

# How much does my Service cost?

## A Guide to Unit Costing

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2009

## Table of Contents

1	What does this Workbook do? .....	3
2	Why Unit Costing?.....	4
3	What are Unit Costs? .....	5
4	Unit Costs should.....	8
5	The Start of Successful Unit Costing – the Service Description .....	9
6	Method of Data Collection.....	11
7	Different Types of Costs .....	12
7.1	Variable Costs.....	12
7.2	Fixed Costs.....	13
7.3	Overheads.....	13
7.4	Running Costs .....	16
7.5	Capital Costs .....	16
7.6	The problem with Capital Costs.....	17
7.7	Donations and Household Income .....	19
8	Other Information Needs .....	21
8.1	Number of Child Days .....	21
8.1.1	How to calculate the total number of child days in each pattern .....	22
8.2	Types of staff.....	23
8.3	Energy and Water Consumption .....	24
8.4	The Size of your Property .....	24
9	The Calculation .....	25
9.1	A simple scenario .....	25
9.2	A more complex scenario .....	26
9.3	More than One Service in One Budget .....	28
9.4	Foster Families .....	33
10	A Brief Introduction to Setting Up Separate Budgets.....	37
10.1	How can you do this? .....	37
11	Annex A – Child Day Calculation Aid .....	42
12	Annex B – Example of Data Collection Sheet (Day Centre).....	43
13	Annex C - Data Collection Sheet (mixed service) .....	45
14	Annex D - Calculation Template for Foster Families .....	47
15	Annex E – Answers to Exercises.....	48
16	Annex F - Definitions.....	56
17	Annex G – Blank Templates .....	57

# **1 What does this Workbook do?**

This workbook aims to introduce service managers and accountants to the ideas, concepts and methodologies of unit costing, to help them establish a price for their service per child and per unit of time, eg per day. This will help both service managers in time, when a system of contracting out services is introduced (eg where a government body asks a service provider to provide care for a specified number of children).

At the same time it can inform potential service purchasers about differences between services. Differences in prices may exist due to differences in quality (or other reasons, eg different types of care being provided or a service which is located in a very remote location). Not all price differences can be thus justified - and it is up to service purchasers to assess what is a good price for a particular type of care.

This workbook can be used both as part of a taught training course, or as self-instruction material. There are a number of worked examples, and exercises to complete - it is only by working their way through the exercises that the user will understand how unit costing works (Answers are given in Annex E). A list of definitions is given in Annex E.

The examples used, and their costs, are totally fictional and the costs may be unrealistic. It is not the point of this workbook to provide examples of 'ideal costs'; it simply teaches the methodology.

**Good luck!**

## 2 Why Unit Costing?

Until recently most social services for children in Georgia, and many other countries in the world, were provided in the form of long-term residential care. Usually services providers received their funding according to how many children were registered in the service.

This funding mechanism did not take into account whether the children lived in an institution all the time - 52 weeks a year, 24 hours a day - or whether they went home during school holidays or weekends. This meant that service providers whose children did not spend all their time at the institution had more money to spend on each child than those where the children have no families to return to.

Increasingly a wider range of services is being provided; these may include

- services for children who attend residential care institutions only during the day,
- services in specific day centres
- drop in centres, where children may attend for a few hours every week
- specialist services such as rehabilitation or psychologist consultations.

In time the funding patterns may also change, and service providers may charge the government for services for specific children, much as a hotel charges its customers for the length of their stay and their food consumption.

From the Government's point of view it does not make sense to pay for services that are not used, as was the case until recently.

Therefore it is important that the service providers, when calculating the costs of their services, can be sure that all their costs are covered by the 'price' they will charge the government for the service. This will be even more the case as competition develops between providers, when the price of services will be one of the factors that providers compete on.

### 3 What are Unit Costs?

This term means:

the total cost of a product or service per item produced or processed.

Thus unit costing helps us to work out how much of each service is spent on an individual child.

In the case of social services for children, 'an item' (per child) can be:

- a day's care (8 hours or 24 hours, depending on the kind of care being provided),
- a session, eg where a service is provided on a half-day basis, eg where a day centre takes in children in the morning or the afternoon,
- an hour's 'treatment' (eg counselling, rehabilitation physiotherapy),
- a meal or a day's worth of meals.

Often, when people talk about the cost of a product or a service, they think of the costs of the ingredients of the product or service only.

*Example 1: When you go into a restaurant, you see a plate of eggplant with walnuts and you think - I could make that for a fraction of the cost. But would that cover all the costs of the restaurant?*

*Answer: No, it would not. You are also paying for:*

- *the salary costs of the people preparing and serving the food,*
- *the energy used during cooking and for heating and lighting the restaurant,*
- *the purchase and repair of the furniture and equipment including table linen,*
- *the cost of the rental of the property (or part of the cost of buying it),*
- *the cost of refurbishment,*
- *the cost of management and administration (eg the book-keeper),*
- *the owner's profit, any taxes paid by the company (but not the taxes of individual employees which are deducted from their salaries),*
- *social insurance contributions,*

- *other company insurance...*

**Exercise 1:**

When you buy a lavash, what costs do you think are included in the 60 tetri you pay for it? Please list the relevant items below.

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(Answer in Annex E)

Similarly in child welfare the costs per child are not simply the costs of food, clothes, and medicines consumed by the child.

**Exercise 2:**

What costs do you think contribute to the total cost of the care of a child in a residential institution? Note that providing quality care for a child is considerably more complex than producing a lavash. Please list below the types of costs that should be included.

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(for answer see Annex E)

Does your list roughly match the list in Annex E? If not, what do you think the problem is? Did you include items that are not on the list? It is possible that some items may have been missed off the list.

Did any of the items surprise you?

## 4 Unit Costs should...

- be inclusive - ie include all components of a service, including staffing, power, maintenance costs, overheads
- tally with the way services are used. In some cases, eg residential care, they can be calculated per user per day, in other cases, they can be calculated per user per hour (eg day services or a drop in centre)
- be capable of aggregation, ie calculating the overall cost per service, or per child if the child uses more than one service.
- be as up to date as possible. This is always important, but particularly so when inflation is high. It avoids the risk of a) undercharging for services if you are a service provider, or b) of underbidding if you are the Ministry bidding for funds.



## 5 The Start of Successful Unit Costing – the Service Description

To be able to carry out successful and complete unit costing, it is useful to describe your service and its activities. This will prevent you from overlooking your service, and help you to calculate service costs more specifically.

### Example 2:

*The service is provided in the building of a former boarding school, located some 2 km distant from the nearest village, and 12 km distant from the raion capital. The building over 3 floors covers 600 square metres; it is surrounded by 5 ha of garden. Bedrooms for 80 children are in the top floor of the building. The former classrooms are in the ground floor and first floor, together with administration accommodation. There is a sports hall, large kitchen and dining room, rooms for leisure activities and a small cultural hall. The service has a bus for taking children on outings and to the local school (5km distance).*

*60 children currently use the facility, with 20 of them staying during the summer holidays. During term time, a further 40 children visit the service every afternoon, when they receive two meals, one at the beginning and one at the end of the afternoon. The day children can also receive help with clothing and medical provision.*

*The service has its own budget and employs all staff working in the location, including drivers, gardeners as well as all care staff. The director is appointed by the Ministry of Education and Science of Georgia; he manages the service on behalf of the ministry.*

### Example 3

*This collection of services is provided in a purpose-built centre in Tbilisi, near major bus routes. It contains a shelter/home for up to 30 children, who live there, but who attend the local school. There is a public kitchen which also provides meals for needy adults, specifically older and disabled persons.*

*In addition, in another part of the centre, afternoon groups are run which include painting and art therapy, skills training, access to medical services, a dance and theatre group etc. Children attend these services 5 days a week and receive their lunch as well.*

*Furthermore, on the same site, the centre has skills training facilities, which include a commercial car repair shop, a hairdresser's salon and a bakery.*

*The centre is managed by head office from another location.*

If you have very diverse services, like in the second example, it may be easier to set up separate budgets and 'cost centres' for each service, much like the Ministry of Education and Science of Georgia has different cost centres for different programmes.

## **6 Method of Data Collection**

It is best to use a questionnaire type template for collecting the information you require. This will allow you to have all the information together in one place, and this way you do not overlook data that you should have collected.

For an example of a template see Annex B.

## 7 Different Types of Costs

As you will have noticed, there are many different types of costs. These can be broken down into variable costs, fixed costs and overheads. In addition there are running costs and capital costs.

