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CENTER FOR ADVANCED ECONOMIC STUDIES

## **Review of Economic Indicators for CRDA and SEDP Projects**

Center for the Advanced Economic Studies (CEVES)

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## Table of Contents

|   |    |
|---|----|
| Table of Contents .....                               | 2  |
| List of Acronyms .....                                | 3  |
| Report Summary .....                                  | 4  |
| Background .....                                      | 6  |
| I CRDA Project.....                                   | 8  |
| I.1 A Brief Overview of the CRDA Project:.....        | 8  |
| I.2 Indicators .....                                  | 11 |
| I.3 CRDA Results: Reported Economic Indicators .....  | 23 |
| I.4 Cost – Benefit Analysis .....                     | 27 |
| II Report on the CRDA Database .....                  | 31 |
| II.1 Database overview .....                          | 31 |
| II.2 Database Deficiencies .....                      | 33 |
| II.3 Recommendations .....                            | 36 |
| III SEDP .....  | 38 |
| III.1 Program Overview .....                          | 38 |
| III.2 Main Findings .....                             | 39 |
| III.3 Monitoring .....                                | 39 |
| III.3.1 Primary Research .....                        | 40 |
| III.3.3 Secondary Research .....                      | 46 |
| III.4 SEDP Evaluation .....                           | 47 |
| III.4.1 Possible Problems in evaluation .....         | 48 |
| III.4.2 Suggested Project Evaluation Methodology..... | 50 |
| IV Macroeconomic Framework.....                       | 52 |
| Appendix: Selected Indicators .....                   | 57 |

## List of Acronyms

|           |  |
|-----------|--|
| ACDI/VOCA | Agricultural Cooperative Development International/<br>Volunteers in Overseas Cooperative Activities |
| ADF       | America's Development Foundation   |
| AoR       | Area of responsibility   |
| CEVES     | Center for the Advanced Economic Studies   |
| CHF       | Community Habitat and Finance  |
| CRDA      | Community Revitalization through Democratic Action<br>(CRDA) program                                 |
| FDI       | Foreign direct Investment  |
| ICT       | Information and communication technology   |
| IG        | Income generation  |
| IP        | Implementing partner   |
| IRD       | International Relief and Development, Inc  |
| m.u.      | Monetary unit  |
| MC        | Mercy Corps  |
| p.a.      | Per annum  |
| SBD       | Small business development   |
| SBS       | Serbian Bureau of Statistics   |
| SEDP      | Serbia Enterprise Development Project  |
| SoW       | Scope of work  |
| ToR       | Terms of reference   |
| USAID     | United States Agency for International Development   |
| Web-PRS   | Web-based Project Reporting System   |

## Report Summary

Center for the Advanced Economic Studies (CEVES) was approached by USAID in April 2007 to perform the pre-evaluation tasks of its Community Revitalization through Democratic Action (CRDA) program and Serbia Enterprise Development Project (SEDP). CRDA and SEDP were among the most important projects implemented by USAID in Serbia, aimed to strengthen Serbia's democratic processes and economic transition.

In the course of these programs more than \$200 million has been spent on achieving desired goals: community development, civic participation and strengthening of democracy for CRDA, and economic development and enterprises support for SEDP. Since 2005 CRDA shifted its priorities towards economic oriented goals, improvement of the standards of living of the population by focusing on employment and income generation.

Since the programs ended, the need exists to evaluate their performance, to derive conclusions from the vast legacy the programs left behind, to point out the strengths and weaknesses in the programs, identify the strategies that worked better, and provide recommendations for the future projects of similar type.

CEVES was chosen for this preparatory task because of the experience it already had in collaboration with USAID, its unique blend of expertise in different economic fields and its reputation as an objective and independent think tank.

The assignment is to perform the tasks preceding official evaluation. As defined in ToR, "The overall purpose of this service is to assist USAID in reviewing relative strengths and weaknesses in the approaches used by CRDA and SEDP implementers in relation to measurement and impact of employment generation and income generation".

Regarding monitoring and assessment of CRDA and SEDP performance, three main problems have been observed:

- 1) Impact evaluation was not envisaged at the very beginning of the programs, so the program monitoring has not been designed to provide for quality ex post impact evaluation. Monitoring existed, but was envisaged mainly as a program management tool.
- 2) There were frequent changes in program objectives and priorities. In the case of CRDA that led to the confusing perception of expected program outcomes. Multiple objectives might have certain contradiction among themselves as well. All of this adds additional complexity to the monitoring and evaluation process.
- 3) Multidimensionality of CRDA program added complexity to the definition of priorities, and consequently to the monitoring process

Main findings of this assessment are summarized below:

CRDA has been a multidimensional community development and democracy strengthening program. After year 2005 it has been transformed to mainly economic development program. However this happened without allowing for adequate adaptation of the tools used in program implementation.

Towards the end of CRDA, its performance measured through employment creation started to decline, despite the change of its focus towards employment generation. Results measured through additional income generation after the steady results in the period 2003-2005 also declined in 2006.

We observed flaws in CRDA indicator methodologies. This, added to the frequent changes in applied indicator formulas raises doubts about the quality of the reported results.

The shift from CRDA to CRDA e did not provide improvement in reported economic results, based on the economic indicators reviewed by CEVES. Also, frequent changes of program objectives led to inconsistent strategies, which negatively influenced the program results overall.

SEDP was a timely and well-directed program. It was initiated in the crucial year of Serbia's transition, and focused on sustainable and long-term economic growth, primarily through boosting the competitiveness of Serbian companies.

Indicators observed in SEDP program monitoring (primarily employment generation, operating income and export revenues) are simple but not adequate in all cases. The database that contains them is designed and ordered in a user friendly format. The lack of additional data obtained through primary research – such as the time dynamics – and the questionable validity of some entries, makes it impossible to place the recorded results in macroeconomic perspective and provide a clear analysis and impact assessment. In addition to quantifiable short-term results, the project contributed to achieving long-term results.

## Background

1. The aim of this report is to analyze the economic part of two USAID projects, Community Revitalization through the Democratic Action (CRDA) and Serbia Economic Development Project (SEDP) USAID projects, and prepare them for formal evaluation. Special emphasis will be placed on analysis of the characteristics and adequacy of the chosen indicators, the contents and designs of databases used for monitoring purposes (Web-PRS and SEDP tracking database), their suitability for the evaluation purposes and on preliminary conclusions about the impact of SEDP and CRDA economic programs.

2. CRDA was a USAID-Serbia project designed to support community development and democratization during the process of transition in Serbia. However, for undisclosed reasons, in 2005 the principal objective of CRDA has been shifted from community development and democratization towards more tangible goals, i.e. economic development, income generation and job creation. CRDA was renamed to CRDA e, its focus has been changed, and 75% of CRDA spending has been placed in the economic activities, while the part dedicated to the community development and environment shrunk to less than 25% of the funds provided.

3. SEDP was a USAID program started in 2003 with the main goals of economic development and enterprises support. It was designed as a three year program and received a one year extension. SEDP worked on improving Serbian companies' ability to access and sell on competitive, mainly international, markets. The SEDP approach was to have whole industries moving away from low value production to full integration with higher value markets. It focused on increasing the competitiveness of six sectors, measured by increased employment, export and sales.

4. In the process of defining the scope of the work to be done in this preparatory pre-evaluation study, few minor changes have been made. CEVES team has been reluctant to accept any commitment that might involved a formal impact evaluation, as it seemed that accepting the formal and rigorous evaluation without knowing the characteristics of the data set to be analyzed would be risky, to say the least. The data set has not been disclosed until the contract was signed, so its structure and contents become known only afterwards. Our prudence was justified here since the data set provided (or collected during the duration of our task) allowed only limited opportunities for rigorous economic evaluation, mainly due to the lack of adequate monitoring and reporting process that would have made it possible. However, in this analysis we will give the findings of the careful process evaluation that has been performed. Additionally, cost benefit analysis, which we consider useful, has been performed on the provided data set (CRDA), although this has not been explicitly stated in the SoW. Also, a rich data set of economic parameters desegregated on the regional level, which replicates the CRDA area of responsibilities (AoR), will be provided for the comparison purposes.

5. The SoW envisioned the analysis of data contained in two databases (SEDP database and Web-PRS CRDA online database), and revision of no more than 150 pages of selected documents. It turned out that the list of documents analyzed by the research team was tenfold in size. Unexpectedly, the contents of databases could not

have been exported in the format useful for the data analysis using statistical software. This further complicated the process of data classification, analysis and comparison. In the case of the CRDA database, Web-PRS team on CEVES request and with the approval of the USAID-Belgrade office introduced new online queries which would provide for better analytics of the implemented CRDA projects.

# I CRDA Project

## I.1 A Brief Overview of the CRDA Project:

6. CRDA has been envisioned as 5 years development program, at the beginning focused on community and democratic development. Community Revitalization through Democratic Action (CRDA) Program was planned as a five-year, \$200 million program covering all of Serbia except the capital Belgrade and the province of Kosovo.

CRDA was originally designed as a civil society focused-program that uses community development activities to build trust between different ethnic and religious groups, demonstrate the value of citizen participation, support grassroots democratic action, as well as to bring about immediate improvement in people's living conditions.

