly with the expert throughout the process. This greatly contributed to ownership and sustainability of results. The team held separate working sessions with technical staff from each institution responsible for implementation. Finance staff was invited on as-needed basis to consult on institution-specific costs. Representative of the MoF Budget Department also participated at some meetings. Feasibility and realism of each activity was scrutinized in details prior to costing. The final estimate was thoroughly reviewed by the working group responsible for PAR strategy drafting and commented by the MoF before being approved.

- **Albania** had the similar approach like Kosovo*. However, the MoF involvement was insufficient and the costing process took more time.

- In **Montenegro**, the Ministry of Interior responsible for PAR at the time of costing coordinated the costing process. SIGMA primarily assisted with identification of priority activities and developing other action plan elements. The Ministry of Interior produced cost estimates for activities that fall under its responsibility, consulting the MoF on as-needed basis. Other institutions responsible for implementation were requested to provide their own estimates of additional funding needed. No particular costing guidelines were provided to these institutions and the estimates received were not further scrutinized by the Ministry of Interior.

- **Serbia** had the similar approach like Montenegro. Assessing financial impact of strategies was not obligatory at the time of Action Plan costing, as it is now. Institutions responsible for implementation produced own cost estimates and submitted them to the responsible MPALSG. The MPALSG also relied on cost estimates for some strategic measures that already existed in separate operational documents.

- In **BiH**, the process of drafting and costing of Draft PAR Action Plan is still ongoing, coordinated by the Public Administration Reform Coordinator's Office (PARCO). Preliminary estimates were produced by technical experts from PARCO and external experts provided by donors. SIGMA was consulted on the costing methodology. The preliminary estimates are to be revised following the finalization of the Action Plan, and reviewed by the Joint Working Group responsible for the Strategy drafting.

- In **Macedonia**, Draft PAR Strategy and Action Plan 2017-2022 was recently produced under coordination of the responsible Ministry of Information Society and Public Administration. The costing process is still ongoing.

Since PAR activities are largely funded by donors, it is important to consult major donors on the scope and amount of their ongoing and anticipated support. Consultations with the DEUs are especially important, due to significant share of IPA support. Other relevant agencies and organizations (such as SIGMA or ReSPA) should also be consulted on their financial or other support.

3.5. Identifying Cost Objects

3.5.1. General Guidelines

Cost objects are units the cost of which needs to be estimated. Adequate identification of cost objects is important because it influences selection of costing methods.

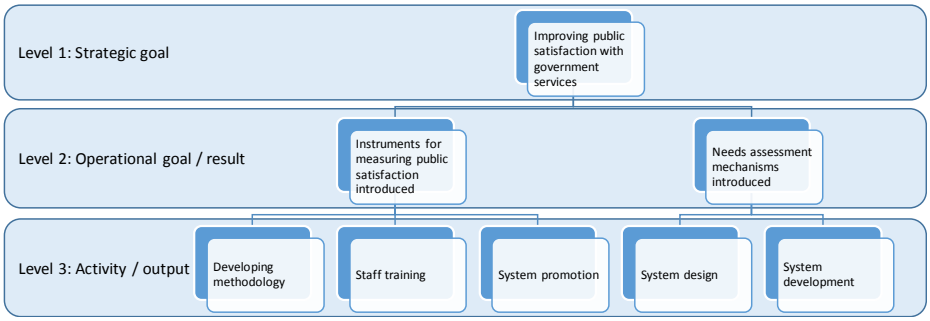
Understanding the Action Plan

Proper definition of cost objects requires comprehensive understanding of programs and activities to be implemented. **Action plan** deconstructs a strategy as the highest level end product into successive lower levels with smaller elements, until the work is segmented to a level that enables management control. Breaking down the work into smaller elements enables easier planning, implementation and assigning responsibilities. Hierarchical structure of action plan shows how elements relate to one another, as well as to the overall strategy as an end product. According to best practice, a sum of lower level elements should represent 100% of work applicable to the next higher level[8]. This ensures that each lower level element ("child") is fully assigned to its respective higher level

8 Cost Estimating and Assessment Guide, Unites States Government Accountability Office, 2009

element ("parent") and not shared across several higher level elements. Action plan elements may have different names (e.g. strategic and operational goals, results, programs, projects, measures, activities, actions, outputs) and involve different number of vertical levels. A typical action plans includes at least three levels, as illustrated by Graph 2. Action plan should be expanded to a level of detail sufficient for resource planning. The less details are provided, the more assumptions will need to be made, increasing the risk associated with the estimate.

Graph 2: Action Plan Elements



Activities, Outputs and Projects/Programs as Cost Objects

The primary cost objects should be the lowest level elements of action plan, typically called **activities**. The costs of individual activities are added up to calculate costs of their respective higher level elements (objectives, results). The aggregation of the highest level elements' costs represents the cost of strategy.

Action plans may include some unnecessary or unrealistic activities. The costing process should reveal such activities, which may result in recommendations for changes to the action plan. Before even starting estimating the costs, the costing team should carefully inspect each activity to make sure that: (a) the activity is necessary for achieving the desired results and objectives, (b) its implementation is realistic and feasible, and (c) the resources for implementation are available or it can be reasonably expected that they will be secured. By asking these questions the costing team will conduct a sort of action plan "reality check" and potentially recommend deletion or changes to some activities.

To properly estimate costs, the costing team needs to have a comprehensive understanding of processes and outputs associated with each activity. Only when processes and outputs are clear, the necessary input requirements can be accurately defined. For example, activity called "Developing standardized methodology for assessing

user requirements for public services" has a clearly defined output - "the methodology developed". The costing team should be able to identify input requirements based on their common knowledge and other data available. If activity has only one unique output (as in this example) the cost of activity is the cost of its output. If activity is more complex and has several unique outputs (e.g. software installed, legal framework drafted and training delivered) each output should be costed separately and cost of activity calculated as the sum of the outputs' costs. **Outputs** are therefore the ultimate cost objects.

Programs and activities are usually very distinct. However, some activities are similar in terms of resource requirements, processes and outputs. These are usually implemented across different programs and result in multiple units of a homogenous output. For example, outputs of a training program are the trained participants or the training days delivered. For such activities, cost of one **unit of output** can be calculated by dividing the cost of activity with the number of output units. For example, cost of one training day can be calculated by dividing the cost of training program with total number of training days. This unit cost can be used for future cost estimates, e.g. for estimating costs of future similar trainings[9].

Clear identification of activities and outputs is not always possible because of uncertainties associated with long-term planning or lack of resources for costing. In such cases costs must be estimated at **project** or **program** level, based on broadly defined scope of work and anticipated results. Projects or programs are then essentially treated as cost objects. For example, the government may plan to implement digitalization of public registries in a number of institutions. Since detailed activities and their outputs will be known only when the feasibility study is produced, the cost will be estimated at project level.

3.5.2 PAR Examples

To identify cost objects and conduct costing, it is important to understand how a PAR strategy functions. Public administration relates to the management and implementation of a broad range of government activities, including implementation of legislation and provision of public services. The scope of PAR strategies involves six horizontal reform areas as outlined by the EC: strategic framework of PAR, policy development and coordination, public service and HRM, accountability, service delivery, and PFM. The Principles of Public Administration published by SIGMA outline the main requirements to be met in each

9 To be reliable, unit costs of outputs should be estimated based on historical data on several similar activities/outputs.

reform area[10]. Typical objectives and related programs and activities in five reform areas are summarized in Table 3, based on the countries' PAR strategies and accompanying action plans[11].

Table 3: Typical Objectives, Programs and Activities per Reform Area

Reform Area	Key Objectives	Typical Programs	Typical Activities
Strategic framework of PAR	Comprehensive management of PAR, with established leadership, clear and financially sustainable strategic framework, determined accountabilities and implementation capacities in place.	Strengthening capacities of relevant institutions to manage PAR; Improving existing implementation arrangements, coordination and financing mechanisms; Designing specific PAR policies, programs and activities	Conducting analysis and needs assessment of existing structures and arrangements; Legislative drafting and amendments to reorganize existing and/or create new structures; Producing methodological guidelines; Trainings, workshops, study tours; Database development; Promotional activities
Policy Development and Coordination	Effective, consistent and competent policy making system at the center of government; Participatory and evidence-based policy making aligned with strategic and financial planning; Transparent, compliant, clear and accessible government decisions; Effective parliamentary scrutiny	Improving legal and institutional framework for policy development and coordination; Strengthening capacities of center of government and other institutions; Harmonizing strategic planning with budgeting; Strengthening monitoring and evaluation systems; Strengthening e-government; Developing tools for transparent, participatory and evidence-based policy making	Conducting analysis and needs assessment; Legislative drafting and amendments; Producing rulebooks and methodological guidelines; Producing reports and publications; Trainings, workshops, study tours; Development of information and data management systems; Establishment and support to working groups

10 The Principles of Public Administration, SIGMA

11 The list of relevant PAR strategies and Action Plans is provided in Annex 1. Although it is an integral part of PAR, the PFM reform area is normally addressed by a separate strategy and action plan, and is therefore not included in the table.

Reform Area	Key Objectives	Typical Programs	Typical Activities
Public Service and HRM	An effective and efficient public service system; HRM policies and strategies consistently applied based on principles of professionalism, merit-based recruitment and promotion, transparency, fairness and efficiency	Establishing legislative and policy frameworks for modern HRM; Establishing fair and transparent system of work relations and wages; Implementing HRMIS systems; Strengthening capacities of HRM functions; Strengthening monitoring and evaluation systems; Strengthening oversight	Legislative drafting and amendments; Trainings, workshops; Development of information systems; Organization of special and pilot projects (e.g. electronic assessment); Developing training strategies and web platforms; Developing methodologies, guidelines, manuals, standards
Service Delivery	Good and citizen-oriented administration that provides effective, reliable, accessible, predictable and customer-friendly services that meet the citizens' needs, also using the means of electronic delivery.	Developing policy, strategic and legislative frameworks for service delivery; Strengthening institutional capacities and mechanisms for planning, delivery, monitoring and evaluation of services; Reengineering services; Developing electronic systems based on interoperability framework; Developing single point of contacts for service provision; Awareness raising and measuring satisfaction	Conducting analysis, needs assessment, feasibility studies; Legislative drafting and amendments; Developing strategies and programs; Organizational restructurings; Developing interoperability platforms and system integration; Developing e-portals; Implementing one-stop-shops; Trainings, workshops, Developing methodologies, manuals, standards; Information campaigns

Reform Area	Key Objectives	Typical Programs	Typical Activities
Account-ability	Transparent and accountable public administration system with functional legislation, administrative structures and control mechanisms in place, enabling access to information and protection of citizens' rights.	Better application of ethics and integrity principles and implementation monitoring; Strengthening public access to information; Strengthening public participation; Strengthening mechanisms for protection of citizens' rights; Strengthening oversight and control	Conducting analysis and feasibility studies; Legislative drafting and amendments; Organizational restructurings; Developing methodologies, standards, concept papers; Trainings, workshops; study tours; Developing IT systems and e-portals; Media campaiagns; Monitoring enforcement; Pilot projects (e.g. delegating decision making)

The structure of PAR action plan varies among the countries. Objectives or results are generally first defined based on PAR reform areas, and then broken down to activities. All countries attempted to assign costs to the lowest level action plan elements, typically called activities or outputs. However, this was not always feasible. For example, in Serbia the PAR Action Plan 2015-2017 was costed at the result level because its structure was such that a number of activities were cross-cutting and led to achievement of multiple results.

Clear identification of activities and their outputs is also a challenge because of uncertainties related to long-term planning horizon or lack of resources for producing a detailed estimate. Some activities can simply not be defined until their predecessors have been implemented. For example, requirements for implementation of the new wage structure can be defined in details only after a comprehensive evaluation of the existing wage system has been conducted – and this evaluation is planned as a separate activity. Similarly, provision of infrastructure for service delivery can be defined in details only after the feasibility study (a separate activity) has been produced. Table 4 summarizes how different countries have structured their PAR action plans and defined cost objects, providing examples of clearly defined and broadly defined activities (the latter essentially representing projects or programs).

Table 4: Structure of Action Plans and Examples of Cost Objects in Western Balkans Countries

Country	Action Plan Structure	Cost Object	Examples of clear activities/ outputs	Examples of complex "activities"
ALB	Strategy pillars to: → Objectives → Actions → Activities/Outputs	Outputs	Drafting of training program on developing policy and strategic documents for all policymaking staff in line ministries (policy and coordination departments)	Development and consolidation of an integrated ICT system (based on the requirements of the services re-engineering process)
BiH	Strategic goal to: → Specific objectives → Measures → Results → Activities	Activities	Carrying out the analysis of the Law on administrative disputes, with recommendations for improvement	Implementation of the Centers of Government functions related to government sessions, legal harmonization, identification and approval of strategic priorities and financial feasibility
KOS*	Strategic objectives to: → Specific objectives → Activities → Outputs	Outputs	Developing the new modules to HRMIS software (Personnel Planning and Online Application), and recruitment procedures for senior managerial level	Finalization of job classification in civil service and implementation of new salary system
MKD	Specific objectives to: → Results → Activities → Milestones/ Sub-activities	Sub-activities	Defining and establishing unique methodological rules for organizing the structure of draft laws and processes in the Rules of Procedures of the Assembly	Adjustment of institutional structures for PAR and trainings based on the findings and recommendations of the previous needs analysis
MNE	Specific objectives to: → Activities → Milestones/ Sub-activities	Sub-activities	Conduct public consultations on draft Law on Free Access to Information	Establishment of e-services in Educational institutions

Country	Action Plan Structure	Cost Object	Examples of clear activities/ outputs	Examples of complex "activities"
SRB	General goal to: → Specific objectives → Measures → Results → Activities	Results	Preparation of the feasibility study for preparation of registers and its adoption by the PAR Council	Strengthening LSGs development and financial management capacities by the MPALSG (activities to be defined in 2015 in cooperation with the Permanent Conference of Cities and Municipalities)

3.6. Selecting Costing Methods

3.6.1. General Guidelines

Prior to starting data collection and assigning costs to selected cost objects, the costing team needs to select the costing methods that will be used. Depending on the comprehensiveness of action plan and level of details, rough order of magnitude estimates or more detailed budget estimates can be produced for different programs and activities. As discussed in section 2.4, a combination of several costing methods is normally used in one costing exercise. The methods should be selected based on objectives of costing, availability of data and resources for the costing exercise, and timeframe or deadline for completing the process. The cost of selected approach should not outweigh its benefits.