### *7.1 Variable Costs*

Variable costs (sometimes also called 'direct costs') are costs which could, in theory, be linked to each child – they increase and decrease immediately as the number of children increases and decreases in a service. Generally they cover items consumed by the children.

Variable costs include:

- food
- clothing
- medical and hygiene supplies
- personal education equipment (eg school books, notebooks, pencils, paints, paper for art and school work etc)
- toys and equipment that need to be replaced at least once per year, otherwise these are capital costs, and their maintenance
- musical instruments if replaced more than once per year, otherwise they are capital costs, and their maintenance (eg piano tuning)
- transport maintenance and repair, including fuel for transport, and costs of public transport
- water

Sometimes it can be difficult to decide whether costs are fixed costs (see below) or variable costs. For example if a service has a minibus with 20 seats the costs do not vary very easily regardless whether it has 20 children or 10 children. However, if a service uses public transport for its children, then the cost is very sensitive to the number of children. Deciding which costs are fixed and which are variable is not so important for this exercise; there may however be other situations where it is important to know which costs are variable and which are not.

## **7.2 Fixed Costs**

Fixed costs (sometimes also called 'indirect costs') are costs which are linked to the number of children being cared for, but which do not change so quickly in response to changes in the number of children. If however, the number of children changes dramatically, fixed costs will also change (eg if the number of children halves, fewer staff will be needed).

Some fixed costs will be particularly difficult to control. For example, if a service provider has heating linked to the local central heating system, it may be impossible to turn off parts of the heating system even in parts of the building that are no longer used.

Fixed costs include:

- staffing costs including salaries, social insurance costs, training, travel, bonuses - it is useful to divide the staff into different groups eg:
  - teachers
  - medical staff including nurses
  - carers
  - catering staff
  - ancillary staff (drivers/cleaners/gardeners/maintenance workers)
  - administration staff including management (ie accountant, secretary, director, deputy director)
- energy costs, ie electricity, gas, oil, other heating supplies
- all equipment, eg furniture, kitchen equipment, sports equipment (some of these are capital costs, others are running costs - see sections 7.4 and 7.5)
- communication costs (eg telephone, internet)
- office costs (stationery, office equipment maintenance and repair, etc)

## **7.3 Overheads**

In business, 'overhead costs' are defined as those necessary for the functioning of a business, but they don't themselves generate profits. Eg the manufacture of goods generates profits, but eg the administration of personnel does not directly (though of course it does so indirectly depending on the quality of staff hired).

The difference between fixed costs and overheads is a very fine line, and sometimes it is difficult to decide which cost is which. In the case of a service provider who

only has one service in one location, managed from that location, overheads are effectively the same as fixed costs, and can be easily treated as such.

You may however have an organisation which provides services in one or more locations and which has an overall management office somewhere else. (In effect, the Ministry of Education and Science of Georgia is structured like that, with its branches in the form of educational resource centres in every raion in Georgia).

In this case the management costs are clearly overheads. On the one hand, the cost of the services provided in each educational resource centre should also include the cost of it being managed by the Ministry, but on the other hand - how to attribute the management cost to the individual bit of service received by a child?

It's not so difficult, actually. There are different ways of doing this:

a) if all your services are roughly of the same size in terms of client numbers, staff etc (eg you have 6 small group homes), then you can simply divide your overhead costs by the number of services, and attribute a portion of them to each service. In this case you would use  $1/6^{\text{th}}$  for each service.

b) if your services are vastly different, eg you have a small group home for 8 children, a day centre for 35 children, and a large institution for 100 children you could add the total number of children together = ie 143 children, divide the overhead costs by this total = 143. Then you would attribute:

$8/143$  of the overheads to the small group home

$35/143$  to the day centre

$100/143$  to the large institution.

Generally this makes sense because a large institution needs more funding and usually more management.

### Exercise 3:

You have a children's day centre. It is the only service you have, and you manage it from within the same building. Please attribute the following costs according to whether they are variable costs, fixed costs, or overheads, using the table at the end of this exercise.

- Paper for art classes
- heating
- food for the children
- repairs to the centre minibus (for the children)
- electricity
- gas
- clothes
- salaries for:
  - teachers
  - cooks and kitchen staff
  - management
  - driver, cleaners
  - carers
- travel costs to take the children on outings, eg bus tickets, or petrol for the minibus
- medicines
- a psychologist who visits only when needed
- telephone bill (including internet)
- toys (replaced less than once a year)
- materials for making fancy dress
- staff uniforms
- staff training

Variable costs	Fixed costs	Overhead costs

For the suggested answer, see Annex E. Did anything surprise you?





#### Exercise 4:

You have a number of day centres for children, in different locations. You have a head office in Tbilisi from which you manage all the day centres.

Please categorize the following costs according to whether they are running costs, fixed costs or overheads.

- Food for the children
- heating of the day centres
- stationery for the head office
- paper for use by the children
- paper for the head office
- children's travel
- day centre staff travel to head office
- head office staff travel to day centres
- heating of head office
- head office telephone
- day centre telephone

Running Costs	Fixed Costs	Overheads

For answer see Annex E.

You need to classify these costs even further, into running costs and capital costs!

### ***7.4 Running Costs***

'Running Costs' refer to all costs which you pay very regularly, at least once per year,

regardless of whether they are fixed costs, overheads or variable costs.

## ***7.5 Capital Costs***

These are costs that do not arise on an annual basis. While each year you have capital expenditures, they may be different every year. Capital costs include items such as:

- renovation (including major refurbishment, replacement of heating systems, changing the use of rooms etc)
- major furniture and equipment, eg beds, tables and chairs, rehabilitation equipment for children with disabilities [which belongs to the service provider rather than the children], computers, kitchen equipment
- a car or minibus, major equipment for garden maintenance
- purchase of a property

## ***7.6 The problem with Capital Costs***

To calculate the unit costs of your service you need to work out the average cost of the service per child per unit of time. So, very roughly speaking (and you need to read on to section 9Error! Reference source not found.Error! Reference source not found. to make the correct calculation!!), you take all your items of expenditure, add them together, and then divide them by the number of time units and the number of

### **Exercise 5:**

So what do you think happens if you have just spent 100,000 GEL on a new heating system, and 20,000 GEL on new windows? What will this do to the average cost of this year's activities?

.....  
.....  
....

For the answer, see Annex E.

children to get the unit cost.

So, what can you do about this then?

Consider the general lifetime of the expenditures you incur. When you put up a new brick building or instal new windows, you expect it to last for decades. When you buy furniture, you generally expect it to last for several years. A new heating system and boiler should last considerably longer than a year. A fridge or a computer should last several years.

In order to arrive at a sensible cost for your service, therefore, you should divide the total cost of a capital expense by the number of years this item should last. For the sake of standardisation, the following anticipated life-times should be applied:

<b>Item</b>	<b>Potential life expectancy</b>
New building constructions Major renovation including construction work new windows	25 years
New floor, doors, internal woodwork if not part of major renovation, heating system	10 years
Electrical and gas equipment, eg cooker, refrigerator, computer, cleaning items;	5 years
Cars, minibuses	5 years
Furniture, large robust toys, playground equipment	5 years
Small toys, bedlinen, cleaning equipment etc	Running costs
Running repairs carried out by the handyman, car repairs etc	Running costs

## Exercise 6

Your service has recently opened a new day centre. You have bought a property and carried out considerable work converting it. This involved an entire internal re-allocation of rooms, new wiring, installation of telephone network and internet, a new heating system, purchase of furniture and equipment, purchase of large and small toys, equipping a kitchen, and the purchase of a minibus.

Over how many years would you attribute the costs? Please complete the table:

Expense	Number of years
Property purchase	
renovation	
Electrical work	
Communications network	
Heating system	
Purchase furniture and equipment	
Large toys	
Small toys	
Kitchen equipment	

For the answer see Annex E.

So now we have covered all the expenses in the average child care service. Or have we?

### ***7.7 Donations and Household Income***

'But - donations are not an expense, they are an income!' I hear you say. Yes, but....

If a service is funded according to the needs of its children, there should be no need for national and international NGOs or embassies of foreign countries to provide food supplies to residential care institutions (eg Caritas), help institutions with the installation of heating systems (the Lithuanian embassy), give grants (the President's

Fund), provide training and help with renovations (various international NGOs).

Some services also have 'household income', eg in the form of home-grown meat, milk or vegetables.