However, in 2005 its main objectives has been changed and it focus shifted towards employment generation and economic development. This, new phase of CRDA was named Economic CRDA – CRDA e

7. The specific stated objectives of the CRDA projects are:
1. Build tolerance and trust between different ethnic and religious groups
  2. Demonstrate the value of citizen participation
  3. Support grass roots democratic action
  4. Make immediate improvements in people's living conditions
8. Each one of the specific goals supported by CRDA is built based on four pillars (at least referring to the first three years of the CRDA project):
1. Civic Participation
  2. Civil Works
  3. Income Generation (IG) / Economic
  4. Environmental Improvement

Under CRDA e, Income generation (IG) pillar has been enhanced and renamed “Economic pillar”. However, the Web-PRS reporting system does not account for this change adequately. The IPs were reporting using both pillars (IG and Economic)<sup>1</sup> under CRDA e, which added difficulties and decreased accuracy in results tracking.

This inconsistency and a lack of uniform reporting among IPs add complexity to the Web-PRS reporting system, and further complicate analysis, classification and evaluation of CRDA projects. In our analytical effort we opted for unifying Economic and IG pillars and for the integration of underlying project types. That will provide us with clearer and more consistent results. Further on in this exercise we will refer to these two pillars indistinctively. The focus of this analysis will be on the pillars related to the economic activities, mainly Economic/IG and Civil works pillars

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<sup>1</sup> CHF and MC continued reporting in IG and in Economic pillars. IRD continued reporting its projects exclusively in IG pillar.



9. For the implementation of the CRDA program, Serbia's territory has been divided into 5 areas (Belgrade area excluded) and for each territory different implementing partner (IP) has been selected (Table 1). Although the main lines of action regarding economic development are similar between IPs, each of them has followed a customized program, taking into account particular local and community needs.

**Table 1:** List of implementing partners, and their AoR<sup>2</sup>

| ACDI/VOCA (Central Serbia)  | ADF (Vojvodina)   | CHF (Eastern and Southeastern Serbia)                                  | IRD (Western Serbia)                              | MC (Southwestern Serbia)                                  |
|---|---|--|---|---|
| Braničevski<br>Kolubarski<br>Moravički<br>Nišavski<br>Podunavski<br>Pomoravski<br>Raški<br>Šumadijski | Borski<br>Braničevski<br>Srednji Banat<br>Severna Bačka<br>Severni Banat<br>Pomoravski<br>Južno Bački<br>Južno Banatski<br>Sremski<br>Zapadno Bački | Borski<br>Jablanički<br>Nišavski<br>Pčinjski<br>Pirotski<br>Zaječarski | Kolubarski<br>Mačvanski<br>Sremski<br>Zlatiborski | Moravički<br>Rasinski<br>Raški<br>Toplički<br>Zlatiborski |

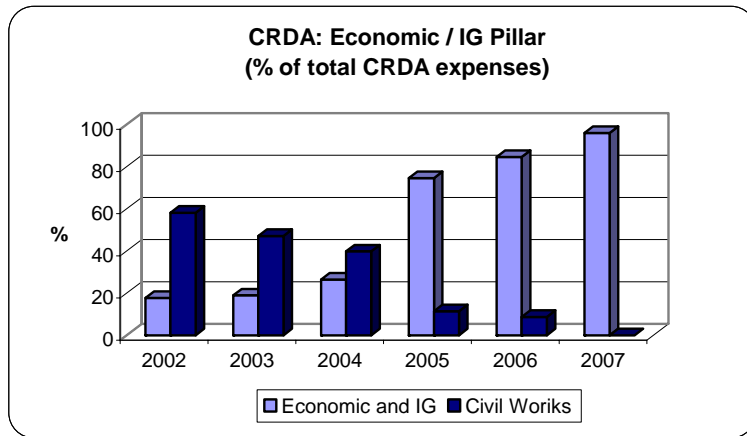
Source: Web-PRS

On the other hand side the shift from CRDA to CRDA e has been the important turning point in CRDA program implementation. It considerably affected the spending structure of CRDA, and the distribution of its funds between different pillars. Expenditure on Economic pillar has been raised from 25% of CRDA funds pledged, to the minimum of 75%. This shift was a consequence of the important change of the focus of CRDA program: it has moved from the community development and democratization process towards the economic development, employment creation and income generation. However, the program structure remained the same, and the question now arises if the current program structure and the area of expertise of the IP allowed for the smooth shift, efficient planning and realization of the CRDA e program. It is precisely the CRDA e which should be in the focus of the analysis of the economic part of the program due to the importance of the funds and the scope of effort that has been placed in economic development activities in CRDA e phase of CRDA. Under the original CRDA program the IG (or Economic) pillar has not been the principal focus of the program. Jointly Economic and income generation pillars<sup>3</sup> accounted for 18% of total CRDA allocated funds in 2002, 19% in 2003, and 26% in 2004 (Graph 2). From 2005 onwards this amount, as a result of the USAID recommendation have been elevated to 75% of the total of the funds. However, under CRDA e, important part of Civil Works activities has been integrated to the Economic pillar as Economic infrastructure project type. If we consider together the funds dedicated to Economic / IG and Civil Works pillars, this increase would be less pronounced, but still considerable (about 20% more of CRDA allocated funds were spent on these pillars in 2005 in comparison to 2004).

<sup>2</sup> In 2003 eastern Serbia region passed from the CHF AoR to the ADF AoR

<sup>3</sup> We refer to these two pillars as they were reported indistinctively in PRS database. This is unfortunate as they significantly overlap. In our analysis we will refer to Economic / IG pillar, where we include the aggregate results of both.

**Graph 2:** Economic/IG and Civil Works pillars as a share in total CRDA funds



Source: Web-PRS

10. Numerous issues arise from the shift to CRDA e. First of them is the capacity of the IP to quickly adapt and to design and engage in adequate economic development or job creation programs. It is our humble view that this unexpected change had more than one adverse effect which at the end resulted in underperforming programs. It is hard to conceive that the shift of the program foci towards improvements of economic performance (CRDA e) led to the deterioration of the outcomes measured by CRDA economic indicators. This is especially evident in the second year of CRDA e implementation. This issue is further discussed below in part I.3 “CRDA Results: Reported Economic Indicators”. To an outside observer with limited information CRDA e might look like a totally new project. IPs have been selected for the community development projects, and the shift to CRDA e did not allow for the IPs change. It is understood by the research team that although CRDA is an eclectic program, consisting of multiple projects grouped by 4-5 main pillars of activity, its main goals and objectives were the strengthening of civil society and democratization. It can be assumed that the IP’s were selected following the criteria which took into account their expertise and capacity in the fields of building democracy and fostering community self-organization, while the economic development capacity of the IPs was not at the top of the list of priority criteria. Although the documentation related to the IP selection has not been provided to the research team, it is obvious from the semi-annual reports that the IPs sought help for the Economic pillar projects design, from other consultancy firms. This is true for the original CRDA and for the CRDA e. CRDA e with its shift towards economic and employment objectives might have been additional burden for IPs.

## I.2 Indicators

In this section we analyze methodological issues related to the indicators used by USAID and IPs to track economic performance and impact of CRDA. Our main concern was the accuracy of the coefficients used in the proposed formulas. This is especially the case for income multiplier, which influences the Additional income and Employment generation indicators. We provide suggestions and methodologies for improving this and other multipliers used in calculations. Another issue is a perceived frequent change of formulas used to calculate indicators, which complicates the comparison of the indicators over time. Also, a shift from the direct counting towards employment creation estimation seems to have happened, which might have led to the overestimation of the employment figure. And finally, methodologies taking into account direct and indirect income and employment generation are inconsistently applied. This makes one wonder whether the direct or total (direct and indirect) impact of CRDA project was meant to be measured.

11. To track and follow the projects, and to at least roughly measure their impact, USAID together with IPs elaborated and defined a set of indicators that had to be regularly reported. However it seems that the definition of tracked indicators has not been adequate or clear from the very beginning of the program. The documentation provided shows that the methodologies used for indicator estimation were repeatedly modified. This is especially true when the shift of the CRDA objectives from community development and democracy strengthening towards economic development happened. Main indicators followed by the IPs, and reported in their semi annual reports and in Web-PRS database, are<sup>4</sup>:

1. Number of projects implemented by committees
2. Number of people benefiting from improved social and economic infrastructure
3. Number of people benefiting from improved environmental conditions.
4. Employment created (in person/months).
5. Additional income generated.
6. Increase in agricultural sales.
7. Increased access to family planning and reproductive health services in participating communities.

Although this list provided by the CHF dates from 2006, it lacks the category “full time equivalent jobs created”. The online Web-PRS manual also omits this indicator. This is further confusing since CHF is one of the only two IPs that are reporting “full time equivalent jobs created” in the Web-PRS database (ADF, MC and IRD do not provide this indicator in the Web-PRS database).