Bottom-up Costing

Bottom-up costing is the recommended approach, assuming the resources are available to apply this method in an economically feasible way. Cost objects are activities or their outputs, as the lowest level elements of action plan. Cost of each activity or output is estimated based on two key elements for which the information is required: (a) types and quantities of resources needed for its implementation, and (b) costs of these resources. Cost is calculated by multiplying quantities of resources with their unit cost, and adding them up. Costs of higher level elements (programs) are calculated by summarizing costs of lower level elements (activities). The cost of strategy is the sum of costs of the highest level elements. Example of bottom-up costing is provided in Table 5.

Table 5: Bottom-up Costing Example

Activity:	Conducting needs assessment for capacity development in the Ministry of Planning.		
Output:	Needs assessment analysis produced, outlining the current state of play and specific capacity building requirements.		
Input data:			
Resources	Quantities	Cost per Unit EUR	Total Cost EUR
Civil servants' labor	5 work days of senior advisor	100 EUR per day	500
External expert	20 days	500 EUR per day	10,000
Accommodation	2 nights for 20 participants	50 EUR per participant	2,000
Printing	100 copies of the 50 pages document	5 EUR per copy	500
Total Cost:	13,000 EUR		

If the bottom-up approach cannot be applied because the activity is too complex or uncertainties related to its scope and outputs are high, other methods should be used.

Top-down Costing

Top-down or parametric costing should be used when details of activities, resource requirements and/or unit costs are not available to apply bottom-up approach. Cost of project, activity or output is basically calculated based on the established relationship between its characteristics and historical costs of previous similar projects, activities or outputs. Examples are provided in Table 6 and Table 7.

Table 6: Top-down Costing Example 1

Activity:	Implementing training program in the area of strategic planning for additional civil servants in partner institutions.
Output:	A standard 2-day training program delivered to approximately 50 new participants.
Input data:	Based on historical data on previous trainings, an average cost of a 2-day training is 500 EUR per participant. This amount includes all direct training cost (trainers, materials, travel, accommodation). Travel cost is approximately 10% of training cost. The new training will have the same scope as the previous trainings, except that no travel will be required.
Cost estimating relationship:	Cost per participant = average cost per participant from previous trainings, reduced by 10% Total cost = no. of participants x cost per participant
Calculation:	Total cost = 50 x (500 EUR x 0,9) = 22,500 EUR

Table 7: Top-down Costing Example 2

Activity:	Development of software to support the government's central planning system within the Ministry of Planning
Output:	Software developed and installed
Input data:	Based on historical data on previous projects, cost of software development is determined as a function of the number of software lines of code. Unit cost per line of code is 0.5 EUR. New software will have approximately 1 mil lines of code. Start-up costs in amount of 100,000 EUR will also be needed.
Cost estimating relationship:	Total cost = Start-up cost + (no. of lines of code x cost per line of code)
Calculation:	Total cost = 100,000 + (1,000,000 x 0.5 EUR) = 600,000 EUR

The key issue in establishing the parametric relationships is defining a credible cost driver that generates cost (e.g. the number of training participants in the first example and the number of software lines of code in the second example). It is also important to make sure that cost driver falls within the relevant range. If the new software from the second example is expected to contain one million lines of code and the unit cost of 500 EUR was based on programs with lines ranging from 10,000 to 250,000, it would be inappropriate to use this relationship to estimate the new software cost. It is therefore important to periodically revisit once established cost estimating relationship, so that it is kept accurate.

Top-down costing is also used for allocation of indirect costs (overheads). Indirect costs are allocated to activities or outputs based on a certain percentage or rate (e.g. cost of office supplies are estimated as a percentage of salary costs). They are discussed in more details in section 3.9.3.

Top-Down Allocation of Overheads

Assume that conducting needs assessment from Table 5 above will require use of the Ministry's utilities and communication resources. The costs of these resources are indirect to the training and cannot be estimated using the bottom-up approach because no quantities and unit costs can be defined.

Based on the Ministry historical expenditure data, average costs of utilities and communication represent 20% of direct labor cost. Direct labor cost allocated to this activity is 500 EUR. The cost of utilities and communication will therefore be calculated as 500 EUR x 20% = 100 EUR. This amount will be added to direct activity costs of 13,000 EUR to calculate total costs.

Analogy Costing

Analogy costing is applied when activity, project or program cannot be defined in sufficient details (because it is in early design stage, or the planning horizon is too long), but the information on similar activity, project or program previously implemented in a different setting is available. The cost is calculated by adjusting the cost of previous activity, project or program to account for differences in technical characteristics. Example is provided in Table 8.

Table 8: Analogy Costing Example

Activity/ Project:	Building state level institutions capacities for strategic planning
Output/result:	Technical assistance provided to 8 beneficiary institutions, including trainings and study tour for relevant staff, development of bylaws, and procurement of equipment.
Input data:	A similar project in amount of 1 mil EUR was implemented 3 years ago. It provided the same type of assistance to 4 beneficiary institutions, of which 2 will be included in the new project.
Calculation:	Total cost = 1 mil EUR / 4 institutions x 8 institutions = 2 mil EUR

Adjustments should be made objectively, by using factors that represent differences in size, volume or complexity. Analysts need to determine key cost drivers and understand how they impact total cost. In our example, the assumption is that the relation is linear, and that the new

project will have the same characteristics as the previous one. However, a more detailed analysis is needed to understand the true cost drivers and make the adjustments. The following questions could for example be asked:

- Will the two “old” institutions that participated in the previous project have the same or reduced requirements comparing to six “new” institutions? They may not need new equipment, or the same type of training. If this is so, relevant cost should be reduced based on specific requirements of the “old” institutions and cost structure of the previous project.
- Are the six “new” institutions of similar size as the two “old” institutions? If not, the cost should be adjusted because the number of staff drives training and equipment costs. The percentage of adjustment should be estimated based on number of staff in the “new” institutions and cost structure of the previous project.
- Will all types of assistance (training, legislative drafting and equipment purchase) be equally required by all institutions? Legislative drafting may be a joint activity, which may reduce costs.
- Since the old project was implemented three years ago, what is the impact of inflation? Inflation index should be used to adjust costs.

Expert opinion

Expert opinion should be used to estimate costs of new programs or projects for which the level of uncertainty is so high that none of the other methods can be applied at reasonable cost (e.g. a pioneering capital investment project that needs to be implemented at different geographic locations). This method can also be used for estimating costs of projects the scope of which depends on results of other projects or activities which are yet to be implemented. Finally, it should be used to complement and validate results of other costing methods. In the example from table 8 above, experts may provide additional inputs related to specific requirements of institutions, based on which the estimate can be adjusted.

3.6.2. PAR Examples

The countries use different methods in costing their PAR action plans. As a rule, the recommended **bottom-up** approach is properly applied only for clearly defined activities. In the example below, cost of each output of the activity is calculated by multiplying the quantities of resources needed with their unit costs. The cost of activity is then calculated by adding up the costs of its outputs.

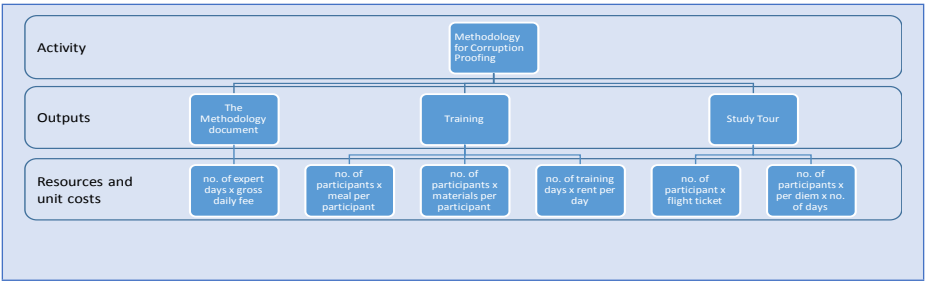
Bottom-up Estimate – Developing methodology for assessment of corruption proofing in Albanian legislation

To contribute to a transparent, policy-based and inclusive system of legislative drafting aligned with *acquis*, Albania supports conducting systematic evaluation of corruptive opportunities in legislation (corruption proofing). One of the activities in PAR Action Plan is development of methodology for assessment of corruption proofing in legislation. The activity has three specific outputs:

1. The methodology document developed;
2. Trainings on the methodology application delivered to approximately 25 persons from 20 ministries, Parliament and Office of the President; and
3. Study tour to an EU country organized for 8 persons from relevant institutions.

Approach to cost estimate was as follows:

1. Types of resources needed for delivery of each output were identified (external experts for developing the methodology document and delivery of trainings; training premises, materials and meals for participants; and travel and accommodation for the study tour)
2. Physical units of measurement for each resource type were identified
3. Quantities of each resource type were estimated (number of expert days; number of training days and participants; number of study tour days and participants)
4. Unit costs of each resource type were estimated (expert's daily fee; rent of premises per training day, training materials per participant, meal per participant; air ticket and per diem per study tour participant)
5. Unit costs of resources were multiplied with their quantities, for each resource type, and added up to calculate the cost of each output
6. Costs of outputs were added up to calculate the cost of activity



Top-down or **parametric** estimates are rarely used due to diversity of PAR activities and outputs, and lack of historical data needed to establish a credible parametric relationship. This approach should be used for activities with homogenous outputs and similar resource requirements and implementation arrangements (such as trainings, workshops, producing simple guidelines etc.). Unit cost of output should be calculated based on historical data, and multiplied with the number of outputs. For example, historical cost of training per participant can be used as a parameter for estimating costs of future trainings. If variations between the outputs and resource requirements are high, this method will not yield accurate results. For example, average cost of a training day calculated based on a series of HRM trainings provided by local experts is not a good proxy for calculating cost of policy development training delivered by international experts. Top-down approach should also be used for allocating indirect costs, especially if full costs of PAR strategy are calculated.

Top-down (parametric) estimate - Policy development training in BiH[1]

To strengthen policy development functions and capacities at the state and entity level institutions, the draft action plan envisages implementation of standard policy development training for all civil servants engaged in policy analysis and planning. The trainings would be delivered by the civil service agencies using sub-contracted certified experts. Expected output of the activity is one trained civil servant per institution. Since the agencies already delivered similar trainings using the same implementation arrangements, data on average costs per participant could be made available by government level. Total cost of activity would therefore be estimated by multiplying the cost of training per participant with the number of participants from each government level.

Analogy method was commonly used to estimate costs or complex activities (essentially representing projects), such as capacity building or infrastructural projects in different reform areas. Costs should be estimated by adequately adjusting costs of previous similar project, as illustrated in the example below.

Analogy estimate – Capacity building on good administration in BiH[2]

As part of the improvement of administrative framework for service delivery, the BiH Draft PAR Action Plan envisages a capacity building activity focused on improved application of good administration principles and one-stop shops. The activity should involve trainings to minimum 1,500 civil servants and inspectors at three government levels and developing a comprehensive Training Manual. Detailed requirements and outputs can be defined only based on a needs assessment. A similar 18-month capacity building activity was implemented in 2014-2015, providing training on administrative procedures to 1,500 participants from 8 institutions. The previous activity budget and final report were used to estimate costs:

Characteristics	Old activity	New activity
Activities	Trainings	Trainings and Manual (based on experts' opinion)
Beneficiary institutions	184	194 (based on institutional responsibilities and staff numbers)
Trained participants	1,500	Old activity: 1,500 / 184 = 8 per institution New activity: 8 per institution x 194 institutions = 1,552
Training days / participant	6	8 (based on experts' opinion)
Participant days	1,500 x 6 = 9,000	1,552 participants x 8 training days/ participant = 12,416
Expert days	779	12,416 participant-days / 11,6 expert days/ particip. days = 1,070
Expert days/ participant day	9,000 / 779 = 11,6	11,6 (assume the same input requirements)
Budget	Experts: 570,050 EUR Incidentals: 130,000 Total: 700,050 EUR	Cost per expert day: 570,050 / 779 = 732 EUR Trainings: 732 EUR x 1,070 days = 783,240 EUR Manual: 732 EUR x estimated 30 additional days = 21,960 EUR Total experts: 783,240 EUR + 21,960 EUR = 805,200 EUR Incidentals rate as per old activity: 23% (130,000 / 570,050 EUR) Incidentals: 0,23 x 805,200 EUR = 185,196 EUR Total budget: 805,200 EUR + 185,196 EUR = 990,396 EUR

Due to lack of readily-available data on PAR activities, their historical costs and outputs, **expert opinion** should principally be used to

supplement other methods whenever possible. Experts should particularly be consulted on complex activities that are first of their kind, such as complex ICT projects etc. International experience and making analogies with similar projects abroad may be useful.

A **combination** of methods should be used in costing complex activities. For example, in a capacity building activity, the bottom-up method can be used for estimating costs of equipment and trainings, the top-down method for estimating indirect costs of labor, and expert opinion to verify the results.

Costing based on **donor's estimates** is a common practice in PAR strategies' costing. When information on the amount of existing or anticipated donor support for a particular program or activity is provided by donor, this amount is taken as the cost of program or activity. In this way the countries rely on estimates produced by donors, as defined in their project fiches, project budgets or financing plans. Assuming the donors' estimates are comprehensive, accurate and credible, this "costing method" is acceptable because it reflects the most likely expenditure scenario. However, donors' budgets may overestimate or underestimate the cost of activity, especially if they relate to several activities (which may be part of different programs or even strategies) or include irrelevant overheads or other costs. A careful analysis of budgets and scope of donor-funded projects is needed to ensure that these estimates are reliable and that relevant costs are properly allocated to activities.

3.7. Developing Data Management Plan

3.7.1. General Guidelines

Application of any costing method requires availability of adequate data. The data needs to be collected, analyzed and adjusted so that they can be used for costing. Data management requires developing a plan that identifies the minimum data set required for the costing exercise, the necessary level of data disaggregation, the sources from which the data will be collected, and data collection instruments.

Minimum Data Set

Minimum data set should be defined based on the objectives of costing, the cost objects, and the selected costing methods. Given that data collection and analysis are time-consuming and require a lot of effort, a guiding principle should be to use the minimum data set needed to produce valid estimates and to use readily available data sources.

Focusing on essential data that are feasible to collect will minimize the burden on all stakeholders. The attention should be paid to capturing large expenditure items, instead of focusing on data that are likely to have negligible impact on the results. If the data is not readily available, using proxies or assumptions should be considered, assuming that validity will not be compromised.

Types of data needed can be classified to resource utilization data and cost data. Data on **types and quantities of resources** should be provided by technical experts based on activities being costed and information on previous similar activities. Data on **costs of resources** should be provided by responsible institutions' finance staff, the MoF budget department and donors, based on budget documents, expenditure records, inventory lists, invoices, suppliers' offers, contracts, market prices and various analyses and studies. Examples of data elements and how they can be used are provided in Table 9. The list is not prescriptive, and should be adjusted based on the type of strategy and objectives of costing.