All these items, if used for the benefit of the service clients, should also be included in the total calculation of the service cost. The costs should be categorised into running and capital costs, variable, fixed or overheads as appropriate.

This is not difficult if the cost of these services is easily estimated, eg for a heating system. It becomes complicated when you have to include the cost of your homegrown food, or the costs of donated clothes or other small items.

With food you should record accurately what is used, eg how many kgs of tomatoes, meat, or litres of milk you use. Given that these prices vary considerably depending on the season, you could then take an average monthly price (eg the price of the goods on the first day of the month) and apply this price throughout that month for this type of goods. Sometimes the price may have gone up by the end of the month, sometimes it may have dropped - that does not matter; it will average out over time.

With other goods, such as children's clothes, it is more difficult to estimate their value. You could ask the donor to suggest the value of the clothes, or you could make an estimate yourself of what you would spend on this amount of clothes.

For the sake of unit costing it is important to record your estimate of the value of donations, since one day your service should be able to run without donations. While it would be good to record who donated what goods of which value, some donors may be a little shy (for tax reasons...<sup>1</sup>) to have their identities recorded. In this case you need to record that 'Mr or Mrs Anonymous donated....X (eg baby clothes) to the value of approximately Y GEL on .....[date]].

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<sup>1</sup> Anecdotal evidence from Lithuania suggests that charitable donors are reluctant to have their names published, or even recorded, for fear that the tax authorities may investigate their financial affairs



## 8 Other Information Needs

Already we have collected large amounts of financial information. But we need more data!

### *8.1 Number of Child Days*

Given that the 'unit' of 'unit costing' relates to 'children' and 'days' (or 'sessions'), we need to know the total number of child days the service is used each year. For example, if you have 10 children living in your small group home all year, that is a total of  $10 * 365 \text{ days} = 3650 \text{ child days}$ .

Unfortunately, in many cases, this is more complicated. Consider:

- a residential care institution may have children who live there all the time, those who live there only during the week, those who live there only during the term time, and those who do not live there, but come to the institution during the day. In addition some children may also be in your service temporarily, eg for a few weeks, while a family crisis is being resolved.
- A day centre may have children who attend every day, some days, for a few hours a week.

To be sure to calculate the right costs per child, you therefore need to obtain information on how many children attend the service in each pattern. Obviously the detail of this may change in the course of a year, and from one year to the next. But generally, unless a service is building up or running down, the data will be broadly similar from year to year.

In the case of a service where children attend on significantly different patterns (ie overnight stay and day care in the same service, or those boarding ) it is very important to know how many children attend in which pattern (those who do not sleep there do not need a bed or night supervision). At this stage it is best to calculate the total number of child days (number of days a child attends multiplied with the number of children attending for this duration, or the sum of days the children in each category [day children and boarders] have spent in the last year in that

institution<sup>2</sup>.

Where children attend a service on different numbers of days, but they receive broadly the same services, eg in a day centre or a small group home, you simply need to work out the total number of days the children use the service.

Alternatively you can count the number of children using the service each day, and total up the number of children at the end of the week, month and year.

Annex A provides a Child Day Calculation Aid that can help you to calculate the total number of child days by the categories of day children, resident children and sessional children, depending on what kind of services you provide. (The data contained in this aid will be used for the final calculation in the workbook).

### 8.1.1 How to calculate the total number of child days in each pattern

#### **Example 4:**

*You run a residential care institution for children, with a total of 50 places (beds). 10 children never leave the institution (365 days per year), 20 children live there during the week all year round (260 days per year), 10 children live there during the week and during term-time only (180 days per year), 10 children stayed there all the time, but for only 3 months, 5 children stayed there for two months but only Monday to Friday, and 5 children come during the day during term time only (180 days).*

*For how many resident child days and day child days was the institution used?*

*a) for children staying full time:  $10 \times 365 + 10 \times 91 = 4560$  child days on average*

*b) for children staying during the week in term time only:  $10 \times 180 + 2 \times 9 \times 5 [2 \text{ months}] = 1890$  child days on average*

*c) for children staying during the week all year round:  $20 \times 260 = 5200$*

**Total resident child days = 11650**

*d) children coming during the day: no calculation needed since there are no part-year attenders =  $5 \times 180 = 900$  day child days*

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<sup>2</sup> To save endless counting up of numbers of days at the end of the year it may be easier to count the number of days present for children leaving the service at the time of leaving; this will spread at least some of the workload around the year.



### Exercise 7

You run a day centre which is open 5 days per week, all the year round - ie 260 days. 80 children attend the centre every second day, 100 children attend the centre once a week. 10 children attend the centre every day. *For how many total child days was the centre used in the year?*

Answer (compare with Annex E)

### Exercise 8

Your boarding school has 80 beds. 15 children live there all the time (365 days); 45 live there every day during term time (260 days), 20 children lived there every day for 4 months (121 days each), another 10 children lived there for a month each (30 days each); 30 children come during the day for their education (180 days each), and 15 children came during the day for 6 weeks (30 days each) while a family crisis was being resolved.

*What for the year is the total number of child days for children who:*

*a) stayed during the day*

*b) stayed over night.*

Answer

Compare with Annex E

### ***8.2 Types of staff***

While this information is not totally necessary since you are calculating the total cost of the service per unit, it can nevertheless be interesting to see how much money you spend on different types of employees. It can tell you, and potential funders or customers (eg the body funding your services) something about your service quality, if, for example, you spend more money on ancillary and management staff than on child care employees. A useful classification of staff is:

- Management and administration
- child carers
- nursing and medical staff
- teachers, psychologists and social workers
- catering employees
- ancillary staff (drivers, cleaners, maintenance workers)

### ***8.3 Energy and Water Consumption***

This factor is particularly important in times of high inflation. (Strictly speaking, you should calculate the consumption of everything and then adjust for inflation, but this may require too much of a book-keeping effort in the early stages of unit costing, though it could be achievable with a good computer system).

Using the consumption figures of the previous year and the forecast price of the next year you could then calculate the real costs for the following business year, rather than only basing your unit costing on the last year's expenditure.

### ***8.4 The Size of your Property***

This is more important when you have more than one service in the same building, and you want to cost them separately.

## 9 The Calculation

Now you have all the information you require:

- the number of children, depending on the pattern of their presence in the service.
- all financial information.

Note that for the sake of precision, you should always calculate the daily costs to a precision of three decimal points, to avoid too much of a divergence resulting from rounding errors, when for accounting purposes you develop your budget or issue invoices on a monthly or annual basis.

### 9.1 A simple scenario

#### *Example 5*

*Let us start with an easy example. You have a small group home with 8 children who are resident there all the time. You are managed by your organisation's head office which has 10 similar small group homes in total. The total running cost of your service last year was 30,000 GEL; you also spent 2,000 GEL on new beds and 1000 GEL on a new refrigerator. The total head office cost is 50,000 GEL per year.*

*Beds and the refrigerator are capital items. Both are expected to last for 5 years.*

*The cost of these items attributed annually is therefore  $(2,000+1,000)/5 = 600$  GEL.*

*The cost of the headquarters (**overheads!**) should be spread over the 10 small group homes; thus each home bears 10% of the cost. The cost of the HQ is therefore 5,000 GEL per home.*

<i>Total running cost for the home:</i>	<i>30,000 running costs</i>
	<i>600 capital expenditure,</i>
<i>annualized</i>	<i><u>5,000</u> share of overheads</i>

35,600

*Cost per child per day =  $35,600 / (8 \times 365) = 12.192$  GEL per day (or 4450.08 GEL per year)*

### **Exercise 9**

The same small group home had a tragedy on 31 January, in which a child died (he was playing near the railway lines and did not notice the train coming). As a result, social workers have become reluctant to place other children in the home. Only on 1 December was another child placed to fill the vacancy.

The annual costs for the home for that year were 29,000 GEL due to the savings in food and clothes for the vacant place. Headquarters costs and capital costs are the same.

What is the average unit cost of the home per child per day? Please calculate.

Answer in Annex E.

The answer to this question shows that it is in the interest of a service to keep as full an occupancy as possible, since this will lower the average cost per child. Many costs continue regardless of how many children there are in a service (fixed costs), as long as the number of children does not vary too much. Therefore if there are fewer children in a service, the service provider would have to charge (if this is how services are funded) a higher cost per child - but this would make them uncompetitive compared to other providers.