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<sup>4</sup> The indicator list comes from CHF Performance measurement, CRDA 2006. Previous versions have not been provided. PRS manual gives a broader list of indicators, it includes “Full Time Job Creation Category”

In this analysis only indicators that are related to the economic development and employment creation will be analyzed. The consistency and methodological accuracy of the indicators will be scrutinized. Analyzed indicators are:

1. Employment created as a result of CRDA activities,
  2. Additional income generated,
  3. Additional agricultural sales
  4. Full time equivalent jobs created.
12. The indicator “**employment created**” is, in its reviewed version (2006)<sup>5</sup> defined as: “Employment created (indicator 2.1.1.4, unit of measurement: person months) includes full-time, part-time, short-term, seasonal, or jobs, or self employment that results in income. Employment must have been created as the result of CRDA activities and have not existed before. Employment must have expanded as the result of CRDA activities”

**Table 3:** Methodology for calculating Indicator 2.1.1.4: “Employment created as the result of CRDA activities”

| <b>Employment Created</b>   | <b>Details of CHF Formulas</b>  |
|---|---|
| Employment Created by CRDA Construction Contracts (financed directly)       | <b>40%</b> of Total project expenditures (estimate of labor) / Average monthly salary: <b>\$300</b> (260 working days per year/12 months X \$15 per day )   |
| Employment Created by CRDA Commodities Contracts (financed directly)        | <b>180%</b> (for local commodity procurement) or <b>20%</b> (for imported commodity procurement) of CHF project expenditure /Average monthly salary ( <b>\$300</b> ) / <b>5</b> (duration of CRDA in years)                                     |
| Employment Created by CRDA Local Consultants/Trainers (financed directly)   | # of people X # of months   |
| Employment Created as a Result of CRDA Projects -Civil Works                | # of people (direct counting) X remaining # of months remaining in life of CRDA program   |
| Employment Created as a Result of CRDA Projects - Civic Participation       | # of people (direct counting) X duration of project <i>or</i> remaining # of months remaining in life of CRDA program (choose the lower number)   |
| Employment Created as a Result of CRDA Projects - Environmental Improvement | The formula applied is dependant upon the type of Environmental Improvement project, i.e. Construction Contract, Commodities Contract, Local Consultants/Trainers or Civil Works. Apply the appropriate formula based upon the type of project. |

<sup>5</sup> Source: CHF: CHF Performance Measurement CRDA 2006.

|   |  |
|---|--|
| Employment Created as a Result of CRDA Projects - Income Generating | <p><b>SBD Grants:</b> # persons with F/T jobs X remaining # of months life of CRDA program PLUS seasonal jobs X # of months/12 X remaining # of months remaining in life of CRDA program PLUS 180% (for local commodity procurement) or 20% (for imported commodity procurement) /\$300/ 5 or 40% (for construction) of Total Grant related investment/\$300</p> <p><b>Kick-Start:</b> KSP # people X 6 months</p> <p><b>EEE:</b> Measurement depends on type of project; refer to type of project and employment created for appropriate measurement</p> <p><b>PWP:</b> 30 persons months</p> |
|---|--|

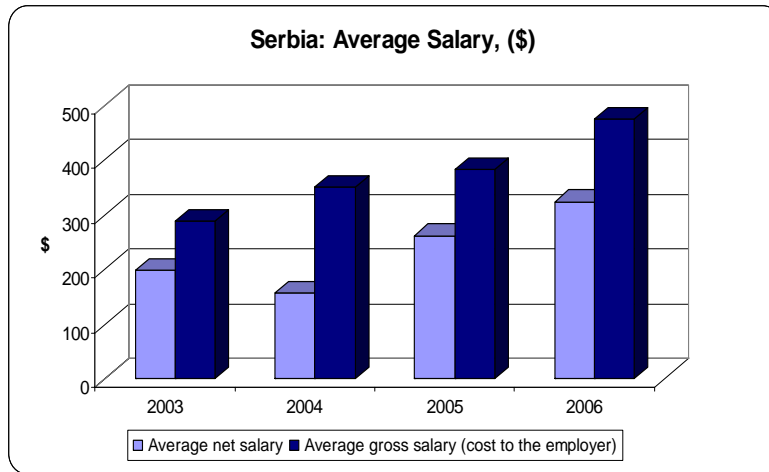
Source: CHF

13. Before moving on to the analysis of the employment generation measurement within the particular project type, we would like to point out the somewhat misleading unit of measurement which has been used to report employment created as a consequence of CRDA activities. In the Web-PRS data base, CRDA Inventory tables and IPs reports, the employment generated is reported in person / month employment units. However, scaling this number to the person per year of employment unit helps to have a better idea of the scope and size of created jobs. These differences will be depicted in Appendix tables. In 2006 the entire CRDA project generated 70,927 person/month employments. However if we scale this number to the employed person / year measurement unit (downscale the previous figure by 12) we have 7911 annual jobs equivalent created, which is noticeably less impressive as a figure. As employment creation is observed on annual level (i.e. in year 2002, 2003 etc), common sense indicates that the person / year of employment is much more intuitive, telling and easy to comprehend as a measure. Our recommendation is to observe employment / year figure.

14. Another issue related to many of the formulas used for the indirect employment generated estimation is the question of the average salary used to get the ratio of the labor expenditure to the employment created figure. 300\$/month<sup>6</sup> has been recommended as an appropriate figure. The use of this figure, that seems to have remained unchanged in the estimation formulas over 5 years of CRDA (or at least in the period 2004-2006) leads to the considerable estimation error. The average gross salary in Serbia (cost to the employer), which should be used in this kind of calculations, has been consistently growing in real terms during the life of CRDA project. It exceeded 300 \$/month in the late 2003. The growth rate of average gross salary in Serbia in the period 2003-2006 has been 13,2% p.a. In 2006 gross average monthly salary has been 473.6\$, (Table 4) which is 58.6% more than the salary of 300\$ given in the USAID recommendation. Not taking into account the salary increase led to the overestimation of employment generated figure in 2006 of 58%. One might suggest that the average salary is not the best figure to be used for employment cost in economically depressed areas of Serbia. This might have been the adequate argument. However, whatever figure is used, its annual values must be adjusted, as the failure to do so leads to boosting reported employment (or income) figures for approximately 13% per annum.

<sup>6</sup> Web-PRS manual uses \$325 as the average salary figure. This difference between two sources can be omitted, as it does not affect the conclusion about the employment generated indicator.

**Table 4: Average Salary in Serbia, (2003-2006)**



Source: SBS, CEVES calculations

After the careful review of the provided methodologies used for employment calculations, we can conclude that some of the methodologies used for indicators can be subject to certain corrections. Following the order given in the CHF table we will review the methodologies presented, identify their flaws and suggest possible improvements.

15. **Employment created by CRDA construction contract:** It is not clear why- if the construction contracts were financed directly by the IPs - generated jobs were not counted directly. It would be the most precise way to measure it. If measured indirectly, the rule of thumb in the construction industry in Serbia says that labor costs account for some 20-25% of total construction costs<sup>7</sup>. This amount may vary between different types of construction works. However it is not clear how the coefficient of 40% has been obtained, if not empirically, for the construction projects realized by CRDA IPs. This would then mean that direct counting was performed (to estimate the coefficient). It is therefore not explicable why direct counting was not chosen as employment generation methodology for construction works. Our conclusion is that this methodology accounts only for direct employment generated, and it overestimates the employment generated since the coefficient employment cost/ total expenses is excessive. Further questions must be raised on issues regarding average salary (300 \$), as was already discussed above. It is also not clear if only direct or additionally the indirect employment created as a consequence of CRDA ought to be estimated and recorded. We recommend direct counting as a method for employment estimation. It is possible and easy to implement for this type of contracts directly financed by IPs.

16. **Employment Created by CRDA Commodities Contracts:** Formula used to calculate employment generated by this kind of contracts uses in the calculations the indirect employment generated as the result of CRDA activities. This is in direct contrast with the objective of the construction contract employment impact formula which estimates directly created jobs. This disparity of counting units must be avoided in order to obtain consistent results. Despite this difference, we consider the multiplier

<sup>7</sup> Source: Construction industry experts, Energoprojekt construction company, Construction Directorate, Civil Engineering Faculty

coefficients used in this formula exaggerated. Income multiplier coefficient for domestic commodity contracts is estimated to 180%. Our conservative estimation for this multiplier is **1,482**. Overestimated multiplier used by IPs results with the overestimation of employment by 26.8%. Detailed assessment of the income multiplier and labor multiplier is provided in the Box 1. Additional issue related to the provided formula is corrected for the number of years of CRDA program duration (5). This is inadequate since there is no need to correct the formula over any period of time: the one off spending on commodity contract corrected by the multiplier and divided by the average monthly wage gives the methodologically right figure for the direct and indirect employment created in the person/month units. So, dividing this ratio by 5 introduces serious flaw in the estimation methodology, overestimating the real impact.

Our recommended formula is:

**148%** (for local commodity procurement) or **20%** (for imported commodity procurement) of CHF project expenditure /Average gross monthly salary (**\$473** for the year 2006)

### Box 1: Calculation of income and labor multiplier

In order to measure the effects on indirect employment generation of resources spent through CRDA programs, we need to calculate labor multiplier of exogenous spending (LM for short). Money that is initially spent, for example on grants, gets spent by grantees on suppliers, labor (who then also spend that money on their needs, thus creating additional income to their “suppliers”), sub-contractors etc. LM captures the effect of these subsequent transactions that create additional labor, besides that created directly by CRDA grants.

Multiplier that is used in the CRDA official methodology is set to 1.8. Which means that the effect of CRDA commodities contract is calculated as 180% of the contract, divided by the average monthly wage of 300\$.

We will show that this value is too high. Basing ourselves on a conservative approach, we conclude that the value of the multiplier should be no higher than 1.48, and probably even lower.

To calculate the labor multiplier, we will start with the income multiplier of exogenous spending (IM for short). We will then calculate the part of income that goes to labor and in that way get to the labor multiplier.