Table 9: Examples of Data Elements

Data Elements	How Data is Used
No. of staff by type or category of personnel and amount of time used by staff for implementation of activities	To measure the amount of personnel time used To use as an allocation statistic for some costs (e.g. allocating overheads based on headcount)
Salaries, benefits, allowances, and other payments to personnel	To assign value to the amount of personnel time used for activity implementation
No. of units of materials and services consumed (such as no. of trips, supply items, expert days)	To measure the volume of materials and services
Cost of materials and services consumed	To assign value to the volume of materials and services To calculate unit costs of materials and services
No. of immediate outputs of activities – products or services (these vary broadly depending on type of strategy and sector (trainings delivered, buildings constructed, documents produced, applications processed etc.)	To measure the volume of outputs To calculate unit cost of outputs To use as an allocation statistic for some cost items (e.g. allocate communication costs based on number of documents produced or travel cost based on number of participants etc.)
Inventory data	To identify capital assets used
Depreciation schedules	To calculate the value of capital asset used

Floor area (square meter)	To use as an allocation statistic for some cost items (e.g. allocating cost of rent or utilities)

Level of Disaggregation

The desired level of aggregation primarily depends on the cost object and the costing methods selected. For example, in a bottom-up costing, measuring time the staff works on activity implementation may be done using detailed estimates of days or weeks worked by each employee, which is highly disaggregated data. With top-down approach, staff time can be measured based on an estimated percentage of total staff time dedicated to activity, which is much more aggregated data.

The available level of disaggregation of cost data depends on sophistication of accounting and information systems of data providers. Data is rarely available at the desired level of details, and further disaggregation is needed. Experts or finance staff from relevant institutions should be consulted to analyze and disaggregate data. Institutions should gradually modify the way they track and record data to ensure that data is available in the right format for future costing exercises.

Disaggregating data based on accounting records - example

Assume an institution is purchasing a new piece of equipment which costs 1,000 EUR and needs to estimate its annual maintenance costs. The institution already has 5 similar equipment items for which it paid a total of 6,000 EUR. According to budget execution report, total annual maintenance costs amount 500 EUR. According to detailed expenditure data and invoices, only 200 EUR of this amount relates to the five equipment items, whereas the rest relates to building maintenance. Rough estimate of annual maintenance cost for the new item can be made as follows:

- Average ratio of maintenance cost to purchase costs of existing equipment: 200 EUR / 6,000 EUR = 3%
- Annual maintenance cost of new equipment item: 0,03 x 1,000 EUR = 30 EUR.

Data Sources

Data sources are institutions, databases, reports or other systems that contain the required data. Data for strategy costing is typically not centrally available, and a number of sources (including government institutions, independent experts, donors) need to be contacted. Data should be sought from primary (original) sources whenever possible,

because they are considered the best in quality and ultimately the most useful. Secondary data are derived from primary data and changed, and therefore their overall quality is lower. Examples of potential data sources are provided in table 10.

Table 10: Examples of Data Sources

Government Sources	External Independent Sources	Donors
Budgets and expenditure reports Work plans and reports Accounting records Inventory lists, procurement reports, invoices Supplier's contracts Donation reports/memos/ contracts Databases and other reports	Statistical Bureau Published studies and analysis Databases maintained by independent service providers and organizations Experts	Project documents and reports Work plans and reports Project budgets and expenditure reports Projects' databases

Data Collection Instruments

Extracting data from existing reports and databases is in principle very time consuming. Some sort of prior analysis or modification is needed before the data can be used. Costing team should therefore develop adequate instruments to facilitate data collection, such as data collection sheets, interviews, surveys, questionnaires, focus groups etc. These instruments should ideally integrate both primary and secondary data requirements in one form. Selection of instruments depends on type and availability of data. A simple sheet may be sufficient to obtain data on budget expenditures for several line items, but an interview will probably be needed to define the way in which indirect costs should be allocated.

There are many challenges related to data collection. An inevitable challenge is associated with the quality of data obtained, including their reliability, accuracy, relevance, completeness, consistency and timeliness. Additionally, some stakeholders may hesitate to disclose data which they consider confidential and sensitive. Data management plan should therefore be realistic and feasible.

3.7.2. PAR Examples

In the example of "Developing methodology for assessment of corruption proofing in Albanian legislation" from the previous section, data on types and quantities of **resources** relate to number, origin and level of effort of external experts, number of trainings and study tours, their duration and location, and number of training and study tour participants, whereas data on **costs** relate to experts' daily fee, daily rent of training premises, cost of training materials per participant, cost of meal per participant, air ticket and per diem rates. Sources of these data and collection methods are shown below.

Data Sources and Collection - Methodology for assessment of corruption proofing in Albanian legislation		
Data	Source	Collection Method
Number of experts' days Number of training days and participants Number of study tour days and participants	Technical experts from responsible institutions Experienced external expert	Consultative meetings with external expert
Expert daily fee	Standard EU rates	Information request
Rental of training premises Training materials Meal for participants	Government expenditure reports Donor reports	Consultative meetings with finance staff and external expert
Air ticket	Market prices	Market research

Data collection and analysis is generally the most time consuming step in PAR strategy costing process because the countries lack comprehensive databases. Data needs to be collected from several sources, including government institutions, donors and external agencies. Furthermore, data is normally available in aggregated form and needs to be disaggregated. If similar activity has never been implemented before, experiences of other countries may need to be analyzed. Because of lack of readily-available data, the countries rely a lot on data provided by experienced external budget experts. To ensure long-term efficiencies in conducting the costing exercises, the governments should strive to develop internal processes and systems that enable effective and efficient data collection and analysis. Among other, this requires development of comprehensive databases on resource utilization and costs of typical PAR activities. This cost data can also be valuable for costing other government programs and strategies.

3.8. Estimating Resource Requirements

Whichever costing method is used, one of the two key elements of the costing process is estimating types and quantities of resources required, in physical units. The next key element is assigning monetary values to these resources, which is discussed in the next section.

3.8.1. Identifying Types of Resources

Resource requirements should be estimated at cost object (activity) level. Since programs and activities are usually very diverse, resource requirements need to be estimated for each activity separately. If activities and their outputs are clear, this should be straight-forward and easy. However, it can sometimes be problematic. Significant and direct inputs (such as time of key staff, equipment, direct materials and services) are relatively easy to estimate. On the other side, estimating minor or indirect inputs (such as time of support staff, use of shared facilities etc.) can be quite difficult.

Level of Comprehensiveness

The level of comprehensiveness in estimating resource requirements primarily depends on the objectives of costing. Costing for the purpose of economic evaluations may require assessment of all resources provided by all stakeholders, including government, private sector, individuals and households. Costing for the purpose of budget planning is focused on resources provided by government and donors. If incremental costing is done, only additional resources needed should be estimated. If full costing is done, existing resources that will be used for implementation of activities should also be added. Another factor that impacts comprehensiveness is the availability of data and feasibility of data measurement. Due to practical problems and potentially high cost of data analysis, collecting detailed information about small resource items and their utilisation may not be worth of effort.

Classifications

Before estimating quantities, all resource items should be accurately classified, and their relation to cost object established. Resources can be classified based on different criteria, and this usually depends on the objectives of costing. Different resource classifications are the basis for subsequent cost classifications.

Primary classification is by **resource item**. Resource items should correspond to main budget line items (labour, materials and services,

capital assets) to enable linking the cost estimate with budget planning. It is particularly important to distinguish capital items from recurrent items. Capital items have a useful life of one year or longer and a purchase price above a certain threshold. They are annualized over the number of years that the items are expected to last. Based on their frequency of utilisation, resource items should be classified as **one-off or recurrent**. One-off items are consumed only once during the strategy implementation. Recurrent items are consumed periodically over a period of time as a result of stratgy implementation. Distinction between one-off and recurrent items is required for identification of one-off and recurrent costs. Based on their relation to cost object (activity), resource items can be classified as **direct or indirect**. Direct items are used solely by the activity and can be assigned to it entirely and in an economically feasible way. Indirect items cannot be easily assigned to the activity, but must be consumed in order for the activity to happen. In a simplified approach, incremental costing is focused on identification of direct resources, whereas full costing also requires identification of indirect resources.

Direct and Indirect Resources

Implementation of a public information campaign within a ministry's department will require engagement of staff on a full-time basis, design and printing of promotional materials and purchase of office supplies. These are all direct items. However, the campaign will also require the ministry's management oversight and usage of common facilities and utilities. These items are indirectly consumed by the campaign and cannot be easily traced to it, because they are shared by different programs and activities implemented within the ministry.

Since strategy costs are estimated for a period of several years in future, resource requirements should also be planned **by year** of implementation. This will facilitate linking with multiannual and annual budgets and work plans. The assumption is that resources will be paid (i.e. the cost generated) in the fiscal year they are consumed.Table 11 shows examples of resource classifications.

Table 11: Examples of Resource Classifications

Activity: Expanding capacities of IT department within the Ministry of Planning to support implementation of electronic planning system							
Resource Item	Relation to activity		Frequency of occurrence		Year		
	Direct	Indirect	One-off	Recurring	1	2	3
Permanently employed staff, full-time	x			x	x	x	x
Temporarily employed staff, full-time	x		x		x	x	x
Management oversight, part-time		x	x		x	x	x
Materials and Services:							
Travel	x		x			x	
Accommodation	x		x			x	
Office supplies		x	x		x	x	x
External expert support	x		x				x
Communication		x	x		x	x	x
Repairs and investment maintenance	x			x			x
Software licences and maintenance	x			x		x	x
Office maintenance		x	x		x	x	x
Rent and utilities		x	x		x	x	x
Capital Assets:							
Computer equipment	x		x			x	
Furniture	x		x			x	
Software	x		x		x		
Building reconstruction	x		x		x		

3.8.2. Estimating Quantities of Resources

Defining Unit of Measurement

The quantities of each resource item should be estimated in physical units of measurement. These units should be selected based on type and characteristics of resources. This should be a matter of common sense and relatively easy. However, availability of data also has to be taken into consideration, and alternative units selected if the necessary data is not easily obtainable. For example, quantity of labor time should be measured in weeks only if it is necessary and feasible to obtain such a detailed estimate (e.g. for measuring engagement of short-term or temporary staff). Otherwise, a month would be more appropriate unit to

use (also because salary is normally expressed as monthly amount). Table 12 shows typical units of measurement for different resource types.

Table 12: Examples of Units of Resource Measurement

Resource Item	Commonly used units
Labor	Per year, per month, per week
Travel - fuel	Per kilometer, per trip
Travel - accommodation	Per overnight, per day
Office supplies	Per item, per staff
External expert support	Per man-day
Communication	Per item, per staff
Repairs and investment maintenance	Per capital item
Office maintenance	Per square meter
Rent and Utilities	Per square meter
Capital assets	Per item

Approaches to Estimating Quantities

Estimating quantities of physical resources should ideally be comprehensive, reliable, valid and representative. The quantities of all relevant resource elements should ideally be estimated. However, this is not always possible because it requires resources and availability of data from multiple sources. Different approaches can be applied, depending on costing methods selected and data availability.

With **bottom-up** approach, the number of units of each resource item is precisely estimated (e.g. number of computers, number of work months etc.). This number is multiplied with unit cost to calculate total costs of a resource item. With this approach, estimating quantities of resources and estimating their costs are two clearly separated steps.

Table 13: Example of Bottom-up Approach to Estimating Quantities of Resources

Resource Item	Unit	No. of units	Data Sources
Direct labor – associate	month	12	Work plans and reports; Interviews, surveys
Direct labor – expert advisor	weeks	5	Questionnaires; Self-recorded activity logs from similar activities
Travel - fuel	kilometer	5,000	Work plans and reports; Vehicle logbooks, travel reports
Travel - accommodation	day	70	Work plans and reports; Travel reports
External experts	man-day	40	Work plans and reports
Printing	copy	100	Work plans and reports
Rent of office space	m^2	200	Work plans, staffing plan
Computers	piece	5	Work plans and reports Inventory lists

With **top-down** approach, resource items are grouped into bigger components and these components are then estimated (e.g. use of utilities or use of office supplies). Estimating quantities is essentially done together with estimating costs, and these two steps are part of an integrated process (e.g. costs of office supplies are estimated as a percentage of labor cost, rather than by identifying individual units of supply items and multiplying them with their unit costs).

Table 14: Examples of Top-up Approach to Estimating Quantities of Resources

Resource Item	Quantity / Cost	Data Sources
Indirect labor – assistant	10% of his/her total worktime	Work plans and work reports
Indirect labor – manager	10% of direct activity cost	Work plans and work reports Budget plans and expenditure reports
Office supplies	5% of direct labor cost	Budget plans and expenditure reports Supply records, utilization logbooks Expert opinion

Communication	10 EUR per full-time staff	Budget plans and expenditure reports Invoices, inventory list, expert opinion
Rent, maintenance, utilities	20% of direct activity cost	Budget plans and expenditure reports Rental contracts, maintenance reports, invoices
Vehicle maintenance	10% of fuel costs	Expenditure reports; Vehicle logs

The bottom-up approach gives more precise results. However, it requires resources and access to primary data sources (including interviews, reports, expenditure records etc.). It also involves the tendency to overestimate. The top-down approach is simple, less costly and can be based on secondary data (such as published budget documents). However, the level of preciseness is much lower. A **mixed** approach is typically used in practice. The bottom-up estimates should be made for large resource items where the level of variation is relatively high and quantities can be easily determined. These items form the largest part of activity cost and represent cost drivers. The top-down approach should be used for small resource items where the level of variation is relatively low and units of measurement and/or quantities cannot be determined in an economically feasible way.

Resource requirements can sometimes be estimated based on **normative costing**, using specific norms and guidelines. The first step is identifying these **input norms** for implementing a particular activity or delivering an output (e.g. the amount of materials needed for a particular training, or the number of consultancy days needed to produce an analysis of average complexity). The norms should be established in consultations of relevant institutions and experts, based on historical information and the strategy requirements. Once the norms have been established, standard unit cost for each input is calculated (typically using market prices or benchmarks). Standard overheads can then be added (for example, a pre-defined percentage of utility costs). Using norms is a good cost control mechanism. It encourages discipline in planning, reduces tendency to overestimate, increases consistency of cost estimates and efficiency of the costing process. However, this methodology is applicable only when norms can be easily defined and activities or outputs being costed are homogenous. It is not recommended for heterogeneous activities and outputs, because it is difficult to produce exhaustive and valid set of norms. Also, defining norms may be time consuming and stakeholders may hardly reach an agreement. Finally, normative costing defines “what it should be” rather than “what it is”, which is challenging in environments where typical practice varies from what is recommended.