## 9.2 A more complex scenario

### Example 6

*You are running a day centre. It provides 4 meals a day, and a range of activities. Children attend either morning or afternoon, depending on the shift their school is on; this applies also during the school holidays. Therefore the centre operates 260 days per year, or 520 sessions per year. 30 children attend for one session every day, five extremely needy children who have not yet reached school age attend for two sessions every day, 20 children attend two sessions a week, 40 children attend one session a week. 15 children attended one daily session for 3 months, but are now reduced to attending two sessions a week - they only started attending the centre in March.*

*The running costs of the centre including all staffing were 25,000 GEL for the year. In addition this year the centre had to buy a minibus for 15,000 GEL. It also received a donation of computers worth 10,000 GEL. Part of the activities the centre offers is gardening, ie the growing of vegetables. It is estimated that the centre used vegetables to the value of 1,500 GEL during the year. Work from the children's arts and crafts classes was sold for 1000 GEL of which the original painters could keep half.*

*What is the cost per child per session?*

*a) how many sessions took place:*

*30 children \* 1 session per day \* 260 days = 7800*

*5 children \* 2 sessions per day \* 260 days = 2600*

*20 children \* 2 sessions per week \* 52 weeks = 2080*

*40 children \* 1 session per week \* 52 weeks = 2080*

*15 children \* (5 sessions per week \* 13 weeks plus 26 weeks \* 2 sessions) = 1755*

***Total = 16315 sessions in the year (or on average 31.38 children per session)***

*b) Total costs*

*Running costs* *25,000 GEL*

*Minibus (cost spread over 5 years)* *3,000 GEL*

<i>Computers (cost spread over 5 years)</i>	<i>2,000 GEL</i>
<i>Benefit from growing vegetables</i>	<i>1,500 GEL</i>
<i>Income from paintings (half to the centre)</i>	<i>500 GEL</i>
<b><i>Total cost</i></b>	<b><i>32,000 GEL</i></b>

*c) Cost = 32,000 GEL divided by 16315 sessions = 1.961 GEL per session*

### ***Exercise 10***

*Calculate the average cost per child session for the day centre in Annex B.*

*The answer is:*

*Compare with Annex E.*

### ***9.3 More than One Service in One Budget***

The next example and exercise reflect the most complicated situation, where one location with one budget provides effectively two different services. Here you need to calculate different unit costs for the children using the services significantly differently.

Ideally the different services should have two different budgets, but this can be difficult when for example in a boarding school some children sleep overnight and others only come in during the day, but the same staff look after all children, and all children use the same rooms.

To calculate unit costs in this situation, adjustments have to be made. For the sake of simplicity children who do not live in a school (ie who return home every evening) are assumed to receive the same services, including clothing and school equipment, as those who live there. They do not, of course, use bedrooms or the services of night staff, and they receive fewer meals than those in the school all the time. Since the proportion of food they use is different to the proportion of other services, food needs to be treated separately in the calculation.

For the sake of simplicity it is further assumed that day children spend 8 hours per day in the institution. Therefore their share of all costs except for food should be 1/3<sup>rd</sup> of that of resident children per day. Therefore the share of the non-food costs attributable to day children should be:

$$\frac{(1/3^{\text{rd}} * \text{number of day child days}) * 100}{\text{total number of resident child days} + 1/3^{\text{rd}} \text{ number of day child days}}$$

**Note that if you provide services also on a sessional basis in a residential care institution, where children may attend either in the morning or afternoon, for the sake of the calculation you should assume that each session is 4 hours. If children attending on a sessional basis receive two meals per session, the food calculation is similar to that for day children. If they receive only one meal, then the multiplier for the day children should be  $\frac{1}{4}$ , not  $\frac{1}{2}$ .**

#### ***Example 7***

*A boarding school has 80 children residing in the institution 260 days per year. In addition 20 children attend the school during the day, for the normal 180 days per year. The proportion of non-food costs for the day children can be*



*calculated as:*

$$\frac{1/3 * 20 * 180 * 100}{(80 * 260 + 1/3 * 20 * 180)}$$

*= 5.63% of all non-food expenditure is spent on the 20% of pupils who use the service only during the day.*

According to the 2008 budget for child welfare day children in residential care institutions will receive 2 meals per day, as opposed to residential children who receive 4 meals per day. A similar calculation to the one relating to non-food expenditure needs to take place, but this time the expenditure per day child for each day they are in the institution is half the expenditure per day for resident children.

$$\frac{(1/2 * \text{number of day child days}) * 100}{\text{total number of resident child days} + 1/2 \text{ number of day child days}}$$

***Example 7 continued***

$$\frac{1/2 * 20 * 180 * 100}{(80 * 260 + 1/2 * 20 * 180)}$$

*= 8.33% of all food expenditure is spent on the 20% of pupils who use the service only during the day.*

***Example 8 – A residential care institution with day children***

*The residential care institution from Example 4 has 11650 resident child days and 900 day child days.*

*Its expenditure is 75,000 GEL for general running costs (including appropriately attributed capital costs) and 30,000 GEL for food. What is the unit cost of this service for resident children and for day children?*

***Step 1***

*First you need to calculate the share of the different types of children of the non-food costs. Since you have already calculated the total number of days, the calculation is:*

$$\frac{1/3 * 900 * 100}{11650 + 1/3 * 900} = 2.51\%$$

*All 900 day child days use 2.51% of the non-food expenditure.*

### **Step 2**

*For the food expenditure the calculation is as follows:*

$$\frac{1/2 * 900 * 100}{11650 + 1/2 * 900} = 3.72\%$$

*All 900 day child days use 3.72% of the food expenditure.*

### **Step 3**

*Calculating the total running costs, including correctly attributed capital costs.  
This has already been done!*

### **Step 4**

*Now we can calculate the total cost per day for the resident children:*

*For non-food:*

$$\frac{(100 - 2.51)\% * 75,000 \text{ GEL}}{11650 \text{ days}} = 6.276 \text{ GEL per resident child per day}$$

*For food:*

$$\frac{(100 - 3.72)\% * 30,000 \text{ GEL}}{11650 \text{ days}} = 2.479 \text{ GEL per resident child per day}$$

***Total cost per resident child per day = 6.276 + 2.455 = 8.755 GEL per day***

### **Step 5**

*The cost for day children is as follows:*

*for non-food:*

$$\frac{2.51\% * 75,000}{900} = 2.092 \text{ GEL per day child day}$$

*for food:*

$$\frac{3.72\% \times 30,000}{900} = 1.240 \text{ GEL per day child day}$$

***Total cost per day child = 2.092 + 1.240 = 3.332 GEL per day.***

***Step 6 - CHECK YOUR CALCULATION!!!!***

*This is the perhaps most important step. These calculations can become very complex and it is vitally important to make sure that all your data add up. Otherwise you end up undercharging your client, or overcharging and losing work because you are uncompetitive.*

*First cast an eye on your food costs. Given that the meals allowed for day children is half that of residential children, the cost must naturally be half. In the above example it is!*

*Then calculate the total costs for the different types of service provision and add them together. They should add up to the total expenditure for the service.*

*Thus in this case the total expenditure is 75,000 plus 30,000 GEL = 105,000 GEL.*

*Totalling the daily costs for resident and for day children, we get:  
11650 days multiplied by 8.755 GEL per day = 10 1955.75 GEL  
900 days multiplied by 3.332 GEL per day = 2998.8 GEL  
Total = 104994.5 GEL*

*(The difference of 5.5 GEL is the result of rounding error; had the daily costs been calculated to only two decimal points, the error would have shown an expenditure exceeded by 51 GEL).*

The final example shows a rather crude dividing up of costs between different services. When you work your way through it you will realise why it is better to have different budgets for different types of services.

In this example we will look at a service provider with 3 different types of services. For our calculation we will still allocate the running costs according to how long children spend in the service. In reality this is not ideal since for example pre-school children need a higher staff-to-child ratio; staffing levels during the day are always higher than at night, and so on.

(For illustration section 10 of this manual will give you brief, introductory guidance of how to set up different budgets for different services. In this case of course you would collect data separately for each service).

### ***Exercise 11***

In addition to a shelter where children live, you also have a day centre for pre-school children from age 3 onwards, and you provide sessional services in another part of your building, including arts, crafts and music activities.

Each of the services uses 200 square metres; the children resident in the children use either the pre-school service's space or the sessional service's space as well, depending on their age (*their number is already included in the number using the pre-school or sessional service number*). The centre has only one electricity meter, one gas meter and one water meter.