In calculating the income multiplier, we start with a familiar income equation:

$$GDP = Y = C + I + G + (X - M)$$

Here, Y is income, C is consumption, I is investment, G is exogenous government spending, X is exports, and M is imports.

In the first approximation, we can rewrite C and M in the following way:

$$C = cY_d = cY(1-t)$$

$$M = mY$$

Here,  $Y_d$  is disposable income,  $c$  is marginal propensity to consume,  $t$  is effective tax rate and  $m$  is marginal propensity to import.

By substituting this in the income equation, we get:

$$Y = cY(1-t) + I + G + (X - mY)$$

Or, by simple rearranging:

$$Y = (1/(1 - c + ct + m)) * (I + G + X)$$

Now, since  $G$  can be any exogenous spending, let us assume that it stands for exogenous CRDA spending. What is of interest here is to see how the change in  $G$  affects the income. By taking differences, we get:

$$\Delta Y = (1/(1 - c + ct + m)) * \Delta G \quad (1)$$

So, the IM is calculated as:

$$\mathbf{IM = 1 / (1 - c + ct + m)}$$

We now need to adopt values for  $c$ ,  $t$  and  $m$ . For  $c$ , we will look at private aggregate demand in relation to GDP. This will give us an approximation of marginal propensity to consume. It turns out that in 2006 private aggregate demand amounted to about 1,650 billion dinars, or about 0.79 of GDP<sup>8</sup>. Next, we look at  $t$ . For this, we follow two approaches. One is to look at the current tax revenue, which is approximately 0.354 of GDP in 2006. Other is to look at the VAT rate (18%) and personal income tax (14%). In a stylized calculation, we can add this two and get an approximation for  $t$  to be 32%. Comparing these two approximations, we adopt 0.35 as a value for  $t$ . Finally, we come to the calculation of  $m$ . First, we look at shares of different categories in total imports. Then, we assign weights based on how much of that category ends up in private consumption (as we want to eliminate both investments and goods that are imported just to be processed and exported). For example, 30% of capital goods end up in private consumption and this relates mostly to cars. We then add those weighted shares (Table 1). Finally, we look at imports in relation to GDP (47.5%) and multiply this with weighted shares. We get 0.189 and this is now  $m$ .

|                            | Share in imports | Weight | Weighted share |
|----------------------------|------------------|--------|----------------|
| Energy                     | 20.5             | .35    | 7.2            |
| Intermediary goods         | 35.2             | .15    | 5.3            |
| Capital goods              | 23.9             | .30    | 7.2            |
| Durable consumer goods     | 3.5              | 1.00   | 3.5            |
| Non-durable consumer goods | 13.9             | 1.00   | 13.9           |
| Other                      | 3.1              | .90    | 2.8            |
| <b>TOTAL</b>               | <b>100.0</b>     |        | <b>39.8</b>    |



All of the numbers that we need are now here, and we can calculate IM. By plugging in these numbers, we get that IM is equal to 1.482. Values for the coefficients and for the income multiplier of exogenous spending (IM) are shown in the table below.

|           |              |
|-----------|--------------|
| c         | 0,791        |
| m         | 0,189        |
| t         | 0,350        |
| <b>IM</b> | <b>1,482</b> |

We now need to calculate the part of this additional income that goes to labor. Another way to calculate GDP is shown in the next equation:

$$GDP = Y = COE + GOS + GMI + (T - S)$$

Here, COE stands for Compensation of employees, GOS for Gross operating surplus, GMI for Gross mixed income (the same measure as GOS, but for unincorporated businesses) and finally (T - S) for Taxes less subsidies on production and imports. We start with the last component, (T - S). It is quite stable (from 2003 to 2006 its share in the GDP was about 15.5%) and we can safely assume that  $\Delta Y$  (as a consequence of  $\Delta G$ ) does not affect it. Next, let's look at GOS and GMI. For the simplicity sake, we will assume that  $\Delta Y$  (again, as a consequence of  $\Delta G$ ) does not affect the share of profits in income. This is not completely realistic, but it is conservative: if part of  $\Delta Y$  (a result of  $\Delta G$ ) contributed to the increase of profits, then the part that contributed to the increase of COE would be lower, and thus labor multiplier would decrease. Finally, let's look at COE. Since we assumed that GOS, GMI and (T - S) are not affected by  $\Delta Y$ , all of the changes will be reflected in COE, or:

$$\Delta Y = \Delta COE \tag{2}$$

In first approximation, we can write:

$$COE = W * L$$

Here, W stands for wages, and L stands for labor. Once again we will simplify, and again we will do it on the conservative side. We assume that wages don't change, and that all increase is reflected in increases of labor. This is conservative, because if part of the increase went into wages, then once again labor multiplier would be lowered.

So, we can write:

$$\Delta COE = W * \Delta L \tag{3}$$

We now go back to the income multiplier from equation (1):

$$\Delta Y = 1.482 * \Delta G,$$

and combine this with equations (2) and (3) to finally get:

$$\Delta L = 1.482 * \Delta G / W \tag{4}$$

So, we have shown that the multiplier should be 1.482 at most, and not 1.8 as in official methodology. We would like to repeat that all of the simplifications and constraints that we have assumed were on the conservative side. In fact, if any of them were relaxed, labor multiplier would only get lower, and thus even further away from the value of 1.8.

Finally, to give an illustration, equation (4) means, for example, that a grant of \$10,000 creates 49.4 employment months, or, equally, 4.1 full year employments. Here we assumed the wage of \$300, in-line with the official methodology. If we use instead 1.8, we would get that the grant created 60 employment months, or 5 full year employments.

17. **Employment created by CRDA local consultants and trainers** is straight forward: simple counting leaves no room for measurement errors.

18. **Civil Works pillar and Civic Participation pillar employment generation** rely on simple counting and remaining duration of the projects

19. **Employment generated within Environment pillar** is measured using formulas already defined for other pillars, depending on the type of environment project.

20. Estimation methodology for the employment generated within **Economic/IG pillar** differs between project types within the pillar. The first type of projects is Small Business Development (SBD) grants. The impact of the **SBD grants** on the employment generation measures direct and indirect impact of grants awarded to SME on the job creation. Estimation of indirect employment generated (procurements and construction works) has the flaws which have already been identified and discussed above.

Furthermore, the estimation of impact of grants on the direct employment generation is in our opinion methodologically inaccurate and does not reflect the real impact of the grant on the job creation. Here we consider that for the calculation of newly created employment the company-wide change in the number of employees (either full time or seasonal ones) was taken into the account. Although we have not found the written confirmation of this practice, it has been confirmed in the personal communication with CRDA program officials.

It can be assumed that the SBD grants are targeted and programmed for the purchase of the physical equipment (fixed assets investment). The SME grants thus lead to the increase in fixed capital, which is directly correlated to the increase in production and consequently to the employment creation. So a linear relationship between SME grants and employment generation is presupposed. This raises several questions: First, have all of the firm investments come only and exclusively from the grant (leveraging and participation of other donors must not be forgotten)? Also, was the investment coming from the SME grant the only investment that the firm did during the observed period? Would the company's production grow without grant support? Imagine that the firm's investments in the observed period have been 150 m.u. out of which the SBD grant accounted for one third (i.e. SME grant has been 50 m.u.). If this investment led to production and employment increase of 12 persons, it is not

accurate to attribute the entire employment increase to the CRDA grant. In this hypothetical example CRDA impact on production and employment generated should be slashed to one third of total employment increase (as it participated by 33% in the investment).

Additionally, the employment figure must be corrected by the autonomously created employment, i.e. by the employment that would have been created if no investments have been realized. Was there any room for the production growth using the existing (pre-investment) physical capital? In that case, what would have been the employment growth? This contra-factual hypothetical estimate of the employment increase must be subtracted from the actual employment growth in order to account fairly for the employment impact of the grant. Dividing thus obtained number by ratio of SBD grants to the total investments will provide accurate measure of the real impact of grants on the employment creation.

Although undisclosed in writing, personal communication suggested that this (accurate) methodology has not been applied, but the bulk number of total new employments created within the year of grant awarding has been used for the calculations regardless of the grant share in the total investments. That led to substantially overstated number of jobs and employment generated as a consequence of SME grants.

SMI development projects were the ones that generated the larger portion of the employment (47% of total employment generated by CRDA Economic pillar projects in 2006, Table 5). On the other hand Economic / IG pillar accounts for 74% of total employment generated (Table 6). Having in mind the required counterpart participation in the project of at least 25% (which in many cases was larger) and omitting all other investments, we might conclude that the number of employment created by grants program is overstated by at least 25%. However, if we consider other investments within the firms coming from sources other than CRDA, the estimation error is even larger.

**Table 5:** Employment generated within the Economic/IG pillar.

| <b>Employment generated within the<br/>Economic/IG pillar<br/>(% of total)</b> | <b>2004</b> | <b>2005</b> | <b>2006</b> |
|--|-------------|-------------|-------------|
| <b>Agriculture</b>   | 39          | 26          | 25          |
| <b>Economic environment</b>  | 0           | 1           | 4           |
| <b>Economic infrastructure</b>   | 0           | 43          | 15          |
| <b>Education</b>   | 1           | 1           | 1           |
| <b>SME Development</b>   | 60          | 22          | 47          |
| <b>Special initiatives</b>   | 0           | 0           | 1           |
| <b>Tourism</b>   | 1           | 1           | 4           |
| <b>Trade promotion</b>   | 0           | 7           | 3           |
| <b>Total</b>   | 100         | 100         | 100         |

Source: Web-PRS

**Regarding Kick start projects (KSP)**, the methodology for the measurement of employment generated is acceptable. Inconsistently, the KSP entry could not be found in the Web-PRS database.