If **economic evaluation** of strategy is conducted, resources provided free of charge should also be estimated. These may include voluntary labor or use of different services, premises, or capital items at no charge. At this stage types and quantities of these resources should be identified, so that their opportunity costs can be estimated at the next stage (see section 3.9.5).

3.8.3 PAR Examples

With the recommended bottom-up costing approach, types and quantities of resources required should be estimated and adequately classified for each activity (i.e. output) separately. Table 15 summarizes typical resource items based on typical PAR activities.

Table 15: Typical Resource Items

Category	Sub-category
Labor	• New staff to be employed for an indefinite period of time (to carry out the activity, or as a result of activity implementation) • New staff to be employed for a limited period of time (to carry out the activity)
Materials and services	• Travel and fuel, per diem (related to trainings, meetings, conferences, study tours) • Accommodation (related to trainings, meetings, conferences, study tours) • Meal and refreshment (related to trainings, meetings, conferences, study tours) • Rent (training premises, additional office space, other space) • Supplies and materials (office supplies, training materials, other special materials) • International expert services • National expert services • Other contractual services (e.g. media campaigns, translation, printing and publishing, organizing study tours, developing feasibility studies etc.) • Building, vehicles and equipment maintenance • Software licenses and maintenance
Capital items	• Stationary (item with useful life of more than one year and value above a certain threshold) • Computer and other equipment, office furniture • Software • Vehicles • Buildings

Although vast majority of PAR strategies' costs are one-off costs, in practice budgets are often affected by unexpected recurrent costs. These are for example new staff that need to be employed on a permanent basis, software licenses and maintenance, and building, vehicle and equipment maintenance[12]. These items should be clearly indicated. This is also an explicit requirement of the PAR Principles[13].

Quantities of resources should be estimated by technical experts, as follows:

- New staff – based on additional workload requirements, legal requirements and limitations, existing capacities of responsible institutions and their experience in implementing similar activities. Adherence to formal staffing requirements defined in the institutions' rulebooks on systematization of posts may lead to overestimating.
- Travel and fuel – based on number and location of events (trainings, meetings, conferences, seminars, study tours), number and location of participants, and transportation mode. Shared transport will reduce resource requirements and costs.
- Accommodation, meal and refreshment – based on number and duration of events, number and location of participants, and their overnight requirements.
- Office rent – based on additional workload requirements and available infrastructure. Reorganization or reconstruction of existing space may reduce requirements for additional space.
- Rent of training space – based on number, location and duration of events. Rent is not paid if events are organized at government premises. Hotels normally provide free space for group accommodation.
- Provision of training materials – based on number of participants and means of distribution. Electronic distribution eliminates these costs.
- Office supplies – based on number and complexity of outputs (documents, meetings, other events), and administrative requirements of responsible institutions.

12 Comparing to the base year budget, salaries of new staff are treated as recurrent costs. In the subsequent year's budget, they will become part of the budget baseline.

- External experts – based on number and complexity of outputs and previous experience with implementing similar activities. Complex outputs normally require international or regional expertise.
- Other service providers (e.g. producing feasibility studies, implementing media campaigns, organizing study tours) – based on scope and complexity of output and availability of in-house expertise or other support. Building in-house expertise and using support of partner organizations will reduce requirements for external service providers.
- Software – based on software size (measured in number of source lines of code, functions, objects, feature points etc.), number of interfaces, platforms etc. Possibility of using off-the-shelf solutions may reduce resource requirements. Licenses and maintenance should be planned on a recurrent basis.
- Computer equipment – based on the number of users, locations, infrastructure and end-user hardware requirements, and facility requirements. Regular maintenance should be planned.
- Buildings – estimates should ideally be based on feasibility studies or technical specifications. If these are not available, specific workload requirements, experience from previous similar projects and expert opinion should be considered. Regular maintenance should be planned.
- Vehicles – based on anticipated amount of travel and existing capacities available. Using alternative transportation options such as taxi services may be more cost effective if travel is mainly in-town. Regular maintenance should be planned.

Table 16 shows how types, units and quantities of resources were estimated in the example of “Developing Methodology for assessment of corruption proofing in Albania legislation”.

Table 16: Resource Types, Units and Quantities - Methodology for Assessment of Corruption Proofing in Albania

Resource Type	Physical Unit	Number of units (quantity)
Training premises	Training Day	2 trainings x 2 days each = 4
Meal and refreshment for participants	Participant Day	25 participants x 4 training days = 100
Training materials for participants	Set	25 participants x 2 trainings x 1 set = 50
National experts	Day	10 (based on workload and previous experience)
International experts	Day	45 (based on workload and previous experience)
Flight tickets for study tour participants	Piece	8 participants x 1 ticket = 8
Per diem and related study tour costs	Day	8 participants x 5 days = 40

Since quantities of resources directly affect their cost, they should be planned cautiously to ensure efficient and productive use of scarce government and donor resources. Because of diversity of PAR outputs, **norms** can be defined only for a limited number of homogenous outputs or activities, such as typical trainings, analysis, methodologies, study tours, etc. For greater accuracy, outputs can be broken to categories of complexity and norms defined for each category. For example, norms for the number of expert days can be defined separately for producing analysis paper of low, medium or high complexity. Similarly, norms for the number of working group meetings can be defined separately for legislation of different complexity. Norms depend on country-specific setting. For example, making specific legislative changes in BiH will probably require much more expert days and roundtables then doing the same thing in Serbia, because of different number of government levels involved.

3.9. Assigning Monetary Values to Resources

Once the types and quantities of resources have been estimated, monetary values should be assigned to resources. Assigning monetary values means calculating unit costs and total costs of resources. The

sum of the costs of all resources required for activity implementation will be the cost of activity.

3.9.1. General Approaches to Cost Measurement

In practice, costing studies use several general ways and data sources to measure costs. These can be broadly classified as (a) direct cost measurement approaches, and (b) cost accounting methods.

(a) Direct Cost Measurement Approaches

Direct measurement approaches can be applied in both, retrospective costing (when resources have already been used and cost generated) and prospective costing (when resources are yet to be used and cost generated). Costs of resources can be estimated using bottom-up, top-down or mixed approach. With the **bottom-up** approach, **unit costs** of different resource items are first estimated and multiplied with the number of units to calculate the total cost of each resource element. Table 17 expands on table 13 from the previous section, illustrating the calculation.

Table 17: Examples of Bottom-up Approach to Assigning Monetary Values to Resources

Resource Item	Unit	No. of Units	Unit Cost (EUR)	Total Cost (EUR)	Data Source for Unit Cost
Direct labor – associate (full time)	month	12	1,000	12,000	Payrolls, budgets and expenditure reports
Direct labor – expert advisor	weeks	5	800	4,000	Payrolls, budgets and expenditure reports
Travel - fuel	kilometer	5,000	0,2	1,000	Official organization's policy
Travel - accommodation	day	70	50	3,500	Average market price, expenditure reports, supplier's offers
External experts	man-day	40	200	8,000	Donor project budgets and reports, supplier's offers, market prices
Printing	copy	100	5	500	Supplier's offers, expenditure reports

Rent of office space	m^2	200	3	600	Market prices, existing rental contracts
Computers	Piece	5	700	3,500	Supplier's offers, market prices, expenditure reports, invoices
Total EUR: 29,950 EUR					

With the **top-down** approach, total cost of a resource or a group of resources is first calculated, and then this total is allocated to individual items to estimate their costs. This can be done through multiple steps (e.g. allocate total costs of institution to individual departments, and then allocate cost of departments to resources consumed). Table 18 expands on Table 14 from the previous section, illustrating the calculations.

Table 18: Examples of Top-up Approach to Estimating Quantities of Resources

Resource Item	Quantity / Cost	Calculation
Indirect labor – assistant	10% of his/her total worktime per month	Monthly salary: 500 EUR (for example) Calculation: 0,1 x 500 EUR x 12 months = 600 EUR
Indirect labor – manager	10% of direct activity cost	Direct activity cost: 29,950 EUR (*from table 17)* Calculation: 0,1 x 29,950 = 2,995 EUR
Office supplies	5% of direct labor cost	Direct labor cost: 16,000 (*from table 17)* Calculation: 0,05 x 16,000 = 800 EUR
Communication	10 EUR per full-time staff per month	Number of full time staff: 1 (*from table 17)* Calculation: 1 x 10 EUR x 12 months = 120 EUR
Rent, maintenance, utilities	20% of direct activity cost	Direct activity cost: 29,950 EUR (*from table 17)* Calculation: 0,2 x 29,950 = 5,990 EUR
Vehicle maintenance	10% of fuel costs	Fuel cost: 1,000 EUR (*from table* 17) Calculation: 0,1 x 1,000 EUR = 100 EUR

Like with estimating quantities of resources, the approach will depend on costing methods selected, the impact of a particular cost item on total activity cost, and data availability. The bottom-up approach provides most accurate estimates. However, it is expensive and cannot be applied to all types of costs (such as overheads). The top-down approach is relatively quick, and allows inclusion of all relevant costs. However, the accuracy is relatively low and detailed insight into cost structure cannot be made. A **mixed** approach is mostly used in practice. The bottom-up approach is used for major cost items and direct costs of activities, when unit cost data can be obtained. The top-down approach is typically used for calculation of indirect costs and overheads (e.g. indirect labor, office supplies, utilities, rent, depreciation etc.).

Using Standard Costs

Standard costing is a form of bottom-up approach based on pre-defined or "standard" unit costs. Standard costs of resources are estimated in advance based on historical data, market prices or benchmarks. Since these are the "expected" costs, they may or may not coincide with normal or actual costs. Standard costs are typically used in normative costing (see section 3.8.2), and serve as a benchmark for cost control. They are compared to actual costs and adjusted over time. Similar to defining norms for resource use, defining standard costs is challenging, especially in situations where cost depend on a number of internal and external factors, including implementation and financing arrangements. For example, defining a standard consultancy fee for external expert is difficult if donors' policies significantly vary. Using market prices or budget data is more appropriate in such situations. However, in cases where standard cost can be defined more confidently, their use can make the costing exercise more efficient and consistent. MoF should ideally approve standard costs used in strategy costing process.

Using Market Prices

Market prices are one of the key data sources for estimating unit costs in a prospective costing exercise. Using market prices is particularly recommended when the anticipated future prices significantly differ from the current prices and using historical data would not provide accurate estimates. Market prices are also used for estimating opportunity costs (e.g. valuing resources used for free), because in a "perfect market", market prices are a good proxy for these cost. However, markets may often not be perfect and prices may be distorted, such as at monopolistic or oligopolistic sub-markets, or when subsidies are provided for some products/services etc. Using market prices for estimating opportunity costs may therefore require adjustments (see also 3.9.5).

Using Estimates and Extrapolation

Estimates or extrapolation based on expert opinion or available studies can also be used to assign monetary value to resources. In some cases, when similar services or activities have already been valued and the unit costs calculated, information can be extracted from published studies, reports or analysis. This information should be taken with caution, because these unit costs may include non-relevant and exclude some relevant costs item. Expert opinion is generally seen as the least reliable source of cost information. However, costing studies often have to rely on multiple sources when assigning monetary values to resources, and expert opinion is used to supplement other sources.

(b) Cost Accounting Methods

Cost accounting methods are used only in retrospective costing, when the resources have already been used and cost generated. These methods rely on the institutions' cost accounting data and require adequate cost accounting systems. They can be broadly classified as follows:

- **Specific order costing** is used for estimating costs of distinct "orders" or activities that have distinct outputs (e.g. piloting electronic system for recruitment and promotion). The cost object is the "job order" or activity itself. The objective is to charge all costs to the activity. Using this approach requires detailed information on resource utilization, appropriate system for overheads allocation and in-house expertise.
- **Process or unit costing** is used for very similar or identical activities that require identical inputs, have similar processes and deliver a number of virtually identical outputs (e.g. delivery of standard trainings). For such activities it is possible to calculate unit (average) cost of output by dividing the total activity cost with the number of output units (e.g. cost per training or cost per participant).

Although cost accounting methods are retrospective in nature, their results can be used for future cost estimates. For example, cost of training per participant calculated based on several previously implemented trainings can be used to estimate costs of future trainings. Also, the cost of piloting an electronic system from the above example can be used for making analogy estimates for similar systems.

3.9.2. Estimating Costs of Different Items

Labour Costs

Salaries, contributions, allowances and other expenses associated with personnel are frequently one of the largest cost items in government strategies. If the purpose of strategy costing is to estimate its financial impact on budget and only the incremental cost is calculated, then only the cost of additional staff that needs to be employed should be calculated. If the objective is to estimate full strategy costs, the cost of staff already employed should also be added.

Labor cost should include gross earnings, including the net salary, contributions to health insurance, social security and pension plans, tax, and any incentive payments such as overtime, hardship bonuses, holiday and sick pay, and allowances for meal, travel, housing, uniform etc. If the worker receives any additional non-monetary benefits (e.g. housing), their value should also be estimated, using the prevailing prices of similar items (e.g. the current market rent for similar housing).

The main data sources are expenditure records and payrolls in line ministries and other institutions where the personnel work. Depending on the country's institutional set-up, it may be necessary to look for some data from external agencies. Market data can help in the valuation of non-monetary benefits. Depending on the available resources and the required level of precision in costing, calculations can involve different level of details. With smaller-scale activities, costs can be calculated by staff name and salary grade. In larger-scale activities, staff categories should be defined and average salary added to each category. Multiplying average salary with the number of staff per category will show total salary cost. A rough estimate of allowances can then be made by assuming that the average ratio between salaries and allowances for the whole institution (or a relevant sub-group) can be applied to each individual. For example, if the ministry's payroll and budget execution data shows that total allowances are about 10% of total salary costs, then 10% can be added to each individual's salary, or to the total salaries.

Both full-time and part-time staff should be included in calculation. With full costing, staff indirectly supporting the activity (e.g. managers, maintenance staff, guards, drivers) should ideally be added. These are typically shared among several activities and a portion of their costs should be allocated. The cost allocation should be made based on time allocations. Information on time anticipated to be spent for implementation of activity should ideally be obtained directly from staff. The staff (or their department heads) should be asked to provide a breakdown of their estimated weeks or months worked on the particular activity, or an

estimated percentage of their total working time dedicated to activity. This information can be provided through interviews or questionnaires. If the time allocation data cannot be obtained from staff, the costing team should make the best estimate based on the total staff costs of the institution or the relevant department (taken from the budget documents) and estimated level of effort.