The distribution of children in the service is as in the example in Annex A. The costs of the service are shown in Annex C. In this example it is assumed that children attending sessions will receive one meal per session. Please calculate the cost per child per day, for each of the services.

Use a separate piece of paper for your calculation, or a computer spreadsheet.

What is your answer (see Annex E)? If you got this right, you have done brilliantly!

## ***9.4 Foster Families***

For the government it is also important to calculate the correct cost for children living in foster families. Here the calculation is different, and generally simpler.

One of the issues surrounding calculating the cost of children in foster families is that the child, as a full member of the family, should be able to participate fully in the lifestyle of the family (otherwise the child would be a 'Cinderella'). This means that the costs of a fostered child vary according to what kind of family he or she is placed with. But clearly the Ministry of Education and Science is not in a position to pay more money to wealthy families than to poor families - in addition this would be extremely unfair.

In addition foster families cannot be expected to keep full records of every tetri they spend on a child. In fact they will have a whole-family budget, though some expenditures are clearly specifically made for the foster child. The social workers in their monitoring visits will be able to see whether money is spent on the foster child appropriately.

In this situation you simply ask about total expenditure. While the data collection form also includes questions about family income and benefits, you use these only as a guide to check that the family is not over-estimating their expenditure. Note that material help provided by the government other than in the form of foster care payments should be taken into account as expenditure, either as a capital item or a running costs item.

If a family has 'income' from their land, ie they grow their own food, this should be treated as expenditure for the sake of the calculation (since other families, not having land, might not have the same opportunity and the government needs to make sure that foster families are adequately compensated).

Generally, to calculate the expenditure per child, you decide which items are specific to the child and in which expenditures the child has an equal share in the money being spent. For example for heating, or telephone costs it is reasonable that the expenditure covers every member of the family equally (even though teenage foster children may incur higher phone costs, or the aged bedridden grandparent may need additional heating). Calculating costs more specifically makes things too complicated.

The following table shows how the expenditure for the child should be calculated:

Type of expenditure	Attribute to child only	Divide by the number of members of the household and attribute one share
---------------------	-------------------------	--

		per foster child
Food		X
Special diet (eg if the child is diabetic and special food has to be bought)	X	
Clothes and shoes	X	
Medicines and other health costs	X	
Toys (large toys, eg a bicycle, should be treated as a capital item)	X	
Furniture for the child, eg a bed	X	
Furniture for the family, eg a dining table		X
Heating		X
Electricity		X
Water		X
Communal charges		X
Education costs for the child	X	
Pocket money	X	
Telephone costs	X ( only if the child has their own mobile phone)	X
Personal hygiene costs	X (eg hair cuts)	X eg soap
Cleaning materials		X
Maintenance of house or apartment	X only if something was repaired/provided specially for the child	X

Sometimes, though, capital items received for the child, eg a cow or a washing machine, will be used by the whole family, and they should be treated as such.

Because of the variability of expenditure between foster families it is useful to carry

out cost estimation visits to at least 10 families, on a regular basis – data could in fact be fed back by the monitoring social workers. In addition, visits to 10 families fostering children with disabilities should also be carried out, covering a range of disabilities. At such an interview families can often tell you better what they spend by day, week or month – you will need to calculate it up for the year. (Note that school expenditure per month or day does not apply for every month of the year).

### **Exercise 12**

Please calculate the daily costs for the child in the foster family described in the table in Annex D. The child resides with the family for the whole year (365 days).

## **10      A Brief Introduction to Setting Up Separate Budgets**

This topic could form a separate workbook by itself. The last section will have shown how our method is good, but it is not ideal. In the long term it will probably make life much easier to set up different budgets for different types of services.

### ***10.1 How can you do this?***

Basically you need to know what the different parts of your service consume.

#### **Step 1**

Describe your services as clearly as possible (see also section 5 of this workbook).

#### **Step 2**

Identify what facilities, staff and equipment are exclusively used by the particular service.

You may have some staff who just provide sessional teaching, or who only provide day services. You may have toys, furniture and equipment that are only used by one of your services. Part of your space may only be used by a particular service - eg where a service provides both a children's home and a mother-and-baby home it will be fairly clear which part of the building is used by which service.

List these and their costs. Whenever you buy something for a specific service, allocate its costs accordingly.

If service parts are in very separate and clearly identified parts of buildings you may consider installing separate electricity and water meters.

#### **Step 3**

Identify the parts of your staff, buildings, and public services shared by all services, and decide how to most fairly allocate the costs to each service. You may have to allocate the costs on a different basis, depending on the nature of the costs concerned.



Type of cost	Allocation on the basis of
Water costs	Average number of users of the service (your Child Day Calculation Aid may be useful for this)
Electricity/Gas	Like water
Heating	First according to the space used by specific services exclusively - by square metre; for shared areas according to the number of users of each service
Building maintenance	Like heating - some maintenance can be very clearly attributed to one or other service
Clothing for children	Ideally according to each child; if only a rough overall estimate is available then according to the number of children in each service (after considering whether day or sessional children get all their clothing or only some of their clothing from the service).
Garden maintenance	Like heating
Communications costs	According to the number of service users (like water), unless specific parts of the service have their own phone lines
Staffing costs	According to child numbers and where the staff work (eg night carers can only be attributed to resident children)
Guarding costs	According to the number of children
Equipment costs	First according to which service uses it, then according to number of children
Administration costs	Treat like overheads (see section 7.3 of this workbook); allocate according to the number of children

#### Step 4

Calculate the approximate costs for each of these items and slot them into the appropriate budget - and you have two or more separate budgets.

#### *Example 8*

*You have an institution with 50 permanently resident children, and 20 children who attend during the day only.*

*The institution has 600 square metres, of which 120 square metres is used for bedrooms for the residents. The non-residents have no access to the bedrooms, but they have access to all other facilities, including bathrooms since facilities at their family homes may be limited.*

*There are 5 night staff, 20 day (teachers, psychologist, child care workers), a gardener, a driver, 2 cooks, a maintenance worker, an administration team of 3.*

*How to attribute the costs:*

*First you do your calculation to estimate which children use what proportion of the service:*

$$\text{day children use } \frac{20 * 1/3}{50+20} = 9.52 \% \text{ of the service}$$

Type of cost	Allocation on the basis of
Water costs	9.52% for the day children, 90.48% for resident children
Electricity/Gas Heating	Like water 120 square metres + 90.48% of the remaining 480 square metres for the resident children; 9.52 % of the 480 square metres for the day children
Building maintenance	Like heating - some maintenance can be very clearly attributed to one or other service
Clothing for children	Ideally according to each child; if only a rough overall estimate is available then according to the number of children in each service (after considering whether day or sessional children get all their clothing or only some of their clothing from the service).

Garden maintenance	Like heating
Communications costs	According to the number of service users (like water), unless specific parts of the service have their own phone lines
Staffing costs	The night carers need to be attributed to the resident children; the administration workers and all day staff should be attributed 9.52% to the day children and 90.48% to the resident children.
Guarding costs Equipment costs	Like administration staff First according to which service uses it, then according to the proportion of children.
Administration costs (non-staff)	Like administration staff

## CONGRATULATIONS!

You have reached the end of the workbook! Now apply it in your service.

If you have any questions or suggestions, please contact the project office in the Ministry of Education in Tbilisi, tel: +995 32 942006



## 11 Annex A – Child Day Calculation Aid

Complete for all types of children in your service. A similar sheet in an excel template will calculate the total number of children (almost) by itself.