**Enabling Economic Environment (EEE)** does not explicitly state the employment generation formula. This lack of transparency leads to reasonable doubt regarding the quality of the reported employment indicator.

The estimation of the employment of the **Public work projects (PWP)**, which states the random number (30) as the adequate estimate of employment generated is far from a serious attempt to precisely monitor and report the jobs created.

**Table 6:** CRDA: Employment generated by pillars (% of total CRDA)

| Employment generated<br>(% of total) | 2002 | 2003 | 2004 | 2005 | 2006 |
|--------------------------------------|------|------|------|------|------|
| <b>Civic Participation</b>           | 6    | 21   | 7    | 1    | 1    |
| <b>Civil Works</b>                   | 23   | 16   | 25   | 5    | 25   |
| <b>Economic and IG</b>               | 69   | 61   | 68   | 94   | 74   |
| <b>Enviroment</b>                    | 3    | 2    | 1    | 0    | 0    |
| <b>Total</b>                         | 100  | 100  | 100  | 100  | 100  |

Source: Web-PRS

21. Further complications regarding employment generation is the overlapping with the “Full time equivalent jobs created” category. Although not stated in CHF document that we used as a starting point to analyze indicator methodologies, with the shift to the CRDA e the “full time equivalent jobs” indicator was introduced. It is not clear if this indicator may lead to double counting, as by default some of the employment created in SME grants projects fall into both categories. SBD grants employment impact formula uses “full time jobs created”; this number is also used by default for full time equivalent jobs created category. In our opinion it would be better to merge it with the employment created expressed on annual level (adjusted for the remaining duration of CRDA program), and possibly to report it as a subcategory, since it indicates a better quality of the generated employment.

22. The indicator “**Additional income generated as a result of CRDA activities**” in its 2006 version is defined as: “Additional income is the total revenue generated during the implementation of a CRDA project. This income is measured within enterprises (including small and medium enterprises), individual business involved in CRDA activities and individuals involved in CRDA activities (PWP). Generated income is income that did not exist before and is the result of CRDA actions / interventions including projects, training and technical assistance and access to credit.” As further explanation, CHF document provides suggestions for calculating additional income for different project types within Economic / IG pillar:

1. For KSP: Alternative 1: Additional revenue after the intervention, measured after six months. Only measured once. Baseline: Compare six intervention months to the six following months.
2. PWP: Amount of CHF Investment
3. SBD Grant: Additional revenue after the intervention, measured every six months for at least three years. Baseline: participants’ tax records. Income from salaries created is measured by Person Months created multiplied by Average salary (\$300).

Further explanations of additional income generation measurement for grant type projects are provided as follows:

“This indicator can be calculated in one of the two ways:

Either

(a) Components #2 + #4

or

(b) Components #1 + #2 + #3.”

Components are provided in Table 7. It was concluded that the method (a) was the most thorough and complete.

**Table 7:** Additional income generation for SMI development type projects

|    |  |
|----|--|
| 1. | Number of Person Months (to date) from Recipient x Average Salary (Direct employees of the recipient used for Person Months calculation.) This measurement captures impact of the grant on the community in the form of increased disposable income of employees.                                  |
| 2. | Number of Person Months from Supply Contracts X Average Salary (\$300) (Supply contract employment created used for Person Months calculation.) This measurement captures the impact of the supply contracts for the grant in the form of increased disposable income of the supplier’s employees. |
| 3. | Increase in Recipient’s Local Raw Material Purchases (Baseline vs. Actual) This measurement captures community impact as it reflects the influx of cash into the local economy by the value of the raw material purchases made by the Recipient.   |
| 4. | Increase in Recipient Revenue (Baseline Revenue vs. Actual Revenue) as a direct result of the donated material/equipment. This captures recipient impact.  |

Source: CHF

After a careful review of the provided methodology used to calculate Additional income generated indicator, it can be concluded that the methodology for the KSP and PWP project types is adequate. However, for SDB grants (or, generally SME grant type projects) we have reserves related to the recommended methodology:

#1: This line follows only the direct income generated by the grant. The point here is related to the average salary. Net average salary must be used. Also, as mentioned above, average salary is changing over the duration of CRDA, so the annual average salary must be used.

#2: This line is closely related to the methodology for the estimation of employment generated in commodities contract, which is not accurate. See page 9 xx for details. The flaw in this line is within employment creation indicator methodology, and it is where the improvements have to be made

#3: This line reflects the impact of the grant to the local raw material suppliers.

#4: Additional revenues of the grant recipient

Methodology b) is adequate, as it accounts for all the expenses generated by the use of the equipment. However, as the impact measured is not direct (within firm), but overall, the use of income multiplier should be considered.

Methodology a) has double counting problem. If the operating profit has been used instead of revenue (line #4) the formula would be adequate. Also, the question if direct or indirect income generation is measured should be clarified

23. The indicator 2.1.1.6 “**Increase in agricultural sales as a result of CRDA activities**” is defined as: “...positive difference between total agricultural sales during the current reporting period and total sales during the same period in the previous year. These total sales are measured within enterprises (including small and medium enterprises) and individual business involved in CRDA activities. The project tracks volume, as well as sales. Increase in revenue is income based on prices from previous year. Never less than zero.” Also, the methodology defines: “Increase in Grantee’s Agricultural Sales (Baseline Sales vs. Projected Sales) as a result of the donated material/equipment. This captures grantee impact. For agriculture projects this equals Increase in Grantee Income.” And “Increase in Grantee’s Local Agricultural Purchases as a result of the donated material/equipment. This captures community impact as it reflects the complete market chain from producer to processor. This is the purchase of raw materials (herbs, milk, berries, etc) from local farmers/co-ops”.

This methodology can be considered as unbiased. The only caution we would like to give is related to the definition of “baseline” and “projected” sales, which have not been disclosed in the document in question. Taking into account last year prices corrects the effects of the inflation, and depicts the real increase in sales, if the indicator was reported in dinars.

24. Another methodological issue related to the additional income generated and additional agricultural sales is that in the Web-PRS data base and in the IP reports these indicators are reported in US dollars. The observation of the indicator behavior over time, or their growth estimation can contain errors which result from frequent changes in dinar/US\$ exchange rate, i.e. the dinar depreciating against the dollar until 2006, and appreciation in 2006 and 2007. Thus, to observe real rates of change on annual level, a correction factor based on exchange rate variation and inflation differentials (inflation in Serbia vs. inflation in USA) should be applied. The correction factors are provided in Table 8. As the Additional agricultural sales indicator uses last year prices, it accounts for domestic inflation. That is why different correction factor is provided

**Table 8:** Adjustment factor for real increase in agricultural sales and additional income indicators.

|      | Real exchange rate index,<br>CSD/US\$ (2005=100) | Correction factor for annual<br>Additional agricultural sales<br>indicator (Y-o-y) |
|------|--|--|
| 2002 | 128.7  |  |
| 2003 | 105.2  | 1.09   |
| 2004 | 99.7   | 0.96   |
| 2005 | 100.0  | 0.85   |
| 2006 | 92.3   | 0.96   |

Source: NBS, CEVES calculations

For example, it can be observed that due to the real exchange rate appreciation, dollar amounts of additional income generated were overestimated by 7,6% in 2006.

Indicator estimation methodology was recommended and previously agreed with USAID officials. However, different and not standardized terminology regarding pillars and project types, as well as the inconsistent classifications from one IP to the other that have changed several times during the life span of the program, considerably blurs the perception of the reported indicators within the pillars.

### I.3 CRDA Results: Reported Economic Indicators

25. **Employment generation:** Related to the CRDA performance viewed through economic indicators - their analysis is the principal objective and purpose of this study - special attention should be placed on the last 3 years of CRDA program. That will help to better understand the shift to the CRDA e, i.e. the change in the program focus from the community development towards income and employment generation. Looking at the reported employment creation (Graph 9) we see that it has reached its maximum in 2004, although at that time fewer funds were allocated to the economic development and employment creation activities than in following years. There are at least 2 reasons for this anomaly. The first one is the probable adjustment and change in the employment counting methodology which occurred after these somehow exaggerated results have been reported. If we connect the continuous changes, discussions and modifications of the employment generated definitions, it can be concluded that USAID had serious doubts and reservations regarding the figures that were reported<sup>9</sup> during the CRDA program. The second one may come from the shift in approach towards Economic / IG pillar within CRDA e. CRDA e led to the change in IP strategies, as most of them shifted from the community defined priorities toward IP defined strategies and projects related to economic development. This led to the selection and realization of projects that, judging using Web-PRS data, had less impact on employment. Change from community defined priorities to the IP defined ones, meant to increase employment generation, actually decreased it.

**Graph 9:** Employment generated



Source: Web-PRS

Next issue is the question about the quality of employment generation. Was the objective the immediate employment generation, or was it the creation of sustainable long term jobs? Judging by IP strategies one can conclude that long term and sustainable job creation was the objective.

Another dimension to be explored is related to the program focus: was the program (CRDA e) objective the long term economic growth, or just the direct employment generation. In the part related to the cost benefit analysis, the effectiveness of the different strategies related to the reported output measured through CRDA economic indicators will come under closer scrutiny.