Additional employment is normally accompanied with additional costs of materials and services, including travel, communication, utilities etc. These are typically calculated as a percentage to salaries, based on the institution's expenditure data. For example, if costs of materials and services normally represent 20% of costs of salaries and allowances, then 20% should be added to new staff costs.

Supplies

The term "supplies" is used for all materials that are used up during the period of a year. Supplies can also include items that can last longer than a year if their purchase price is below a certain threshold specified by the relevant accounting policy. The cost of supplies should also include the cost of transport to the point of use, and these may be significant if supplies are imported.

Cost of supplies can be estimated for all categories of supplies together, or separately for major categories or categories of particular interest (e.g. office supplies, maintenance materials, special materials used to produce a particular output etc.). A bottom-up approach can be used for major categories, by multiplying their estimated quantities with unit costs. The quantities of these items often depend on the estimated level of output (for example the quantity of training materials depends on the number of participants). The information on cost can be obtained from invoices, order forms, price lists or catalogues.

Most of supplies are shared between several activities and don't represent major cost items. Because these items are typically consumed by staff, their cost can be allocated to activity based on the number of staff involved in the activity or the staff cost. Average cost of supplies per person can be calculated from budget expenditure data at the institution level, and multiplied with the number of staff expected to be involved in the activity. Alternatively, average proportion of total supply cost to total staff cost at the institution level can be calculated, and this percentage multiplied with costs of staff involved in the activity.

Vehicle Operation and Maintenance

These costs are among the most difficult to measure. They include materials, such as fuel, lubricants, insurance and registration fees, tyres, batteries and spare parts. The costs of drivers are recorded under salaries. The source of information are expenditure records, vehicle logbooks and interviews with drivers. Information on fuel consumption for each vehicle, anticipated number of kilometers and market prices are used to estimate the fuel costs. Drivers can estimate total annual cost of operating and maintaining each type of vehicle. Maintenance cost can also be estimated simply as a percentage of fuel costs. If no reliable information can be obtained from expenditure records, logbooks or interviews, the standard government mileage rate should be applied to the number of kilometers. These mileage allowances are used to reimburse staff for official use of private vehicles and they cover running costs plus depreciation.

If the vehicle will be shared between several activities, its operation and maintenance cost should be apportioned based on the anticipated mileage for the activity as the proportion of total mileage. Alternatively, the allocation can be made based on the number of days to be used for the activity, as a proportion of total days used. This information should be obtained from logbooks and interviews.

Rent and Building Operation and Maintenance

The cost of rent can be estimated either on the basis of expenditure records (if the same premises will continue to be used for the activity implementation) or market prices (if new premises will be rented). Costs of operation and maintenance (lighting, water, heating, cleaning materials, painting, repairs) typically do not form a large proportion of activity costs and they can be roughly estimated as a proportion of annual rent, based on the expenditure data.

If the space is shared with other activities, the costs should be allocated to the activity based on the floor area used as a proportion of total floor area. Alternatively, they can be allocated based on time the space is used for the activity, as a proportion of total time used.

Consultancies

Many government strategies are supported externally with consultancy inputs provided through various technical assistance from both national and international organizations. Consultancies services are provided by international or local experts. If an activity is partially or fully donor-financed, different types of consultancies may be provided. Costing

should generally include the consultancies that form an important part of activity support. Those provided for the purpose of satisfying donor administrative requirements (e.g. project monitoring or evaluation mission) should not be included.

Consultancy costs may be quite high, and often financed in foreign currencies. The costs of a consultancy package usually comprise salary or consultancy fee, international and/or local travel, and subsistence allowance and various reimbursements. Unit cost is referred to as consultancy daily fee, and normally includes a share of all these costs. Consultancy inputs may considerably vary in terms of the number and origin of experts involved, the duration of assistance and its purpose. Costs of international and local consultants should be planned separately, because the unit costs (fee) significantly differ. A distinction between long-term and short-term assignments may also be needed, since long term assignments may be accompanied with lower fees. The anticipated source of financing is also an important cost factor, because different donors have different pay policies. Source of information for unit cost estimate include donor official rates, project proposals and reports, budget plans and execution reports from previous similar projects/ activities, market prices, or quotes obtained from consultants.

If the consultancy input will be shared between the activity and other work, the costs of the input should be allocated based on the proportion of the consultants' time spent on each type of work.

Other recurrent costs

Depending on the type and scope of activities, a number of other inputs may be required, including travel and accommodation (apart from fuel and other vehicle costs), communication, printing, photocopying, other contractual services etc. Cost information can be obtained from budgets, expenditure records, work reports, or market prices.

The bottom-up approach based on unit costs and quantities should be applied for major items. For example, the cost of engagement of media house for the purpose of public information can be estimated based on the amount of media time, frequency, and media rates. If details of service provision cannot be estimated, cost should be estimated based on supplier's quotes. Several quotes should be sought for more credible estimates. The top-down approach should be used when quantities and unit costs cannot be established. For example, costs of office communication such as Internet, telephone or postage are usually estimated based on expenditure records as a percentage of staff costs, staff numbers, or total direct activity costs. If the inputs are shared between several activities, cost allocation should be based on the anticipated resource use.

Capital costs

Implementation of almost any activity requires using existing or purchasing new capital items. Since capital items have useful life of more than one year, they are annualized over the number of years that they are expected to last. This is called depreciation. The cost of using a capital item is the amount of depreciation. There are different methods used for calculating depreciation. The simplest is the straight-line depreciation method, where the annual depreciation is calculated by dividing the current cost of a similar capital item with its estimated useful life. For example, if the machine has current market value of 10,000 EUR and a useful life of five years, annual depreciation is 10,000 EUR / 5 = 2,000 EUR. If this machine is used to support implementation of the activity during the three-year period, the depreciation cost assigned to the activity is 3 x 2,000 EUR = 6,000 EUR.

If full costing is done, depreciation should be calculated for use of existing capital items. The two key components needed to calculate depreciation are the value of capital item and its useful life. The value can be estimated as market (replacement) value, as in our example, or as purchase price. Using market value is recommended, because purchase price may not adequately reflect the value when inflation is high. Estimates of useful life should be appropriate to the country context and official accounting rules, if available. In the absence of official policy on useful life of capital items, experts should provide estimates. If a capital item is shared among several activities, the depreciation costs should be allocated based on the proportion of time that the item is used.

If the activity requires purchase of new capital items, their costs should be calculated by multiplying unit costs with quantities. This is called cost of investment. Unit costs can be estimated based on market prices or supplier's quotes. The new items purchased for the purpose of strategy implementation may have a resale value at the end of strategy implementation period. However, cost of investment should be calculated to account for long-term financial impact.

3.9.3. Allocating Overheads

Allocating indirect costs (overheads) to activities is one of the key practical challenges in costing. Indirect costs must be calculated if full costing is done. However, they should also be considered with incremental costing. A new activity implemented by an institution will not generate only incremental direct costs (e.g. new staff, new equipment), but also incremental indirect costs through increased use of support staff, utilities, materials etc.

Since indirect costs cannot be traced to activities in an economically feasible way, the question is what proportion of overheads should be allocated to a particular activity and what is the most appropriate method to do it. The general principle is that indirect costs should be assigned on a cause-and-effect basis and in a reasonable and consistent way. The selection of allocation base should therefore be guided by the existence of a strong cause-and-effect relationship, and is a matter of judgement and common-sense. Examples of the most common allocation bases and methods are provided in Table 19.

Table 19: Examples of Overhead Cost Allocation Methods[14]

Allocation Base	Allocation Method	Use	Advantages and disadvantages
Flat rate	Overheads shared equally between activities	Suitable for activities of similar resource requirements and direct costs	Simple and transparent, but may be unfair because allocation is not based on anticipated utilization of overheads
Floor area (m^2)	Proportion to the number of m^2 occupied by activity	Suitable for costs of rent or maintenance	Simple and transparent, but suitable for limited types of overheads
Direct staff number	Proportion to number of direct staff engaged on activity	Suitable for overheads driven by people (office supplies, stationaries, communication, costs of support staff)	Simple and transparent, but may not be a good proxy for anticipated use of overheads, especially when the activity has significantly different human resource requirements
Direct staff costs	Proportion to the cost of direct staff engaged on activity	Suitable for overheads driven by people (office supplies, communication, costs of support staff)	Simple and transparent, but may not be a good proxy for anticipated use of overheads, especially when the activity has significantly different direct staff costs
Output	Proportion to the units of activity output	Suitable for activities that have a number of homogenous outputs	Strong link between overheads and productivity, but suitable for a very limited number of activities; If the output is low, adjustments are needed to absorb all overheads

14 Adjusted based on “Managing the Devolved Budget”, Bean and Hussey, 1996

Allocation Base	Allocation Method	Use	Advantages and disadvantages
Direct activity costs	Proportion to the direct activity cost	Suitable when no data and resources are available for other methods	Simple and transparent, and could also be seen as equitable, but direct cost may not be a good proxy for anticipated use of overheads
Machine hour	Proportion to the working time of equipment use	Suitable to overheads related to equipment	Problematic if equipment is old and requires more time

Accuracy of allocation depends on the availability of resources and data. The allocation process can be simplified if the overheads are grouped into categories that have a similar relationship to activity, called indirect **cost pools**. All overheads from one pool are allocated based on the same allocation base. For example, indirect costs of management labor and other support staff, communication, office supplies and materials can all be grouped into one pool and allocated based on the number of direct staff engaged in activity. Sometimes when limited resources are available for costing, all overheads are grouped together and allocated based on a single most appropriate allocation base, such as total direct activity costs or number of direct staff.

3.9.4. Implications of Long-term Planning

Annual Estimates

In order to better link the strategy cost estimate with government mid-term and annual budget planning, but also with the donors' financing plans, cost estimates should be produced by fiscal year. If a single activity is implemented over several years, its costs should be apportioned to years in which it is implemented. For greater accuracy, resource requirements and their costs should be planned on a year-by-year basis, and these annual estimates should then be summarized to calculate total activity cost. For rough estimates, total cost of activity can be calculated first, and then apportioned to years of implementation based on best estimate.

Inflation

Budgeting for multiannual period requires adjustment of cost information for inflation. Inflation reflects the fact that the cost of an item usually

continues to rise over time. If inflation is not accounted for, the implicit assumption is that the purchasing power of the currency of denomination will remain the same over the period of implementation. If inflation is accounted for, the base-year amounts should be converted to then-year amounts using the adequate inflation indexes. Inflation indexes or similar guidelines for cost adjustments should be provided by relevant authorities, preferably by MoF in the annual budget circular. If this information is not available, the index that most closely matches the activity or cost category should be selected. For example, consumer price index may be good for costs of materials and consumables, but not for software costs. Costs of salaries are usually subject to special regulation. Some costs may not be affected by inflation because they are fixed by long-term contracts with suppliers. Inflation indexes used and other potential adjustments made should be documented.

Inflation should also be considered in analyzing historical cost data. For example, when calculating average costs based on several years' expenditure data, inflation indexes should be used to convert a cost from its current year (when the cost was incurred) into a constant base year (when the average cost is calculated), so that the effects of inflation are removed. To convert cost incurred in year "X" to the prices of the selected base year, it should be multiplied by the consumer price index (or another adequate index) for the base year and divided by the consumer price index for year "X".

3.9.5. Economic Costing – Key Considerations

When costing is done for the purpose of economic evaluations, such as conducting cost-benefit or cost effectiveness analysis, estimating financial cost is not sufficient. Opportunity cost of resources, i.e. the cost of their next best alternative use, should also be estimated. Financial and opportunity cost together represent economic cost. There are three main areas in which economic costs differ from financial costs:

Donated resources

Donated goods and services should always be valued in economic cost estimates. This is most easily done by estimating their equivalent market prices. For example, the cost of volunteer labor can be estimated as the salary that this person would earn if he or she worked elsewhere. The cost of office space provided for free can be estimated as the amount of rent normally paid for a similar space. The cost of free media time can be estimated as the amount that the media house would normally charge for the specific slot, etc.

Resources the price of which is distorted

Some of the resources may have market prices that do not reflect their true value. For example, prices may be too low due to subsidies provided by government, or too high due to inclusion of transfer taxes (such as gift or estate), or distorted due to government-set foreign exchange rates (for imported resources). In such cases it may be needed to replace the stated prices with the so-called "shadow prices" for the purpose of economic analysis. "Shadow price" is the price adjusted for whatever reason in order to reflect economic cost. Estimating shadow price depends on the nature of good or service. For example, a shadow price of government-subsidized rent of space is the normal market rent for a similar space. If an imported resource is paid at distorted exchange rate, a shadow price may be calculated using the black market rates. Shadow prices should be calculated only for the major cost items.

Capital Items

A simple straight-line depreciation of capital items is suitable for estimating their annual financial cost, but is inadequate for economic cost. Economic cost estimate should also take into account the value of alternative opportunities for using resources tied up in the capital items. The interest rate (of the national bank) is used to estimate what could have been earned by alternative use of money. However, this approach has been criticized, because public sector may not have the opportunity or right to choose between these investment options.

Example - Opportunity Cost of Capital

Annual financial cost (depreciation) of equipment with a market value of 10,000 EUR and useful life of 5 years is calculated simply as 10,000 EUR / 5 = 2,000 EUR. To calculate economic cost, standard annualization tables are used to estimate annualization factor for a given discount rate and useful life of an item[3]. For example, for the discount rate of 10% (based on depreciation rate and interest rate), the annualization factor for an item with useful life of 5 years is 3,791 (based on standard annualization table). Economic cost is calculated by dividing the equipment value with annualization factor: 10,000 EUR / 3,791 = 2,638 EUR. Note that it is higher than financial cost because it includes earnings that could have been realized if the resources tied in equipment were invested.

3.9.6. PAR Examples

Typical Costs

Before estimating PAR costs, it is important to understand them. PAR activities are generally labor-intensive because they require significant human resources. These are normally provided through existing institutional infrastructure, and no additional investment is needed. Incremental costing distorts labor-intensity of PAR because incremental costs mainly relate to materials, services and capital investment. While most of activities are "soft" (trainings, drafting legislation, guidelines etc.), some are capital-intensive (investment in IT infrastructure, buildings etc.). Incremental costs depend on implementation and financing arrangements. For example, a training program can be implemented by government agency at government-owned premises at no extra cost, or by an external service provider at rented premises. Similarly, an analysis paper may be drafted by civil servants already employed (at no extra cost), or by external experts engaged by government or donors. Different donor implementation and financing modalities (i.e. technical assistance projects, direct expert support, twinning projects, budget support), which are often unknown at the time of costing, also impact costs. All relevant factors should be carefully considered. Table 20 summarizes costs of typical PAR activities and factors influencing them.