**Total child number calculation sheet**

<b>a) resident children</b>		<b>Number</b>	<b>Days</b>	<b>Total No of child days</b>
1	Number of children resident 365 days	15	365	5475
2	number of children resident during term time (including weekends) or 5 days a week, 52 weeks per year	10	260	2600
3	Number of children resident for school days only	0	180	0
4	Total number of <b>child days</b> for those with irregular patterns (ie those who stayed a short period, entered or left the institution, during the year)	1000	no fixed number	1000
	<b>Total number of resident child days (sum of lines 1-4)</b>			<b>9075</b>

<b>b) day Children ( in day services or as day attenders in institutions)</b>		<b>Number</b>	<b>Days</b>	<b>Total No of child days</b>
5	Number of children attending 365 days	0	365	0
6	number of children attending 5 days per week all year round	20	260	5200
7	Number of children attending school days only	40	180	7200
8	Total number of <b>child days</b> for those with irregular patterns (ie those who attended a short period, entered or left the service, during the year)	800	no fixed number	800
	<b>Total number of day child days (sum of lines 5-8)</b>			<b>13200</b>

<b>c) children attending sessions (2 sessions provided per day)</b>		<b>Number</b>	<b>Days</b>	<b>Total No of child days</b>
9	Number of children attending twice a day 365 days	0	730	0
10	Number of children attending once a day 365 days	0	365	0
11	number of children attending 5 days per week all year round, 2 sessions	5	520	2600
12	number of children attending 5 days per week all year round, one session	30	260	7800
13	Number of children attending school days only, 2 sessions	10	360	3600
14	Number of children attending school days only, 1 session	50	180	9000
15	Total number of child days for those with irregular patterns (ie those who attended a short period, entered or left the service, during the year)	1250	no fixed number	1250
	<b>Total number of child sessions (sum lines 9-15)</b>			<b>24250</b>

## 12 **Annex B - Example of Data Collection Sheet (Day Centre)**

#	Non-financial information	Unit	calendar year	Donations annual (if any)*
1	Gas consumption	m3	3000	
2	Water consumption	m3	3000	
3	Fuel (wood, petrol) consumption for heating	m3/litr		
4	Fuel (wood, petrol) consumption for transport facilities	m3/litr		
5	Energy consumption	kvt	32000	
6	The size of your property	m2	250	
7	Total number of children registered during the year	#	234	
8	For residential services total number of child nights (from child day calculation aid)	#	0	
9	For day services total number of child days (from child day calculation aid)	#	0	
10	For sessional services total number of child sessions (from child day calculation aid)	#	16543	
	Staff			
11	Care Workers	#	2	
12	Other staff ( teachers, psychologists, social workers etc)	#	4	
13	Catering staff	#	2	
14	Medical staff (doctors, nurses)	#	0.5	
15	Ancillary staff	#	1	
16	Administration (director, accountant est.)	#	2	
	<b>Financial information</b>			
	<u>Variable costs</u>			
17	Drugs costs	GEL	200	
18	Special items (hearing-aid, special books etc.)	GEL	0	
19	Clothes	GEL	1500	
20	Food	GEL	16120	
21	Personal hygiene costs (hair cutting, personal hygiene goods)	GEL	1000	
22	Small items for mental development (toys etc.)	GEL	2000	
23	stationery etc for children	GEL	500	
24	Water	GEL	200	
	<u>Fixed costs</u>			
25	Gas	GEL	150	
26	Fuel (wood, gasoline) for heating	GEL	600	
27	Fuel (wood, gasoline) for transport facilities	GEL	1000	
28	Electricity	GEL	1000	
29	Maintaining of building	GEL	1200	
30	Depreciation of building	GEL		
31	Purchasing of inventory (small items)	GEL	900	
32	Maintaining of transport facilities	GEL	1500	
33	Depreciation of transport facilities	GEL		
34	Communications (tel, internet est.)	GEL	500	
35	Office supply	GEL	500	
	<u>Capital Costs</u>			
36	Building	GEL	0	
37	Transport facilities	GEL	0	
38	major equipment (furniture, computers, kitchen equipment) state: <b>tables and chairs</b>	GEL		5000
	<u>Salary (annual) total cost including payroll and income tax</u>			
39	Care Workers	GEL	8000	
40	Other staff ( teachers, psychologists, social workers etc)	GEL	16000	
41	Catering staff	GEL	6000	
42	Medical staff (doctors, nurses)	GEL	6000	
43	Ancillary staff	GEL	3000	
44	Administration (director, accountant etc.)	GEL	15000	

\* If in reported period you received donations as money, clothes, drugs or any other items, please indicate in the corresponding cell

## **13    Annex C - Data Collection Sheet (mixed service)**



#	Non-financial information	Unit	calendar year	Donations annual (if any)*
1	Gas consumption	m3	9546	
2	Water consumption	m3	4771	
3	Fuel (wood, petrol) consumption for heating	m3/litr		
4	Fuel (wood, petrol) consumption for transport facilities	m3/litr		
5	Energy consumption	kvt	57687	
6	The size of your property	m2	600	
7	Total number of children registered during the year	#	45+70+120	
8	For residential services total number of child nights (adding together all the nights spent by all children)	#	9075	
9	For day services total number of child days (adding together all the days spent by all children)	#	13200	
10	For sessional services total number of child sessions (adding together all the sessions used by all the children)	#	24260	
	Staff			
11	Care Workers	#	12	
12	Other staff ( teachers, psychologists, social workers)	#	12	
13	Catering staff	#	4	
14	Medical staff (doctors, nurses)	#	3	
15	Ancillary staff	#	5	
16	Administration (director, accountant est.)	#	4	
	<b>Financial information</b>			
	Variable costs			
17	Drugs costs	GEL	200	
18	Special items (hearing-aid, special books etc.)	GEL	0	
19	Clothes	GEL	4000	
20	Food	GEL	40000	
21	Personal hygiene costs (hair cutting, personal hygiene)	GEL	2500	
22	Small items for mental development (toys etc.)	GEL	6000	
23	stationery etc for children	GEL	2000	
24	Water	GEL	1000	
	Fixed costs			
25	Gas	GEL	300	
26	Fuel (wood, gasoline) for heating	GEL	1500	
27	Fuel (wood, gasoline) for transport facilities	GEL	2000	
28	Electricity	GEL	2000	
29	Maintaining of building	GEL	4000	
30	Depreciation of building	GEL		
31	Purchasing of inventory (small items)	GEL	3000	
32	Maintaining of transport facilities	GEL	2000	
33	Depreciation of transport facilities	GEL		
34	Communications (tel, internet est.)	GEL	600	
35	Office supply	GEL	500	
	Capital Costs			
36	Building (new heating system, part donated)	GEL	10000	30000
37	Transport facilities	GEL	0	
38	major equipment (furniture, computers, kitchen equipment) state: <b>beds</b>	GEL	2000	
	Salary (annual) total cost including payroll and income tax			
39	Care Workers	GEL	20000	
40	Other staff ( teachers, psychologists, social workers)	GEL	16000	
41	Catering staff	GEL	6000	
42	Medical staff (doctors, nurses)	GEL	6000	
43	Ancillary staff	GEL	3000	
44	Administration (director, accountant etc.)	GEL	15000	

## 14 Annex D - Calculation Template for Foster Families

### Fostering

Name of respondent:

Phone, e-mail of respondent:

#	Year	Unit		for child	Donations annual (if any)**
	<b>Non-financial information</b>				
1	Total number of family members	#	5		
2	Number of Children fostered	#	1		
			For family	for child	
	<b>Receivables (for fostered children)</b>				
3	Number of Inventory/Cattle (child bed, wash machine, cow etc.)*	#			
4	Number of any medical equipment received*	#			
	<b>Consumption</b>				
5	Gas*	m3	40		
6	Water*	m3	100		
7	Fuel (wood, petrol) for heating*	m3/litr	10		
8	Fuel (wood, petrol) for transport facilities*	m3/litr			
9	Energy *	kvt	1000		
	<b>Financial Information</b>				
10	<b>Total Net Annual Income of the family</b>	GEL	5000		
	<b>Other support received to support the child/family</b>				
11	Inventory (washing machine, cow, bed for the child etc)bed	GEL		100	
12	Cost of any medical equipment received	GEL			
13	Cost of medicines received	GEL		50	
14	Money benefits received (please, indicate the source if possible) <b>foster care benefit</b>	GEL		1500	
15	Other monetary benefits received (electricity, gas)	GEL			
	<b>Expenditures</b>				
16	Gas	GEL	200		
17	Water	GEL	50		
18	Fuel (wood, petrol) for heating	GEL	50		
19	Fuel (wood, petrol) for transport facilities	GEL			
20	Energy	GEL	200		
21	Meal	GEL	4500		
22	Clothes	GEL		300	
23	Cleaning Materials	GEL	50		
24	Medicines	GEL		50	
25	Personal hygiene costs (hair cutting, personal hygiene goods est.)	GEL	80	50	
26	Mental development goods (toys and est.)	GEL		100	
27	Repair of apartment (house), car and/or other household equipment	GEL	200		
28	Fostered children eduction	GEL		50	
29	Fostered children healthcare	GEL		100	
30	Purchasing of furniture, car or other household inventory	GEL			
31	Taxes paid (land, property, etc.) (if any)	GEL	200		
32	Pocket money for the child	GEL			60
33	Other information relevant to the household expenditures	GEL			