As can be seen in the Table 10, the employment generation reaches its maximum in 2003. In 2004 the figure reported is halved, and the decline in employment generation continues in 2005 and 2006. This may be the consequence of more precise reporting. However, it should be further explored why the shift towards employment generation objectives (CRDA e) led to the fall in employment generation.

**Table 10:** Employment generated, 2002-2006.

| Employment generated<br>(person / month)  | 2002   | 2003    | 2004    | 2005    | 2006   |
|---|--------|---------|---------|---------|--------|
| <b>Civic participation</b>                | 5.301  | 53.825  | 9.134   | 1.148   | 522    |
| <b>Civil Works</b>                        | 21.295 | 42.288  | 33.686  | 5.793   | 17.725 |
| <b>Economic and Income<br/>Generation</b> | 65.329 | 158.653 | 92.389  | 107.534 | 52.680 |
| <b>Environment</b>                        | 2.663  | 5.283   | 1.280   | 208     | 0      |
| <b>Total CRDA</b>                         | 94.588 | 260.049 | 136.489 | 114.683 | 70.927 |

Source: Web-PRS

26. **Full time job creation:** Although no methodological notes have been found on this indicator, it is reported in Web-PRS data base and in IP reports. What is not clear is if this figure is a subgroup of employment created category, or it is a group of its own. Whatever the case, it is curious that only two IPs reported on this category (Table 11). Another observation that must be underlined here is the decline in full



time job creation figure starting in 2004 for ACDI/VOCA, and the decline in 2006 for CHF figures. If we relate these findings with the deterioration of employment generation figures from 2004 onwards, we can question the successful realization of CRDA e objectives.

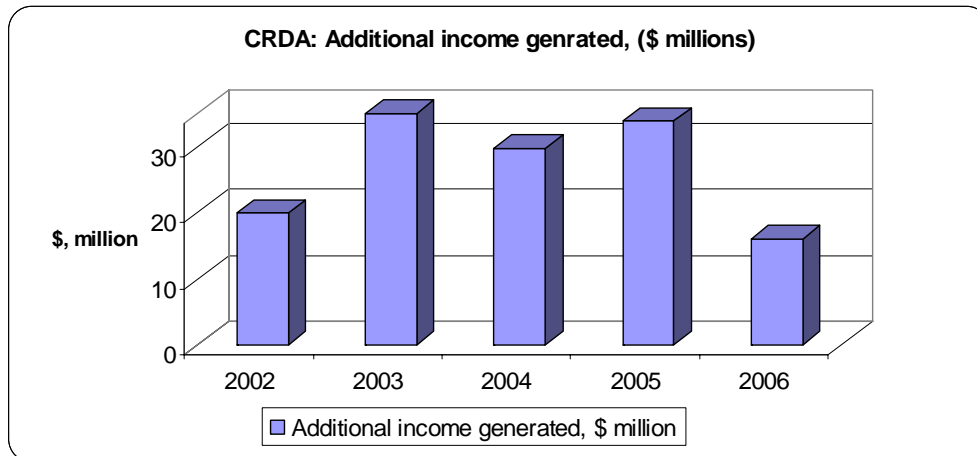
**Table 11:** Full time jobs creation within the Economic/IG pillar

| Full time equivalent jobs created | 2004        | 2005        | 2006       |
|-----------------------------------|-------------|-------------|------------|
| ACDI/VOCA                         | 1369        | 516         | 391        |
| ADF                               | 0           | 0           | 0          |
| CHF                               | 338         | 2270        | 486        |
| IRD                               | 0           | 0           | 0          |
| MC                                | 0           | 0           | 0          |
| <b>Total</b>                      | <b>1707</b> | <b>2786</b> | <b>877</b> |

Source: Web-PRS

27. **Income generation.** If we observe income generating activity within the CRDA program we observe a significant decrease in 2006, from \$33.8 million in 2005 to \$15.9 million in 2006 (Graph 12). Observed by the pillars, 89% of additional income has been generated within the Economic/ IG pillar.

**Graph 12:** CRDA, additional income generated, 2002-2006



Source: Web-PRS

Income generation classified by different IPs is heterogeneous. ACDI/VOCA contributed to total CRDA additional income generation by 30.0%, IRD by 25.5% and on the lower end, CHF contributed with only 12.6%. Total additional income generated during the CRDA life was \$136 million (Table 13). The main concerns regarding this indicator are its large volatility on IP level, and the generalized decline of this indicator in 2006.

**Table 13: CRDA, additional income generation, by IP 2002-2006**

| Additional income generated, \$ | 2002              | 2003              | 2004              | 2005              | 2006              | Total              |
|---------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|--------------------|
| ACDI/VOCA                       | 3,269,543         | 16,489,896        | 14,045,655        | 4,933,650         | 2,072,493         | 40,811,237         |
| ADF                             | 5,083,088         | 5,817,495         | 1,267,751         | 5,125,620         | 774,501           | 18,068,455         |
| CHF                             | 1,585,380         | 3,978,360         | 6,810,121         | 10,910,199        | 2,250,679         | 25,534,739         |
| IRD                             | 3,029,769         | 5,676,652         | 3,171,595         | 12,551,744        | 10,615,479        | 35,045,239         |
| MC                              | 6,981,208         | 5,295,047         | 4,415,282         | 325,648           | 268,500           | 17,285,685         |
| <b>Total CRDA</b>               | <b>19,948,988</b> | <b>37,257,450</b> | <b>29,710,404</b> | <b>33,846,861</b> | <b>15,981,652</b> | <b>136,745,355</b> |

Source: Web-PRS

28. **Increase in Agriculture sales:** If we observe aggregated data on increase in agricultural sales in the period 2004 -2006 (Table 14) we observe an increase in CRDA performance measured through this indicator in 2005, related to 2004, from \$8,8 million to \$19,6 million mostly due to the increase in ADF and MC performance.

**Table 14: Increase in agriculture sales, 2002-2006.**

| Increase in agricultural sales, \$ | 2004             | 2005              | 2006             |
|------------------------------------|------------------|-------------------|------------------|
| ACDI/VOCA                          | 1,798,228        | 594,546           | 193,797          |
| ADF                                | 1,252,401        | 5,122,620         | 729,254          |
| CHF                                | 1,316,502        | 1,061,595         | 244,177          |
| IRD                                | 403,564          | 718,766           | 3,820,185        |
| MC                                 | 4,113,798        | 12,465,796        | 1,628,038        |
| <b>Total CRDA</b>                  | <b>8,884,493</b> | <b>19,963,323</b> | <b>6,615,451</b> |

Source: Web-PRS

MC agricultural projects in 2005 almost trebled agricultural sales (from \$4 millions to \$12 millions). Unexpectedly, in 2006, increased agricultural sales indicator plummeted down to \$6 million, to the levels below even the 2004 figures. This is in total contrast to the increased spending on agriculture projects in these 3 years, starting from \$2,162,246 in 2004, \$3,166,851 in 2005 and \$4,680,144 in 2006. The question is which particular projects or types of projects lead to the 2005 increase, and, on the other hand which ones lead to 2006 decrease in CRDA performance as measured by this indicator. Unfortunately, the analytical tools provided in the Web-PRS database do not make this possible. These results are even more surprising as the year 2005, when CRDA additional agriculture sales boosted, was not a great year for agriculture. As already mentioned, the appreciation of Serbian dinar in the second half of 2006 led to the overstatement of reported dollar figures, for approximately 8%. The fall in agricultural sales in 2006 is possibly related to the change in IP strategies towards the end of the CRDA program. Another explication might have been the lack of drive to generate quality opportunities.

Observing the particular year (2005, Table 15), we see that within particular IP different activities might have influenced increase in agricultural sales. For example, ADF SME development projects contributed more to the increased agricultural sales (roughly \$3 million) than the agricultural projects themselves (\$2 million). CHF

reported, adequately, that environment, economic infrastructure, education and trade promotion contributed to the increased agricultural sales.

**Table 15:** Increase in agriculture sales, by project type (2005).

| Increase in agricultural sales<br>2005, \$ millions | ACDI/VOCA      | ADF              | CHF              | IRD            | MC                | Total CRDA        |
|---|----------------|------------------|------------------|----------------|-------------------|-------------------|
| Agriculture   | 594,546        | 2,039,072        | 992,254          | 618,688        | 12,465,796        | 16,710,356        |
| Economic environment                                | 0              | 0                | 1,000            | 0              | 0                 | 1,000             |
| Economic infrastructure                             | 0              | 0                | 23,291           | 0              | 0                 | 23,291            |
| Education   | 0              | 0                | 33,750           | 0              | 0                 | 33,750            |
| SME Development                                     | 0              | 3,083,548        | 0                | 100,078        | 0                 | 3,183,626         |
| Special initiatives                                 | 0              | 0                | 0                | 0              | 0                 | 0                 |
| Tourism   | 0              | 0                | 0                | 0              | 0                 | 0                 |
| Trade promotion                                     | 0              | 0                | 11,300           | 0              | 0                 | 11,300            |
| <b>Total by IP</b>                                  | <b>594,546</b> | <b>5,122,620</b> | <b>1,061,595</b> | <b>718,766</b> | <b>12,465,796</b> | <b>19,963,323</b> |

Source: Web-PRS

Such performance of agriculture sales must come under closer scrutiny as it is inconceivable that increased spending led to worse results. The inconsistent reporting also opens a range of questions related to the reporting system. Finally, the lack of ability to generate additional queries within Web-PRS system which would sort and summarize the best performing project types measured by incurred cost / indicator performance ratio makes deeper analysis extremely hard.