Table 20: Typical Costs of PAR Activities and Factors Influencing Them

Activities	Typical Costs	Typical Factors Influencing the Cost
Conducting analysis, needs assessments, feasibility studies; Developing policies, strategies, programs; Legislative drafting; Developing methodologies, guidelines, manuals, standards	Salaries and allowances of civil servants Fees of external experts Fuel, travel and accommodation Rent Meal and refreshment, Printing and publishing	Horizontal and vertical scope (number of institutions and government levels involved) and geographic coverage Complexity of topic Number of individual and group consultations needed Number and origin of external experts (local or international) and other service providers, their level of effort and way of engagement Means and scope of distribution (electronic or hard copies) Implementation arrangements (e.g. usage of own or rented premises or government or private service providers)

Activities	Typical Costs	Typical Factors Influencing the Cost
Organizational restructurings	Salaries and allowances of new civil servants Related additional costs of materials and services Computer, office equipment and vehicles Building (re)construction and maintenance	Scope of restructuring (intra or inter-institutional) Number and types of new positions required Possibilities of internal reorganizations Availability and requirements for additional office space and equipment
Organizing trainings, workshops, conferences, seminars, roundtables and study tours	Salaries and allowances of civil servants Fees of external experts Services of external agencies Fuel, travel and accommodation Rent Meal and refreshment Printing and publishing	Number, duration and location of events Number of participants and their specific travel and accommodation requirements Number and origin of external experts (local or international) and other service providers, their level of effort and way of engagement Type and scope of training materials and means of distribution (electronic vs hard copies) Implementation arrangements (e.g. usage of own or rented premises, or government or private service providers) Economies of scale (larger events have smaller cost per unit)
Implementing media campaigns and promotional activities	Salaries and allowances of civil servants Fees of external experts Services of external agencies Rent of media space Printing and publishing	Number and types of promotional activities Amount and type of materials produced or purchased Type of media (broadcast, print) Intensity of media use (frequency, duration, time) Media rates (commercial, sponsored by private sector, subsidized by government) Economies of scale (larger campaigns have smaller unit costs)

Activities	Typical Costs	Typical Factors Influencing the Cost
Developing e-portals, databases, web platforms and information systems; Developing interoperability platforms and system integration	Fees of external experts Services of external agencies Software development, testing and installation Software licenses and maintenance Infrastructure and hardware (building, equipment, furniture)	Software size (measured in number of source lines of code, functions, objects, feature points etc.) Development effort and number of productive hours needed Number of users, interfaces, platforms and locations Infrastructure and end- user hardware requirements Facility requirements (power, cooling) Possibility for using commercial off-the-shelf solutions Requirements for help-desk function Replacement, upgrade and maintenance policies Training strategy
Planning, monitoring, reporting and evaluation	Salaries and allowances of civil servants Travel, fuel and accommodation Communication	Number and composition of working groups Number of participants Frequency of meeting, monitoring and reporting Means of communication (electronic vs physical)

Cost Calculations

Costs of each activity (i.e. output) should ideally be calculated based on quantities of resources needed (estimated in the previous step) and their unit costs. Unit costs should be estimated as follows:

- Salaries and allowances – based on relevant legislation, separately for different categories of staff. Averages should be used for variable elements (such as travel or accommodation allowances, bonuses, supplements based on years of experience etc.).
- Travel and fuel – official mileage rate for private use of vehicle, taxi or bus ticket cost for average trip, average flight ticket cost to an EU country, average EU per diem rate for study tours.
- Accommodation, meal and refreshment – average price of hotel overnight in towns where events are typically held, average meal and refreshment cost per participant.
- Office rent – average commercial rent per m^2 for the anticipated office size and location.

- Rent of training space – average daily cost of using a typical conference room.
- Office supplies and materials – average cost per item (for relatively significant items); average cost per person based on institution's budget and expenditure data (for minor items); or average cost per output (for items driven by outputs, i.e. cost of training materials per participant).
- External experts – average gross EU daily fees for international experts, average market rates for national experts.
- Other external service providers – average costs of outputs of different types and complexity (i.e. printing and publication, media campaign, translation, feasibility study) based on previous expenditures, market research, suppliers' quotes and expert opinion.
- Stationary, computer equipment and vehicles – average market price per unit.

Costing team should collect data on unit costs of typical resource items prior to starting calculations. This may include average salaries by grade and average allowances by type; official mileage rate for vehicle use; average costs of hotel accommodation, rent of training space, meal and refreshment per person, and computers and office equipment. Based on this information, "**standard**" unit costs can be produced for some items and used consistently in all calculations. This will ensure greater cost control and process efficiencies. Representative of the MoF budget department should ideally approve the standard costs. This would also facilitate verification of final cost estimate. Standard costs should be used only for standard resource items. If additional information on costs is available, it should be used for more precise estimate. For example, if the institution already knows where the study tour or training will be held; or a supplier has already provided offer for a particular service; or a donor has committed funding for a particular expert; then the cost of flight ticket to the specific country; the amount from the supplier's quote, and the amount of expert costs provided by the donor should be used, respectively.

- In **Albania**, costing of the PAR Action Plan 2015-2017 was based on following standard costs:
  - Salaries – as per the official government policy
  - Rent of premises for trainings and similar events: 300 EUR / day
  - Meal and refreshment at trainings and similar events: 20 EUR / day
  - Training materials: 20 EUR / participant
  - International expert: 1,250 EUR / day (includes all taxes, travel and per diem allowances and overheads)
  - National expert: 350 EUR / day (includes all taxes, travel and per diem allowances and overheads)

  These were defined by responsible institutions' finance staff with assistance of experienced external expert.
- **Kosovo*** had a similar approach. Standard costs were approved by the MoF representative.

Unit costs should be multiplied with quantities of resources and added up to calculate costs of outputs. Costs of outputs should all be added up to calculate costs of activity. Table 21 shows the example of cost calculation for "Developing methodology for assessment of corruption proofing in Albania legislation".

Table 21: Cost Calculation - Methodology for Assessment of Corruption Proofing in Albania Legislation

Element	Resource Type	Quantity	Unit Cost EUR	Total Cost
Output 1: Methodology document	National expert	10	350	3,500
	International expert	45	1,250	56,250
	Total Output 1:			59,750
Output 2: Trainings	Meal and refreshment for participants	100	20	2,000
	Rent of training premises	4	300	1,200
	Training materials	50	25	1,250
	Total Output 2:			4,450
Output 3: Study tour	Flight tickets	8	500	4,000
	Per diem and related costs	40	99	3,960
	Total Output 3:			7,960
Total Activity (outputs 1-3)				72,150 EUR

In the above example, activity and its outputs were clearly defined and it was possible to easily estimate unit cost and number of units for each resource type. However, this is not always possible because of uncertainties and lack of information. Sometimes, outputs can be specified in details, but unit costs and quantities cannot be clearly established for all types of resources. Costs of some resources must therefore be estimated as a share or proportion of other category, as illustrated in the example below.

Example - New employment and incremental overheads

Implementation of many reform activities requires employment of new staff on a permanent basis. This obviously generates costs of their salaries and allowances, which can be easily estimated based on the number and category of staff and government salary policy. Assume that, based on a needs assessment, 5 associates and 2 advisors need to be employed at the Department for Development Programming in 2018 on a permanent basis, to build its capacities for strategic planning. Gross annual salary and allowances can be calculated as follows:

Position	Net salary monthly	Taxes and contributions (45%)	Gross salary monthly	Average allowances monthly	Salary & allowances monthly	Positions	Months	Total annually EUR
	1	2=1*0.45	3=1+2	4	5=3+4	6	7	8=5*12
Associate	600	270	870	100	970	5	12	58,200
Advisor	700	315	1,015	100	1,115	2	6	26,760
Total:								84,960

Net salary, taxes, social and health contributions are calculated as 45% to net salary, based on the government's policy (columns 1,2,3,). Average allowances of 100 EUR/person include a fixed part for meal and travel (70 EUR/per person) and estimated additional 30 EUR for variable elements, such as overtime and hardship bonuses (column 4). Annual salary increases should be considered for the subsequent years. Other potential costs should also be considered (such as uniforms, professional development etc.).

Employment of new staff will also generate additional costs of office supplies, communication, utilities etc. These incremental indirect costs will impact the institutions budget and should be accounted for. However, they cannot be estimated by multiplying unit costs with quantities, because it is impossible to know how much of supplies or utilities each staff will use. Instead, a percentage should be added to costs of new salaries and allowances, based on the institution's expenditure data. Assume in 2014-2016 costs of office supplies, communication, utilities, maintenance etc. amounted about 10% of total staff costs. Incremental overheads resulting from employment of 7 new staff would then be calculated as 84,960 x 0,1 = 8,496 EUR annually. Total long-term financial impact of the new employment would therefore be: 84,960 + 8,496 = 93,456 EUR annually. These costs are **recurrent** impact of strategy implementation comparing to 2017 budget baseline. In 2018, they will become part of the baseline.

To ensure that incremental overheads are not overestimated, only costs of those materials and services that are affected by new employment should ideally be considered (for example, new staff may not need to travel).

Sometimes neither outputs nor inputs can be clearly identified and activities essentially represent smaller or larger scale projects. Capacity development projects and capital investment projects are typical examples. A previous needs assessment or similar analysis is needed for more detailed estimates. Rough estimates can be made using previous experience and expert advice. Contingencies in amount of 10-20% to total costs should be planned when uncertainty is high, to mitigate the risk of unexpected cost increase.

Estimating costs of major **ICT systems**, including software and hardware is a special case of cost estimation. Acquiring these systems is very complex and expensive. Ideally, cost estimate should be based on a previously conducted feasibility study or a similar type of analysis. If this is not available, IT experts should be consulted on the basic system's characteristics and costs. If possible, several suppliers' quotes should be obtained for more reliable estimate. Some basic cost considerations are provided below.

Software

Since software is not tangible like hardware, understanding resource requirements is very difficult. In addition, software technology changes constantly, making it difficult to collect good data for cost estimate. The two key factors that drive software costs are its size and complexity. Since software is very labor intensive, cost estimating has two basic elements:

- Estimating software size – how big will the application be? This depends on many factors, such as complexity; number of functions the program can perform, their scope, complexity and interactions; safety and reliability requirements etc. There are special methods to measure software size in a quantitative way, though software "size" is an abstract concept.
- Estimating development effort – based on its estimated size, how many productive hours are needed to develop the software? More complex system programs require more effort than web programs of the same size. Size can be converted to hours using productivity factors such as number of source lines of code or number of function points developed per work month.

Once the software has been developed, it must be tested, installed and maintained. All these costs must also be accounted for. There are different types of maintenance, such as fixing defects not discovered in the testing stage (corrective); modifications to changes in physical or technological environment (adaptive); or adding new functionalities to respond to user requirements (perfective). When new functionalities are added, the cost is similar as in the development stage. Maintenance costs depend on software complexity, quality and the degree to which it meets user requirements. Rigorous testing will prevent major maintenance costs. Software licenses are an important recurrent cost.

IT Infrastructure

Apart from software development and maintenance, costs of hardware, help desk, upgrade installation and training must be estimated. These often make up a majority of system costs. Estimating these costs should be easier then estimating software costs, because IT infrastructure and services are more tangible. Some factors to consider include number of users and locations; amount of interfaces needed to run the infrastructure, requirements for helpdesk support, facilities physical requirements, end-user hardware requirements etc. Supplier's quote should address costs of installation, maintenance, repair, and employee's training. Sometimes IT infrastructure may be leased or operated by a supplier under the contract with government. This usually does not eliminate the costs of ongoing IT support to employees, setup training etc.

Just like software, IT infrastructure requires maintenance and other recurring operations costs. These are facilities costs (such as power, security, and general support), trainings, technical refreshments etc. Finally, since the cost of hardware and technical requirements change daily, planning contingencies of up to even 30% is recommended.

Full Costing

If the government wants to do **full costing**, costs of existing infrastructure (labor and other resources) should also be estimated. Sum of incremental (additional) costs and existing costs will make full financial cost of the reform to the government. Since the government will in any case need the information on incremental costs of strategy, i.e. its financial impact on budget, existing costs should be estimated and presented separately.

Theoretically, the same approach can be used as with incremental costing – identify and classify all existing resources needed, estimate their quantities and unit costs, and multiply them to calculate total existing costs. However, this is almost impossible in practice because governments lack budget and accounting systems and processes to produce such sophisticated estimates, and also to track actual expenditures. In lack of such systems, there is a huge risk of overestimating or underestimating the existing contribution. Moreover, even if reliable estimates can be made, this information is of limited use, because actual expenditures cannot be adequately monitored against the plan.

Full costing of PAR strategies should therefore focus on major cost items for which data can be collected in a relatively easy and reliable way. The main cost item is salaries of **staff** in government institutions who will be **directly engaged** in implementation of activities, either full-time or part-time. Other resources that are shared between the activities being costed and other work carried out by institutions, or indirectly consumed by the activities, should be estimated only if they are relatively significant and if data can be obtained to produce a reliable estimate. This may include indirect labor (such as salaries of senior management, legal, personnel, finance or support staff), materials and services (costs of communication, office supplies, utilities) or usage of capital items (depreciation of equipment, buildings, vehicles).

Costs of PAR – Public Administration Reform Coordinator's Office (PARCO) in Bosnia

Sometimes the government's existing contribution to PAR can be clearly identified but cannot be easily linked to activities. The PARCO was established to coordinate implementation of PAR. Apart from the overall reform coordination, PARCO also provides support to operational management of PAR Fund, a mechanism of pooled funding used to support reform activities. PARCO's operations, including salaries of about 35 staff and related operating expenses are fully financed from the state budget in amount of approximately 0,72 mil EUR annually.

Given the institution's mandate, this amount can be almost entirely treated as the government's financial contribution to strategy implementation. If full costing of PAR Strategy was done, this amount would need to be accounted for. However, allocating it to relevant activities from the Action Plan would be difficult, because (a) these costs are indirect to activities, and (b) activities financed from the PAR Fund absorb much more of PARCO's resources then activities financed through other mechanisms.