\* Quantity is extremely necessary if respondent doesn't know the costs

\*\* If in reported period you received donations as money, clothes, drugs or any other items, please indicate in the corresponding cell

## 15 Annex E – Answers to Exercises

### Exercise 1:

The cost of:

flour, water, yeast, salt, heating, labour (salary, social insurance), property costs (rent, insurance, property maintenance), equipment repairs and maintenance, taxes, travel to buy ingredients, other insurance costs, the cost of any book-keepers, bribes (?), etc etc

### Exercise 2:

The costs of:

Food, drinks, clothes, medicines, other medical supplies, hygiene goods, educational equipment, toys, books, playground materials;

staff salaries and additional salary expenditure, training costs for staff;

costs of energy, water, heating supplies;

costs of furniture and equipment, both new/replacement and maintenance/repair;

transport costs, both replacement and running costs, depreciation;

costs of building purchase or rental, building maintenance and repairs, depreciation;

office costs including communication (eg internet, telephone etc), paper and other office consumables;

office equipment purchase, maintenance and repair costs, depreciation;

any taxes you may pay because of the nature of your establishment (but not payroll taxes which are deducted from employees' salaries)

### Exercise 3:

Variable costs	Fixed costs	Overhead costs
Food clothing paper for art classes clothes travel costs to take children on outings (if bus tickets have to be bought) medicines	Heating repairs to the minibus electricity gas salaries travel costs to take children on outings if the minibus is used	Same as fixed costs

materials for making fancy dress psychologist who visits only when needed	telephone bill toys replaced less than once a year staff uniforms staff training	
--	---	--

The psychologist who visits only when needed is a variable cost because sometimes the centre may be full of psychologically healthy children, and at other times it may have a number of troubled children who need support. (How the psychologist feels about having uncertain working hours is another question).

#### Exercise 4:

Running Costs	Fixed Costs	Overheads
Food paper for use by the children children's travel	Heating of day centres travel for staff to meetings telephone in day centres	All head office expenses: stationery paper travel to day centres telephone heating

#### Exercise 5:

If you include the high capital costs for the heating system and the redecoration in the average cost for the year in which the money was spent, then the cost will be very high - and no-one will want to buy your services.

#### Exercise 6:

Expense	Number of years
Property purchase	25
renovation	25
Electrical work	25
Communications network	25
Heating system	10
Purchase furniture and equipment	5
Large toys	5
Small toys	Running costs
Kitchen equipment	5

### Exercise 7

$80 \times 260 / 2 = 10\,400$  days for those attending every second day

$100 \times 52 = 5200$  for those attending once a week

$10 \times 260 = 2600$  for those attending every single day

**Total = 18200 child days per year (or 70 children per day on average)**

### Exercise 8

a) For day children:

$30 \times 180 + 15 \times 30 = 5850$  child days (day children)

b) for boarders

$15 \times 365 + 45 \times 260 + 20 \times 121 + 10 \times 30 = 19895$  child days (boarders)

### Exercise 9

Total running cost for the home:	29,000 running costs
	600 capital expenditure, annualized
	<u>5,000</u> share of overheads
	34,600

In this case the number of child days in the home needs to be calculated separately.

7 children stayed in the home all the time =  $7 \times 365 = 2555$  days.

1 child (effectively) stayed for 2 months of 31 days each = 62 days.

Total number of child days = 2617 days.

Cost per child per day =  $34,600 / 2617 = 13.22$  GEL (or 4826 GEL per child per year)

## Exercise 10

<b>Variable costs</b>		
Drugs costs	GEL	200
Special items (hearing-aid, special books etc.)	GEL	0
Clothes	GEL	1500
Food	GEL	16120
Personal hygiene costs (hair cutting, personal hygiene goods est.)	GEL	1000
Small items for mental development (toys etc.)	GEL	2000
stationery etc for children	GEL	500
Water	GEL	200
<b>Fixed Costs</b>		
Gas	GEL	150
Fuel (wood, gasoline) for heating	GEL	600
Fuel (wood, gasoline) for transport facilities	GEL	1000
Electricity	GEL	1000
Maintaining of building	GEL	1200
Depreciation of building – it's a very old building	GEL	0
Purchasing of inventory (small items)	GEL	900
Maintaining of transport facilities	GEL	1500
Depreciation of transport facilities – it's a very old car	GEL	0
Communications (tel, internet est.)	GEL	500
Office supply	GEL	500
Care Workers	GEL	8000
Other staff ( teachers, psychologists, social workers etc)	GEL	16000
Catering staff	GEL	6000
Medical staff (doctors, nurses)	GEL	6000
Ancillary staff	GEL	3000
Administration (director, accountant etc.)	GEL	15000
<b>total running costs</b>	GEL	<b>82870</b>
plus capital donation attributed over 5 years = 1000 GEL per year	GEL	1000
<b>total annual expenditure</b>	GEL	<b>83870</b>
divided by the number of sessions	GEL	16543
<b>cost per session per child</b>	GEL	<b>5.070</b>

(calculation shown in the grey cells)

Annual cost per child attending one session per day, 5 sessions per week = 1318 GEL

## Example 11

### Step 1 – the share of the children in non-food costs

Day children attend for a third of the day, sessional children attend for a sixth of a day.

Share of day children in non-food costs:

$$\frac{1/3 * 13200}{1} = 25.12\%$$

$$9075 + 13200 * 1/3 + 24260 * 1/6$$

Share of sessional children in non-food costs

$$\frac{1/6 * 24260}{9075 + 13200 * 1/3 + 24260 * 1/6} = 23.08 \%$$

To check you can work out the proportional share of costs borne by resident children similarly, putting 9075 in the top line of the formula. If you are confident of your calculation, then you can simply calculate the resident children's share by deducting the shares of the other two groups from 100!

The resident children's share is  $(100 - (23.08 + 25.12))\% = 51.8 \%$  (I checked!)

## Step 2 - Shares of food costs

You use the similar format, but you multiply the number of day children with  $\frac{1}{2}$  and the number of sessional children with  $\frac{1}{4}$  to obtain their correct share of the cost of meals.

Share of day children in food costs:

$$\frac{1/2 * 13200}{9075 + 13200 * 1/2 + 24260 * 1/4} = 30.36\%$$

Share of sessional children in food costs

$$\frac{1/4 * 24260}{9075 + 13200 * 1/2 + 24260 * 1/4} = 27.90\%$$

Share of residential children in food costs =  $100 - (30.36 + 27.90)\% = 41.74\%$

## Step 3 - Calculating total running costs

The total food costs are: 40,000 GEL

The total non-food costs are:

99,600 GEL for running costs

4,000 GEL for capital expenditure (did you remember to attribute the cost of the heating system over 10 years?)

**Total non-food costs = 103,600 GEL**

#### **Step 4 - Calculating the unit cost for resident children**

Non-food costs:  $\frac{103,600 * 51.8\%}{9075} = 5.913 \text{ GEL per day}$

Food costs:  $\frac{40,000 * 41.74\%}{9075} = 1.840 \text{ GEL per day}$

Total cost per day for resident children is 5.913 GEL + 1.84 GEL = **7.753 GEL**

#### **Step 5 - Calculating the unit cost for day children**

Non-food costs:  $\frac{103,600 * 25.12\%}{13200} = 1.972 \text{ GEL per day}$

Food costs:  $\frac{40,000 * 30.36\%}{13200} = 0.92 \text{ GEL per day}$   
(half the cost of resident children!)

Total cost per day for day children is 1.972 GEL + .92 GEL = 2.892 GEL

#### **Step 6 - Calculating the unit cost for sessional children**

Non-food costs:  $\frac{103,600 * 23.08\%}{24260} = 0.986 \text{ GEL per half-day session}$

Food costs:  $\frac{40,000 * 27.09\%}{24260} = 0.447 \text{ GEL per session}$



Total cost per day for day children is  $0.986 \text{ GEL} + 0.447 \text{ GEL} = 1.433 \text{ GEL}$  per session per child.

### **Step 7 - CHECKING YOUR CALCULATION**

The total overall running costs including food are 103,600 GEL plus 40,000 GEL = 143,600 GEL.