## I.4 Cost – Benefit Analysis

29. In order to adequately assess economic activities within CRDA program, and to determine which project types had larger relative impact a simplified cost-benefit analysis will be performed using the existing data set. The aim is to realize which strategies performed better and are to be followed in the future programs of similar type. To do this exercise, selected economic indicators had to be matched with the expenses side of the project balance. This was not possible with the existing structure of the Web-PRS database queries. Only the manual extraction of raw data relative to each particular project and matching them with the project costs could be performed. However, on CEVES petition and with the support of USAID officials, the new query has been designed by CHF Web-PRS staff which helps match CRDA expenses with the outcomes of particular project.

We start the cost - benefit analysis with the Table 16. The figures are obtained by dividing the cost incurred by IPs on different project types with the reported employment generated indicator for that period. The Table 12 shows that the best cost/employment ratio for projects implemented by ACDI/VOCA IP was achieved in the agriculture projects, (expense of \$145 per employment/month created, blue type), while the most expensive employment was generated in education (\$1359 per employment/month created, red type). ADF reports that in 2006 projects related to the SMI development had the best ratio (expense of \$19 per employment/month generated), but this result can be considered as an outlier, fruit of a reporting error or the result of extreme overestimation of the employment generated. It is counter-intuitive that the full month employment can be achieved with such irrelevant

expenditure. For this IP the most expensive employment creation was in tourism activities.

**Table 16:** Employment generation indicator, cost per unit of output (employment/month) by type of project, 2006.

| Amount Spent on Creating One Unit of Employment (person/month) | ACDI/VOCA | ADF | CHF | IRD | MC    |
|--|-----------|-----|-----|-----|-------|
| Agriculture  | 145       | 352 | 341 | 378 | 141   |
| Economic environment   | 930       | 452 | 247 | N/a | 219   |
| Economic infrastructure  | 398       | 473 | 93  | N/a | 710   |
| Education  | 1,359     | 690 | 71  | N/a | 5,654 |
| SME Development  | 159       | 19  | 114 | 316 | 2,069 |
| Special initiatives  | 1,022     | 772 | 260 | N/a | N/a   |
| Tourism  | 1,126     | 833 | 174 | 186 | 611   |
| Trade promotion  | 431       | 126 | 101 | N/a | N/a   |

Source: Web-PRS

MC expense in education and SME development seems excessive, and out of line with implicit CRDA objectives (employment generation). It needs to be questioned why all this extreme expenditure happened, as it seems that they are far from optimal. The results for other IPs can be observed in the table.

We have to place certain reservations on these findings since the projects were followed in different dimensions and true and precise objectives of CRDA had not been clearly stated. Low cost-benefit ratio in one indicator might not mean that a certain project is inadequate; it may happen that it performs well measured by a different indicator that is of interest. That is why data from the Table 16 will be cross-compared by the similar table analyzing additional income / expense ratio (Table 17).

**Table 17:** Additional income generated per 1\$ CRDA expense, 2006

| Additional income generated (per 1\$ invested) | ACDI/VOCA | ADF   | CHF  | IRD  | MC   |
|--|-----------|-------|------|------|------|
| Agriculture                                    | 2.49      | 2.06  | 1.13 | 1.67 | 0.77 |
| Economic environment                           | 0.24      | 15.37 | 1.22 | N/a  | N/a  |
| Economic infrastructure                        | 0.60      | N/a   | 0.91 | N/a  | N/a  |
| Education                                      | 0.21      | N/a   | 4.94 | N/a  | N/a  |
| SME Development                                | 1.74      | N/a   | 1.81 | 2.96 | 0.00 |
| Special initiatives                            | 0.29      | N/a   | 0.65 | N/a  | N/a  |
| Tourism  | 0.09      | N/a   | 1.22 | 2.86 | N/a  |
| Trade promotion                                | 0.70      | 0.01  | 2.91 | N/a  | N/a  |

Source Web-PRS

Table 17 depicts income multiplier (additional income generated by 1\$ of incurred CRDA expenditure) for CRDA Economic/IP pillar projects by IPs. Results from this table show consistency with the Table 12. For example, ACDI/VOCA column shows the largest multiplier for the agriculture projects, for which it had the lower cost per unit of labor (employment / month) generated, as illustrated in Table 16.

ADF reports economic environment activities as the ones with higher multiplier. This figure must be taken with reservation, and this result must be additionally queried since it raises serious doubts regarding its validity.

For CHF implemented projects large multiplier value is observed in education, and we take this education figure with certain reservation. MC reported the smallest multiplier exactly where it had the higher expense, in the SME development project type.

We conclude that there is weak negative correlation ( $\rho = -0.21$ ) between the observed ratios, as expected (employment/project cost vs. additional income / project cost). Thus the argument that project types which have not performed well measured by one of the indicators, might have performed well measured with different indicators is only partially valid.

Now we have the classification of the “adequacy” of different project types for different IPs. We shall look how funds were allocated between different project types, ie if more funds were placed in project type group that performed better. In order to do this we first have to observe the portion of total costs incurred in different project types within Economic / IG pillar by different IPs during the 2006 (Table 18)

**Table 18:** Expenses incurred by CRDA IP in Economic/IG pillar, by project type, as a % of total Economic/IG pillar expense

| Consolidated CRDA cost in % of total Economic / IG pillar expense 2006 | ACDI/VOCA | ADF | CHF | IRD | MC  |
|--|-----------|-----|-----|-----|-----|
| Agriculture  | 16        | 51  | 14  | 36  | 29  |
| Economic environment   | 24        | 15  | 9   | 0   | 8   |
| Economic infrastructure  | 28        | 8   | 33  | 0   | 24  |
| Education  | 11        | 1   | 1   | 0   | 8   |
| SME Development  | 9         | 9   | 23  | 61  | 23  |
| Special initiatives  | 5         | 5   | 2   | 0   | 0   |
| Tourism  | 6         | 6   | 13  | 3   | 7   |
| Trade promotion  | 1         | 5   | 5   | 0   | 0   |
| <b>Total</b>   | 100       | 100 | 100 | 100 | 100 |

Source Web-PRS

Table 18 depicts the share of total cost incurred within Economic /IG pillar by project types. Some of these cells are highlighted. Green cells are the ones with best cost / employment ratio (this result coming from Table 16). It would be logical to expect that the largest amount of funds flows towards the activities with best cost / employment ratio. Generally this is the case, except for the ACDI/VOCA projects. Yellow cells indicate outliers which, due to small scope of these projects or inconsistent results in Table 16 should be rejected. Red cells are the ones that show worst cost / employment ratio, pointing that the expenses incurred in this project type should be small which is generally true. The corresponding results for the previous years will be depicted in the Annex.

30. This stylized, yet indicative exercise opens various questions. The first is why the projects with low cost per employment or income generation ratio were given support at all? Why were more funds not placed in activities that performed better? We have to state our suggestion here that similar measures could have been reported regularly, to the benefit of the aid planers and program development.

31. One of the reasons might be the imprecise and scattered objectives for the late phase of the CRDA project and in the principal / agent relationship existing between IPs and USAID. Also the proximity of the project conclusion made possible for these differences to be exploited. The careful reading of semiannual reports indicates certain deterioration in the quality of ideas, plans and projects to be implemented as the program was approaching its end. CRDA additionally contributed to these confusing developments.

## II Report on the CRDA Database

### II.1 Database overview

The Web-PRS (Web based Project Reporting System) database resulted from the need to monitor and evaluate the projects within CRDA (Community Revitalization through Democratic Action) program. CRDA was one of the initial USAID (The United States Agency for International Development) programs in Serbia. The program was planned to last for five years, and the budget of \$200 million was assigned for the development of democracy in Serbia, excluding Belgrade and Kosovo. It is a civil society program that uses community development activities to build trust between different ethnic and religious groups and to demonstrate the importance of citizens participating in the improvement of the living conditions. Initial purpose of the CRDA program was the development of democracy in Serbia, but this was later changed. In 2005 CRDA became CRDAE with the goal of developing the economy in Serbia.

Web-PRS is a database for project monitoring facilitation. In other words, it is an internal system which monitors all activities in a project. Apart from internal users, the database is available to external users as well. The organizations accessing the database access information about their own activities, progress and influence on local communities. With a log-in name and password the database can be accessed using the internet. Some of the data is available to the public on the web-site [www.sada.usaid.org.yu](http://www.sada.usaid.org.yu), which is directly linked to the database. In this way the users can obtain correct and up to date data on the project activities anywhere in the world.

The database was created using the client/server database system – Microsoft SQL Server 2000 and the web-applications design tool – Macromedia Cold Fusion. The modular system design is implemented, and this makes it possible to generate new reports easily.<sup>10</sup>

The collected data is placed on one server, which is accessible for all users. When accessing Web-PRS database through the internet, users are accessing the server, which enables them to read the files and enter new data in the system. Only certain users with usernames and passwords can enter new data. This application facilitates simultaneous access for many users.

In practice, with the internet access to the database one is faced with the problem of the slow access to information. Opening the web-page can sometimes take up to few minutes. The same is true when queries are made. This problem becomes more serious if queries relate to numerous projects. Depending on the type of the request, waiting for the reply can take up to 5 minutes.