Like with the incremental costing, existing costs should be estimated by activity and by year of implementation, to ensure comparisons. To estimate costs of staff directly engaged on activity implementation, two elements are needed: (a) estimated amount of time the staff will work on the activity, and (b) salary cost. This information should be **collected from institutions** responsible for implementation using pre-defined data collection sheets. Time should ideally be estimated in weeks rather than months, to stimulate more thorough analysis. Depending on time and resources available for the costing exercise, time and cost can be estimated by staff position (no. of weeks each staff works on activity multiplied with his/her salary); by staff category (no. of weeks each category of staff works on activity multiplied with average salary for the category); by organizational unit or by institution as a whole (no. of weeks the organizational unit/institution will dedicate to the activity, multiplied with the average salary of staff involved). The latter gives least precise estimates but is most efficient.

Estimates of time invested in PAR activities should be verified by supervisors because they have better insight into relative weigh of PAR activities in the institution's overall work. Total time assigned to PAR should be cross-checked against the total staff working time, to make sure the estimates are reasonable and not overestimated.

Estimating indirect contribution through materials, services and use of capital assets is tricky, because these resources cannot be directly linked to activities. The simplest way is to add a conservative percentage of overheads to previously calculated salary costs. This percentage

should be calculated based on the institution's expenditure data. For example, if materials and services (including depreciation) represent approximately 10% of institution' staff costs, then 10% should be added to the estimated salary amount. However, only costs of materials and services driven by the activities being costed should be considered. For example, some services, travel or similar may be totally irrelevant to the activity. More accurate allocation of overheads can be made by using different allocation basis for different cost items. For example, communication costs can be allocated based on the number of staff engaged in activity, depreciation costs based on equipment items used and depreciation schedules etc. Obviously, estimating costs of materials and services, including depreciation, requires a lot of data and effort, and balance between the costs and the benefits of analysis must be made.

Information on costs of salaries, materials and services should be based on official budget data, signed-off by responsible institution's finance staff, and collected together with information on anticipated work effort. Example of data collection sheet and cost calculation is shown in table 22[15].

Table 22: Example of Data Collection Sheet for Estimating Costs of Existing Contribution

	2018							2019						
Activity / Output	Staff engaged	Weeks per staff	Total work weeks	Average gross weekly salary per staff EUR	Total Staff Cost EUR	Other relevant overheads (% of staff costs) EUR	Total 2018 EUR	Staff engaged	Weeks per staff	Total work weeks	Average gross weekly salary per staff EUR	Total Staff Cost EUR	Other relevant overheads (% of staff costs) EUR	Total 2019 EUR
	1	2	3=1*2	4	5=3*4	6= 0.2 x 5	7=5+6	1	2	3=1*2	4	5=3*4	6= 0.2 x 5	7=5+6
Activity 1	5	6	30	500	15,000	1,800	16,800	-	-	-	-	-	-	-
Activity 2	3	4	12	500	6,000	720	6,720	3	8	24	503	12,060	1,206	13,266
Activity 3	-	-	-	-	-	-	-	3	15	45	503	22,613	2,261	24,874
Total	8		**42**		**21,000**	**2,520**	**23,520**	6		**69**		**34,673**	**3,467**	**38,140**
Estimated % of other overheads:						12%							10%	

15 This table is also provided in the Cost Calculation Tool, which is the annex to this Guide

Explanation

The sheet is completed by the Ministry directly engaged in implementation of activities 1,2 and 3 from the Action Plan. Two categories of costs are estimated, as per the costing team guidelines:

Staff time is estimated in weeks. For each activity the number of staff engaged (column 1) is multiplied with the average number of weeks per staff (column 2) to calculate total workweeks the Ministry will dedicate to the activity (column 3). Average gross weekly salary and allowances is calculated for all staff engaged (column 4) and multiplied with the total workweeks (column 3) to calculate total staff costs (column 5). The calculation is made for each year separately. Note that average weekly cost in 2019 is increased by 0,5% to account for salary increase.

Other relevant overheads are estimated as a percentage of staff costs. Only costs of communication, office supplies, maintenance and utilities are included, because other costs are not relevant to the activities. Based on the 2018 budget, these costs represent 12% of the Ministry's total staff costs. This percentage is applied to staff costs estimated at 21,000 EUR (column 5) to estimate other overheads (column 6). The calculation is repeated for each year. Note that the estimated overheads percentage in 2019 is higher by 2 percentage points. This is based on the institution's mid-term budget.

Total contribution is the sum of staff costs (column 5) and overheads (column 6), calculated by activity. This is repeated for each year and summarized for the entire Action Plan period.

Each institution directly engaged in implementation of activities 1, 2 and 3 should fill out this form separately. Total existing cost of the activity should then be calculated by the costing team as the sum of costs reported by all institutions.

3.10. Producing and Verifying Cost Estimates

3.10.1. General Guidelines

Producing Cost Estimate

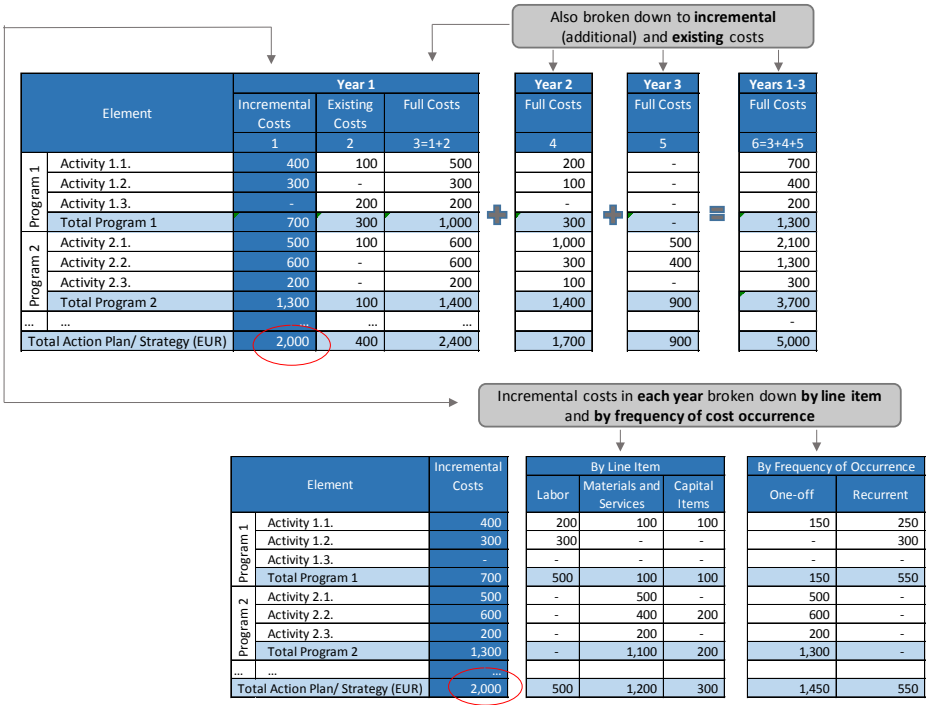
Once the costs of activities have been calculated, they should all be **added up** to calculate cost of respective higher level elements (e.g. programs, results, objectives) and ultimately cost of action plan or strategy as a whole. Appropriate **calculation tool** should be designed to facilitate the calculation, in line with objectives and specific requirements of the costing exercise. Calculation tools can vary from

simple spreadsheets to sophisticated tools enabling analysis of input data and unit costs, conducting what-if scenarios, and presenting data by various criteria. The level of complexity is proportional to number of cost categories that need to be estimated (incremental, full, or economic costs), different perspectives from which the cost is analysed (public, private, or society as a whole), time period for which the estimate is made, number of organizational levels and institutions involved, and complexity of the action plan. Using a proper calculation tool will enable documenting calculation details, minimise errors, ensure accuracy and consistency of calculation and facilitate subsequent revisions of cost estimates. Calculation tool should ideally enable presentation of cost information by:

- Action plan element (objective, program, result, activity, output), to enable linking costs with areas of work and results;
- Line item (including at least salaries, materials and services, and capital expenses), to enable linking cost estimate with government and donor budget and resource planning;
- Year of implementation, to enable linking cost estimate with multiannual and annual budgets;
- Frequency of cost occurrence, to enable distinction between one-off and recurrent cost of strategy, for the purpose of better budget planning;
- Relevant cost category (such as incremental and existing costs), to enable decision making for specified purposes.

A simple Excel tool for calculating incremental costs of PAR strategies based on bottom-up costing approach is provided as Annex 3 to this Guide. The tool also supports full costing at basic level. It can essentially be used for costing of any strategy based on action plan, after being adjusted for relevant cost categories and action plan elements. Graph 3 illustrates the output cost information delivered by this tool.

Graph 3: Output Cost Information Delivered by the Calculation Tool



	Element	Year 1 Incremental Costs	Year 1 Existing Costs	Year 1 Full Costs	Year 2 Full Costs	Year 3 Full Costs	Years 1-3 Full Costs
		1	2	3=1+2	4	5	6=3+4+5
Program 1	Activity 1.1.	400	100	500	200	-	700
	Activity 1.2.	300	-	300	100	-	400
	Activity 1.3.	-	200	200	-	-	200
	Total Program 1	700	300	1,000	300	-	1,300
Program 2	Activity 2.1.	500	100	600	1,000	500	2,100
	Activity 2.2.	600	-	600	300	400	1,300
	Activity 2.3.	200	-	200	100	-	300
	Total Program 2	1,300	100	1,400	1,400	900	3,700
...	...	...	...	...			-
Total Action Plan/ Strategy (EUR)		2,000	400	2,400	1,700	900	5,000

	Element	Incremental Costs	By Line Item: Labor	By Line Item: Materials and Services	By Line Item: Capital Items	By Frequency of Occurrence: One-off	By Frequency of Occurrence: Recurrent
Program 1	Activity 1.1.	400	200	100	100	150	250
	Activity 1.2.	300	300	-	-	-	300
	Activity 1.3.	-	-	-	-	-	-
	Total Program 1	700	500	100	100	150	550
Program 2	Activity 2.1.	500	-	500	-	500	-
	Activity 2.2.	600	-	400	200	600	-
	Activity 2.3.	200	-	200	-	200	-
	Total Program 2	1,300	-	1,100	200	1,300	-
...	...	...					
Total Action Plan/ Strategy (EUR)		2,000	500	1,200	300	1,450	550

Documenting Rules and Assumptions

Cost estimates are based on limited information and bound by certain constraints. Rules and assumptions that explain the conditions under which the estimate was produced should be properly documented. Cost estimate rules represent a common set of estimating standards that provide guidance for the costing process. When no rules can be defined, assumptions should be made to allow the estimate to proceed. Rules and assumptions can be related to various implementation and cost aspects, such as activity schedule, institutional and financial responsibilities for shared activities or programs, resources provided for free by government or other stakeholders, anticipated salary grades and increases, inflation indexes, technology assumptions, items specifically excluded from cost estimate etc. **Documenting** all calculation details, methodologies, data sources, rules and assumption will result in more professional, credible and convincing estimates, facilitate future revisions, and enable better insight into potential risk areas. This will also represent a valuable point of reference for future costing exercises.

As a best practice, sensitivity analysis of cost estimates is conducted to examine the effects of changing rules and assumptions. This is done by identifying the cost elements that represent the most risk and changing their value to determine which factors affect results the most. For example, the estimate may be made under the assumption that government will provide facilities and equipment for free. If there is a risk that these resources will not be available, different scenarios can be applied to see how financial cost changes as a result of changes in assumptions.

Validating Cost Estimate

The cost estimate should be **validated** by the relevant stakeholders prior to being formally adopted. This includes verifying the calculations, making sure that the assumptions, methodologies, and documentation are complete, accurate and reasonable, and confirming that the results of costing meet the specified purpose and objectives. Estimates should first be double-checked by the costing team. The authorized ministry or institution should take the primary responsibility for verifying the programmatic aspects of costing, including the anticipated outputs and requirements for physical resources. Consultations with institutions responsible for implementation are needed. The MoF should be responsible for validating the data sources, assumptions, methodology and cost calculations and confirming the quality, completeness and reasonableness of the cost information that was prepared. Both, the responsible line ministry and the MoF, as well as other relevant stakeholders, should be responsible for confirming that the costing information satisfied its purpose and objectives. In complex or highly sensitive costing exercises, the MoF or senior government officials may choose to contract a qualified, neutral third party to validate the results of the exercise.

When validating the cost estimate, the stakeholders should ensure that the estimate is:

- **Well-documented**, with indication of source data, rules and assumptions and calculation details. Explanations of why particular methods or references were chosen should also be included, as well as explanations of any potential deviations from these methods or references. A narrative summary of methodological approach and costing results should be prepared.
- **Comprehensive**, meaning that it has sufficient details to ensure that cost elements are neither overlooked nor double-counted.

- **Accurate**, meaning that it is unbiased and that the work effort is not overly conservative or overly optimistic and is based on the estimated most likely cost. Mathematical errors should be minimum and insignificant.
- **Credible**, meaning that any limitations related to uncertainty contained in data or assumptions are discussed. Major assumptions can be varied to determine how sensitive the results are to changes in the assumptions. Risk analysis may need to be performed to determine the level of risk associated with the estimate, and the results cross-checked by an independent estimator.

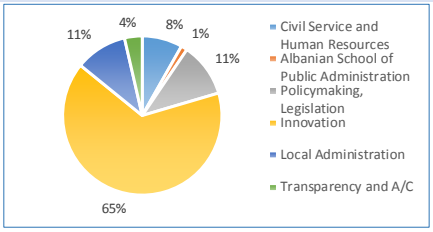
3.10.2. PAR Examples

Several countries have used a customized calculation tool to produce PAR strategy cost estimate based on action plan. Information on incremental costs is provided by action plan elements (structured around main reform areas) and by main line items. Annual projections are provided only in Kosovo* PAR action plan, as explicitly required by relevant legislation. As a rule, recurrent costs implications are not indicated.

Presenting the Strategy Cost information – Albania

The Cross-cutting PAR Strategy of Albania 2015-2020 includes a separate section on implementation financing, indicating funding requirements by objective, by reform area and by line item. Cost information by reform area is shown below (*figures in Albanian LEKs*).

Area	Amount
Civil Service and Human Resources	884,383.50
Albanian School of Public Administration	138,478.34
Policymaking, Legislation	1,183,524.36
Innovation	7,060,505.62
Local Administration	1,137,906.00
Transparency and A/C	388,031.00
Total Costs *(000 ALL):*	**10,792,828.82**
	-



Once reviewed by the costing team, institutions responsible for implementation, and MoF representatives participating in the costing process, cost estimates should be approved by the body responsible for

action plan development and submitted for government approval as part of the action plan approval process.