The costs per child per day (or session) multiplied together for the year, are:

for resident children = 9075 children multiplied by 7.753 GEL =	70358.475 GEL
for day children = 13200 children multiplied by 2.892 GEL =	38174.40 GEL
for sessional children = 24260 child sessions multiplied by 1.433 GEL =	<u>34764.58 GEL</u>
<b>Total</b>	<b>143297.46 GEL</b>

The difference between the two figures of just over 300 GEL is due to rounding factors when multiplying up large amounts of small figures. Eg increasing the cost per resident child per unit would add 90.75 GEL; the same applied to the day children would add 132 GEL; in the case of the sessional children it would add 242.60 GEL.

In a situation like this you need to check your calculations very carefully indeed; if necessary you may use 3 or more decimals in the percentage calculation, too. (If you calculated this with a spreadsheet using endless decimals, rather than a calculator, you will have got an even more accurate result).

### **Exercise 12**

#### **Step 1:**

Extract the costs for the child:

1 bed @ 100 GEL - should last for 5 years	20 GEL
Clothes	300 GEL
Medicines	50 GEL
personal hygiene	50 GEL
Toys etc	100 GEL
Education	50 GEL
Healthcare	100 GEL
Pocket money	60 GEL
<b>Total</b>	<b>730 GEL</b>

## Step 2

Extract the family expenditure and divide it by the number of family members:

Gas	200 GEL
Water	50 GEL
Fuel	50 GEL
Energy	200 GEL
Food	4500 GEL
Cleaning materials	50 GEL
Personal hygiene	80 GEL
Repair of apartment	200 GEL
Taxes	200 GEL
<b>Total</b>	<b>5530 GEL</b>

**per person (divided by 5) =1106 GEL**

## Step 3

Calculate the total cost for the child on an annual and daily basis:

from family expenditure	1106 GEL
own expenditure	730 GEL
<b>Total</b>	<b>1836 GEL</b>

**or per day (divided by 365) 5.03 GEL**

## 16     **Annex F - Definitions**

Unit	a unit of time used by one child. Can be a day or a session.
Day child	a child who uses a residential care institution but returns to their family every night
Day child day	One child spends one day in a service, for the sake of this workbook assumed to be 8 hours
Institution	a large residential child care institution
Resident child	a child resident in a residential child care institution (who spends the night there)
Resident child day	one day (and night) spent by one child in a residential care institution
Session	where a child spends either an afternoon or a morning in a service. Assumed to be 4 hours for this workbook.
Session Child Unit	one child spending one session

## 17 Annex G – Blank Templates

### a) Child Day Calculation Aid

#### Total child number calculation sheet

a) resident children		Number	Days	Total No of child days
1	Number of children resident 365 days		365	0
2	number of children resident during term time (including weekends) or 5 days a week, 52 weeks per year		260	0
3	Number of children resident for school days only		180	0
4	Total number of <b>child days</b> for those with irregular patterns (ie those who stayed a short period, entered or left the institution, during the year)		no fixed number	0
	<b>Total number of resident child days (sum of lines 1-4)</b>			<b>0</b>

b) day Children ( in day services or as day attenders in institutions)		Number	Days	Total No of child days
5	Number of children attending 365 days		365	0
6	number of children attending 5 days per week all year round		260	0
7	Number of children attending school days only		180	0
8	Total number of <b>child days</b> for those with irregular patterns (ie those who attended a short period, entered or left the service, during the year)		no fixed number	0
	<b>Total number of day child days (sum of lines 5-8)</b>			<b>0</b>

c) children attending sessions (2 sessions provided per day)		Number	Days	Total No of child days
9	Number of children attending twice a day 365 days		730	0
10	Number of children attending once a day 365 days		365	0
11	number of children attending 5 days per week all year round, 2 sessions		520	0
12	number of children attending 5 days per week all year round, one session		260	0
13	Number of children attending school days only, 2 sessions		360	0
14	Number of children attending school days only, 1 session		180	0
15	Total number of child days for those with irregular patterns (ie those who attended a short period, entered or left the service, during the year)		no fixed number	0
	<b>Total number of child sessions (sum lines 9-15)</b>			<b>0</b>

b) Service

#	Non-financial information	Unit	calendar year	Donations annual (if any)*
1	Gas consumption	m3		
2	Water consumption	m3		
3	Fuel (wood, petrol) consumption for heating	m3/litr		
4	Fuel (wood, petrol) consumption for transport facilities	m3/litr		
5	Energy consumption	kvt		
6	The size of your property	m2		
7	Total number of children registered during the year	#		
8	For residential services total number of child nights (from child day calculation aid)	#		
9	For residential services total number of child days (from child day calculation aid)	#		
10	For sessional services total number of child sessions (from child day calculation aid)	#		
	Staff			
11	Care Workers	#		
12	Other staff ( teachers, psychologists, social workers etc)	#		
13	Catering staff	#		
14	Medical staff (doctors, nurses)	#		
15	Ancillary staff	#		
16	Administration (director, accountant est.)	#		
	<b>Financial information</b>			
	<u>Variable costs</u>			
17	Drugs costs	GEL		
18	Special items (hearing-aid, special books etc.)	GEL		
19	Clothes	GEL		
20	Food	GEL		
21	Personal hygiene costs (hair cutting, personal hygiene goods est.)	GEL		
22	Small items for mental development (toys etc.)	GEL		
23	stationery etc for children	GEL		
24	Water	GEL		
	<u>Fixed costs</u>			
25	Gas	GEL		
26	Fuel (wood, gasoline) for heating	GEL		
27	Fuel (wood, gasoline) for transport facilities	GEL		
28	Electricity	GEL		
29	Maintaining of building	GEL		
30	Depreciation of building	GEL		
31	Purchasing of inventory (small items)	GEL		
32	Maintaining of transport facilities	GEL		
33	Depreciation of transport facilities	GEL		
34	Communications (tel, internet est.)	GEL		
35	Office supply	GEL		
	<u>Capital Costs</u>			
36	Building	GEL		
37	Transport facilities	GEL		
38	major equipment (furniture, computers, kitchen equipment) state: tables and chairs	GEL		
	<u>Salary (annual) total cost including payroll and income tax</u>			
39	Care Workers	GEL		
40	Other staff ( teachers, psychologists, social workers etc)	GEL		
41	Catering staff	GEL		
42	Medical staff (doctors, nurses)	GEL		
43	Ancillary staff	GEL		
44	Administration (director, accountant etc.)	GEL		

\* If in reported period you received donations as money, clothes, drugs or any other items, please indicate in the corresponding cell

## Foster Family

### Fostering

Name of respondent:

Phone, e-mail of respondent:

#	Year	Unit		for child	Donations annual (if any)**
	<b>Non-financial information</b>				
1	Total number of family members	#			
2	Number of Children fostered	#			
			For family	for child	
	<b>Receivables (for fostered children)</b>				
3	Number of Inventory/Cattle (child bed, wash machine, cow etc.)*	#			
4	Number of any medical equipment received*	#			
	<b>Consumption</b>				
5	Gas*	m3			
6	Water*	m3			
7	Fuel (wood, petrol) for heating*	m3/litr			
8	Fuel (wood, petrol) for transport facilities*	m3/litr			
9	Energy *	kvt			
	<b>Financial Information</b>				
10	<b>Total Net Annual Income of the family</b>	GEL			
	<b>Other support received to support the child/family</b>				
11	Inventory (washing machine, cow, bed for the child etc)bed	GEL			
12	Cost of any medical equipment received	GEL			
13	Cost of medicines received	GEL			
14	Money benefits received (please, indicate the source if possible) foster care benefit	GEL			
15	Other monetary benefits received (electricity, gas)	GEL			
	<b>Expenditures</b>				
16	Gas	GEL			
17	Water	GEL			
18	Fuel (wood, petrol) for heating	GEL			
19	Fuel (wood, petrol) for transport facilities	GEL			
20	Energy	GEL			
21	Meal	GEL			
22	Clothes	GEL			
23	Cleaning Materials	GEL			
24	Medicines	GEL			
25	Personal hygiene costs (hair cutting, personal hygiene goods est.)	GEL			
26	Mental development goods (toys and est.)	GEL			
27	Repair of apartment (house), car and/or other household equipment	GEL			
28	Fostered children education	GEL			
29	Fostered children healthcare	GEL			
30	Purchasing of furniture, car or other household inventory	GEL			
31	Taxes paid (land, property, etc.) (if any)	GEL			
32	Pocket money for the child	GEL			
33	Other information relevant to the household expenditures	GEL			

\* Quantity is extremely necessary if respondent doesn't know the costs

\*\* If in reported period you received donations as money, clothes, drugs or any other items, please indicate in the corresponding cell