Verifying Estimates – Kosovo*

Preliminary cost estimates of Action Plan for implementation of the of Strategy for Modernization of Public Administration in Kosovo* (2015-2017) were reviewed by working group responsible for drafting of action plan at the final review session. Representatives of the MoF participated at this session and provided their feedback, which was incorporated in the final estimate. The final estimate was then submitted for government approval, also including formal MoF approval.

3.11. Using the Cost Information

3.11.1. General Guidelines

Costing is only the first step in strategy financial management cycle. To ensure sustainable implementation, cost information should be used for identification of financing sources and mechanisms, producing funding proposals, prioritization and management of financial gap, financial monitoring and reporting, and future revisions of cost estimates. These elements of strategy financial management are beyond the scope of this Guide, and are only briefly addressed.

Sources of financing need to be identified and amounts of anticipated available funding estimated for each program and activity. The calculation tool provided in annex to this Guide enables entering data on anticipated available funding and calculation of potential funding gap per activity. Implementation of government strategies in transitional countries is normally financed from budget and donors[16]:

- **Budget** should be the primary source of financing for government strategies. Budget funds are normally provided through allocations to institutions responsible for implementation. Horizontal or shared activities or programs are usually funded through budgets of several institutions (budget users). Information on financing should ideally be presented by institution. Budget funds can be provided through earmarked or mainstream allocations. Earmarked allocations are designated to support a particular program or activity and can be easily traced to it (e.g. grants or other special-purpose budget lines).

16 Loans are an important financing instrument for strategies in some sectors.

Mainstream allocations support general operations of institutions responsible for implementation and cannot be easily traced to programs or activities being supported (e.g. salaries, travel, utilities, communication, external services, capital items etc.). Linking budget allocations with action plans and strategies requires proper application of program budgeting methodology. This methodology enables planning and tracking of budget expenditures by program. The quality of program budgeting in individual countries therefore directly affects the link between strategies and budgets.

- **Donor** support should principally be sought when government resources are insufficient to support the implementation. Donors provide support through various types of technical assistance. Programs and activities can be financed by one or several donors, or co-financed by donors and government. Government and donors may also provide joint support through pooled-funding to which other stakeholders may also contribute. To ensure accurate estimates, donors should ideally be involved in estimating costs of programs and activities they plan to support.

Institutions responsible for implementation should use the results of the costing exercise to produce well-justified mid-term and annual **budget requests** for the government, as well as **funding proposals** for donors. The government and donors should use this information for the purpose of mid-term and annual budget planning and financial planning. Financial planning based on properly costed action plans should also contribute to better coordination of the overall government and donor support, avoiding duplication of effort and creating synergies.

If the amount of anticipated available funding is insufficient to cover the estimated costs, there will be a funding gap. It will therefore be necessary to **prioritize** programs and activities to be implemented with the limited available funding. Cost information should be used as one of the key inputs in the prioritization process. Different types of analysis, such as cost-effectiveness or cost-benefit analysis may be needed to estimate “value for money” of different implementation options and choose between the alternatives.

The cost information should also be used for financial **monitoring and reporting**. Monitoring and reporting on actual costs will highlight the major deviations from the plan and enable taking corrective actions in a timely manner. **Evaluation** of results achieved with the money spent will enable assessment of relative efficiencies and effectiveness of

programs and activities. Future programming and financing decisions should be based on the results of such assessments.

Finally, high-quality cost information will facilitate future **revisions** of cost estimate. Cost estimates should be revised together with the action plan, to reflect changes in priorities, resource requirements and costs. Estimates produced using electronic tools can be easily updated, by changing relevant variables. Different scenarios can also be tested to make decisions on potential **expansion or downsizing** of programs or activities. High-quality cost information can also be helpful for conducting **other costing exercises**.

3.11.2. PAR Examples

PAR strategies and action plans generally contain information on anticipated available funding from different sources, including government and donors, as well as the information on funding gap. Clear definition of financing sources is also a requirement of the Principles of Public Administration[17]. The Principles also require that the government's mid-term expenditure framework acknowledges PAR as one of the government's priorities and sets out the approximate amount of resources available for the reform. This amount should be in line with the amount allocated to PAR in the approved action plan or a similar document[18]. Given that significant share of incremental costs is financed by donors, coordination of government's and donors' assistance is important for effective and efficient use of overall resources. Sector donor coordination is also one of the criteria for IPA II support under the sector approach, which is the major source of external financing[19].

17 Principle 3 ("Financial sustainability of PAR is ensured") among other requires that cost appraisal of reform measures defines the share and source of donor assistance and expected financing from Government.

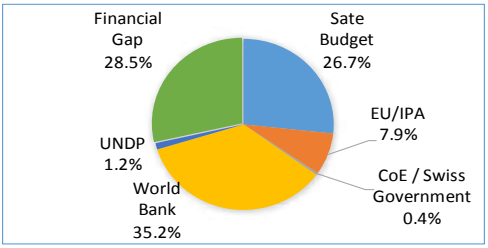
18 Principle 3 ("Financial sustainability of PAR is ensured")

19 EC "Sector Approach in Pre-Accession Assistance"

Funding Sources and Funding Gap – Albania

The chapter on financing of the Cross-cutting PAR Strategy of Albania 2015-2020 contains information on total anticipated financing from different donors and government, and the amount of funding gap. Details by action plan elements (activity, objective, reform area) are provided in action plan and supporting calculations.

Sate Budget	2,882,950.76
EU/IPA	855,258.08
CoE / Swiss Government	44,100.00
World Bank	3,803,054.92
UNDP	128,250.92
Financial Gap	3,079,214.14
Total Costs *(000 ALL):*	**10,792,828.82**



The box below illustrates how program budgeting in Serbia is used to link government budget allocations with the PAR Action Plan.

Mobilizing Budget Funds to Support PAR Action Plan Implementation in Serbia

Costing of PAR Action Plan 2015-2017 in Serbia was done at the result level. Costs of each result were calculated based on estimates provided by institutions responsible for implementation of individual activities. One of the anticipated measures is implementation of inspection supervision reform. Costs of this measure were largely based on a roadmap and cost estimate provided in a separate operational document. Below is the overview of results, activities and funding needed for implementation of this measure, as per the Action Plan.

Result	Activities (summarized, based on the Action Plan)	Additional Funds Needed	
		Budget	Donors
A new legal framework for inspection supervision established and presented to public	Drafting the Law on Inspection Supervision, related by-laws and Guidelines on the Law implementation	-	199,390 EUR (USAID Business Enabling Project)
	Informing, advising and training on the Law		
	Aligning special laws with this Law		
Coordination of work of all inspections ensured	Setting-up the Coordination Commission and supporting its operations	113,5 mil RSD (2015-2016)	4,5 mil EUR
	Analysis of the inspections' business processes		
	Establishing a single IT system for pilot inspections (e-inspector)		
	Monitoring and evaluation, implementing measures for improvement, training		
Increased capacities of inspection services for implementation of the new inspection supervision system	Setting up commissions and conducting exams for inspectors	17,5 mil RSD (2016)	
	Conducting needs assessment and setting up infrastructure for inspections' operations		
	Preparing guidelines, instructions, trainings		
	E-learning application, training of trainers		
	Introducing international standards, restructuring		

Cost estimates for implementation of the Law on Inspection Supervision were revised few months after adoption of the Action plan, as part of the Law's fiscal impact assessment. Based on the revised estimates, donor and budget funding was mobilized for implementation of specific activities, as shown below. Note that separate **budget programs** were defined within the responsible institutions' budgets to support the reform.

Result / Activity	2015		2016		2017		Financing Mechanism
	Budget	Donor	Budget	Donor	Budget	Donor	
Result 1 - Informing, advising and training on the Law	-	8,5	-	15,7	-	-	USAID Project (experts, printing, workshops)
							World Bank support
Result 2 - Supporting the Coordination Commission	6,5	-	1,3	-	1,21	-	„Inspection Supervision Reform" program within the MPALSG budget (travel and contractual services)
Result 2 - Analysis of the inspections' business processes	21	-	-	-	-	-	„Establishing a single IT system for inspections" program within the Directorate for e-Governance budget (contractual services)
Result 2 - Establishing a single IT system for pilot inspections	-	-	80	-	120	-	
Result 3 - Conducting exams for inspectors					5		Horizontal program of professional development of inspectors, budgets of MPALSG and relevant institutions
Total mil RSD	**36 mil RSD**		**97 mil RSD**		**125 mil RSD**		

The quality of program budgeting in the WB countries is unfortunately still not at the level that enables comprehensive planning, financial monitoring and reporting of all budgetary allocations to PAR.

Annexes

Annex 1 – References

Annex 2 – Stakeholders Consulted

Annex 3 – Cost Calculation Tool (available as a separate MS Excel document in the electronic version published on ReSPA website)

Annex 1 – References

PAR-related documents:

The Principles of Public Administration, SIGMA – OECD

The Cross-cutting PAR Strategy and Action Plan 2015-2020, Minister of State for Innovation and Public Administration, Republic of Albania

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Annex 2 – Stakeholders Consulted

(countries and persons listed in alphabetical order)

Albania

Andi Mazi, Coordinator, Minister of State for Innovation and Public Administration (MIPA)

Angeliki Votsoglou, Task Manager for PAR, DEU to Albania

Blerta Xhako, Director of the Technical Secretariat of the Integrated Policy Management Group (IPMG)

BiH

Alija Aljović, Assistant Minister, Budget Sector, Federal Ministry of Finance, Federation of BiH

Amela Hasanbegović, Budget Sector, Ministry of Finance and Treasury of BiH (MoFT BIH)

Aneta Raić, Head of Unit for Donor Coordination, Finances, Monitoring and Evaluation, PARCO

Chloé Berger, Second Secretary, Head of Operation Section for Justice, Home Affairs & PAR, DEU to BiH

Emina Ćirić, Budget Sector, MoFT BiH

Halida Pašić, Budget Sector, MoFT BiH

Irena Šotra, Program Manager, DEU to BiH

Jasmina Popin, Senior Advisor, GIZ Strengthening Public Institutions Programme, BiH

Lamija Marijanović, Financial Management Specialist, World Bank Country Office BiH

Maja Perić, Sector for Programming and Coordination of EU Financial Support, Ministry of Finance of RS

Mario Vignjević, Program Officer, PAR & Local Governance Reform & PFM, Swedish Agency for International Development (Sida), BiH

Mikan Davidović, Deputy PAR Coordinator in RS

Mirsada Jahić, PAR Coordinator in the Federation of BiH

Nedžib Delić, Expert Advisor for PAR, PARCO

Selma Džihanović-Gratz, Head of European Integrations Section, Ministry of Justice of BiH, member of ReSPA Governing Board, and member of ReSPA Network for RIA and better regulation

Snežana Tuševljak, Budget Sector, MoFT BiH

Svetlana Radovanović, Assistant Minister, Budget Sector, Ministry of Finance of Republika Srpska (RS)

Vlatko Dugandžić, Assistant Minister, Budget Sector, MoFT BIH

Kosovo*

Vedat Sagonjeva, Senior Policy Planning Officer, Office of the Prime Minister, Kosovo*

Macedonia

Gordana Gapikj Dimitrovska, Head of Unit for Legislation Assessment, Publication and Supervision Management and National Coordinator for OGP, Ministry of Information Society and Administration, member of ReSPA Network for RIA and better regulation

Montenegro

Ana Stanišić Vrbica, Good Governance and European Integrations Advisor, DEU to Montenegro

Bojana Bošković, General Director, Directorate for Financial Systems and Business Enabling Environment, Ministry of Finance, member of ReSPA Network for RIA and better regulation

Eleonora Formagnana, Program Manager for PAR, DEU to Montenegro

Ivan Radulović, Directorate for Financial Systems and Business Enabling Environment, Ministry of Finance

Jelena Mrdak, Project Manager, Local Governance Program, United Nations Development Program (UNDP) in Montenegro

Serbia

Biljana Zagorac, Unit for Financial and Material and IT Affairs, MPALSG

Danka Bogetić, Program Manager, PAR, DEU to Serbia

Dražen Maravić, Acting Assistant Minister, MPALSG

Duška Subotić, Program Manager, Customs, Tax and E-government, DEU to Serbia

Irena Posin, Sector for EU Integrations and International Cooperation, Head of Projects Unit, MPALSG

Janko Prica, Public Policy Secretariat

Ljiljana Uzelac, Sector for Good Governance Development, Head of PAR Management Group, MPALSG

Miroslav Bunčić, Budget Sector, Ministry of Finance

Nataša Radulović, Sector for EU Integrations and International Cooperation, Head of Project Implementation Group, MPALSG

Nina Zelić, Sector for European Integrations and International Cooperation, Project Planning and Preparation Group, MPALS

Vera Veljanovski, Advisor, Sector for EU Integrations and International Cooperation, Project Planning and Preparation Group, MPALSG

Vladan Petrović, Program Manager, PFM, DEU to Serbia

Other Stakeholders:

Bagrat Tunyan, Senior Adviser policy development and co-ordination, SIGMA

Klas Klaas, Senior Adviser public financial management, SIGMA

Péter Vagi, Senior Adviser policy development and co-ordination, SIGMA

Timo Ligi, Senior Adviser policy development and co-ordination, SIGMA

Jolanda Trebicka, Independent Expert

Renata Zatler, Independent Expert

Publisher

ReSPA – Regional School of Public Administration

Branelovica, 81410

Danilovgrad Montenegro

Phone: +382(0)20817200

Fax: +382(0)20817238

Email: respa-info@respaweb.eu

www.respaweb.eu

For the Publisher

Ratka Sekulović

Responsible Manager

Dragan Đurić

Circulation

200 copies

ISBN

978-9940-37-019-0

Prepress

AP Print, Podgorica

Printing

AP Print, Podgorica

CIP - Каталогизација у публикацији
Национална библиотека Црне Горе,
Цетиње

ISBN 978-9940-37-019-0
COBISS.CG-ID 34869264

ReSPA is an international organisation which has been entrusted with the mission of boosting regional cooperation in the field of public administration in the Western Balkans. As such, ReSPA is a unique historical endeavour, established to support the creation of accountable, effective and professional public administration systems for the Western Balkans on their way to EU accession.

ReSPA seeks to achieve this mission through the organisation and delivery of training activities, high level conferences, networking events and publications, the overall objectives of which are to transfer new knowledge and skills as well as to facilitate the exchange of experiences both within the region and between the region and the EU Member States.

Contact
Regional School of Public Administration
Branelovica
P.O. Box 31, 81410
Danilovgrad, Montenegro

Telephone: +382 (0)20 817 200
Internet: www.respaweb.eu
E-mail: respa-info@respaweb.eu