When the database is opened, the initial page comes up with the basic data about the CRDA program and same basic information for all projects. Main menu includes Control Panel, Reporting, Web Office, Tools and Support.

- Control Panel has commands for customizing the queries section, changing user password and adding new users.
- The Reporting section has commands for creating different queries, viewing reports and projects, and access to queries and reports saved earlier.
- Web Office allows users to enter and view activities within the CRDA program and read about experiences from different projects.
- Tools contains GIS demo version: this is a program that enables operations with the maps.
- Finally, Support option has information on the database, dictionary, frequently asked questions (FAQ) and the like.

The data stored in this database is divided into four groups: project description, community description, events and indicators.

- Project description provides all the necessary information about the project. This group includes the problem description, problem resolution, project duration, costs, payments, pictures and information about the beneficiary.
- Community description provides all relevant information about the communities which benefit from the projects. This includes the data on the location, population, basic activities, and the maps.
- Using the calendar of events it is possible to monitor the key events during program implementation.
- The indicators represent the most concrete data in the system. They are used to monitor different aspects of the project, like the number of persons which benefit from project implementation, or the number of persons hired. The indicators from this database are shown in the Table 1 below.

**Table 1.** List of indicators in the data base

| <b>Indicator code</b> | <b>Indicator name</b>   |
|-----------------------|---|
| 2.1.1.1               | Number of projects implemented by the committee                                     |
| 2.1.1.2               | Beneficiaries of improved social and economic infrastructure                        |
| 2.1.1.3               | Beneficiaries of improved environmental infrastructure                              |
| 2.1.1.4               | Employment created  |
| 2.1.1.5               | Additional income generated   |
| 2.1.1.6               | Increase in agricultural sales  |
| 2.1.1.7               | Increased access to family planning and reproductive health services in communities |
| 2.1.4.1               | Minorities or women comprise at least 30% of community committee membership         |
| 2.1.4.2               | Number of cluster projects  |
| CRDA-E IR 1.1         | Number of full time equivalent jobs (FTE) created (PRS)                             |

When the query is being created, it is possible to set up various criteria and parameters. Table 2 shows the fields that can be included when the queries are created.



**Table 2:** List of fields available for creating queries

|                   |                     |
|-------------------|---------------------|
| Grantee           | Cluster             |
| POC               | Project Code        |
| Pillar            | Project Name        |
| Project Category  | Start date          |
| Project Type      | Target end date     |
| Project Status    | Actual end date     |
| Committees        | Update date         |
| Funding Source    | Insert date         |
| Authority         | Project Manager     |
| Contributor Types | Type of assistance  |
| Contributor       | Earmark             |
| Minorities        | Economic Growth     |
| Republic          | Program Phases      |
| District          | Refugee / IDP       |
| Municipality      | Total project value |
| Community         | USAID contribution  |

When creating a query, one has to select one of the available alternatives, or to enter the desired date, code or name. The number of fields on offer seems to present sufficient criteria for report creation, but certain flaws can be noted. It is important to notice that the first report after request completion consists of the list of the projects meeting given criteria. In many cases, the user only wants to get a summary report, and this additional step can significantly increase the time needed for the completion of the request. It is necessary to add the option for the user to decide whether he/she requests summary indicators, or the list of all projects. Also, the requests are very limited in scope as only narrowly defined reports can be compiled.

Based on the above, we can conclude that this database includes useful information. It can be used to monitor particular projects and the entire CRDA program. It is possible to monitor chronologically when the certain event occurred in the project, who implemented it, in which district, municipality, place and the like. The payments are also monitored: who was paid and when, which expenses occurred during the project and who covered them.

## II.2 Database Deficiencies

For quality analysis quality data is needed, properly stored in the database and easy to access. Additionally, the form of the reports or information obtained is also important. Data quality certainly depends on its definitions and methods of obtaining them. Definitions should be as precise as possible for the implementers to objectively determine the value of certain indicators. Data validity is to be checked during the project, because ex-post verification is not possible. Data quality is also influenced by the implementers' capability to sort the project in the appropriate group (pillar, category, type). From analytical perspective the database has certain imperfections and deficiencies. It is important to make a note of them.

**1. Data from the database are mostly qualitative, while for analytical purposes more quantitative data is desirable.** Data from the database are mostly qualitative, which means that there are different project descriptions, detailed explanations of

situations and problems to be solved during the implementation of the project, and pictures. Likewise, there are stories from people working on the projects, telling about their experiences and problems they had. This can help other people in future project implementations. As mentioned before, this data is very useful for project monitoring. However, in case that there is a need for an analysis of implemented projects, difficulties occur. Namely, analytics always implies higher amount of quantitative data. In contrast to qualitative data, quantitative data can provide different summary reviews, which can lead to useful conclusions.

**2. Indicators are not clearly enough defined and can sometimes lead to flawed conclusions.** Table 1 includes indicators which can be obtained from the database. They are quantitative, but not always sufficient for analysis. Furthermore, some of them can lead to incorrect conclusions. For example, the indicators used for counting beneficiaries are very confusing. One can say that since there are different types of projects in the CRDA program, it should therefore operate with different types of beneficiaries. If similar projects are compared between themselves, this indicator can provide useful information. However, if a comparative summary showing the relative contributions to the CRDA program by different project managers is requested, then the projects like road building are favored. In such a case, everybody living in the places connected by the new road is benefiting from it, automatically raising the number of users. This illustrates that the data relative to beneficiaries is not homogeneous. In other words, this indicator does not include the quality of benefits gained by the individual, and therefore the number of users in itself does not represent a significant indicator of success. Furthermore, if this is not taken into consideration, it could lead to completely incorrect conclusions.

**3. When CRDA goals were changed, pillars become non-homogeneous.** Since the CRDA has changed its name into CRDA e, therefore changing its goals from development of democracy to economic development, analysis required monitoring of more economic indicators. These indicators are: Employment created, Additional income generated, Increase in agricultural sales, Number of full time equivalent jobs created. For some projects there are no necessary data to compile these indicators. Based on this, additional indicators which could be monitored are mentioned in the «recommendations» section.

The projects are divided into several groups called Pillars. Every Pillar has several categories, each one of them with several project types. The CRDA program initially had four pillars: Civic Participation, Civil Works, Environment and Income Generating.

Together with the CRDA e program, the new Economic pillar was introduced in April 2005 having eight categories with subtypes. One of the flaws of the database lies in the fact that there is no clear information about this change and starting date for the new pillar implementation. Because of comparability this information is highly important for the analysis, when trends of cost timelines, indicators, etc are monitored.

If we look at the Income generation Pillar, which has two categories – Economic and Education, while the Economic category has subtypes – Agriculture, Business Development and Tourism, the duplication of some groups of projects is noticed. All

categories and project types in the Income Generating pillar are repeated in the new Economic pillar. This inconsistency in project grouping can also lead to incorrect conclusions. Some implementers moved their projects to the new pillar (ADF and ACDI/VOCA), while the others continued grouping their projects in the Income Generating Pillar, completely ignoring the new Economic pillar (CHF), which confirms previously stated fact that implementers make no difference between groups with the same name.

**4. Database manual is not up to date.** Web-PRS CRDA Manual 3.0 does not include information on the change from CRDA to CRDAE, change of program goals, introduction of the new pillar and its definition. We can therefore conclude that this manual has been composed during the creation of the database and does not include changes that had occurred: this reduces its usefulness. Glossary of Terms, which should provide information about the terms used in the database has not been updated either, and does not include the definition of Economic pillar, in contrast to the other four pillars.

**5. Queries that can be performed using the database are not flexible enough, so the database potential is not fully utilized.** Apart from the quality of data, the method of data entry and storage is very important. Since Microsoft SQL Server 2000 was used, we assume that relational database organization was implemented. Relational database and modular realization provide sound foundation for easy data access and creation of additional reports. However, this potential is not used entirely. The problem is that queries for obtaining various reports are quite rigid.

We have already mentioned that there are many fields available for creating queries. This should make it possible to form numerous tables. But, this possibility is unusable because predefined reports are limited. These reports are adequate for monitoring and provide information for evaluation. However, the information are scattered across various reports, which makes it impossible to obtain it with a single request. The purpose of a database and its application is to obtain information easily and in the form which is suitable for the user. This means that the queries should be more flexible in terms that a user can select what should be in the rows and columns, and which data should be calculated in the cells. If we want to get the simplest table with the number of project for each implementer by years, the request has to be made for almost every cell in the table, which prolongs access time. This request should be done in a single step. Information on average, minimal and maximum value, or proportional share is often useful for analytical purposes. In addition, in certain cases the user only wants to identify the project with the highest or lowest costs during the year, or to sort the projects by certain criteria. Therefore, it should be possible for a user to define which data will be in the table by herself.

**6. Data in the database is revised, without marking the revisions.** Another imperfection noticed during the work on the database is that there were changes to the data for the previous years. As opposed to data storages, databases can be updated. However, the data should be final in the moment when a control or revision of CRDA programs is performed. Therefore, the question is: Is there a justification for the changes of the data and is there someone to control it? The following two pictures prove that the changes of data did occur.

| CEVES Indicator Report - Summary |                   |                      |          |
|----------------------------------|-------------------|----------------------|----------|
| Report date: 03-Jul-2007         |                   | Upon request of: Vuk |          |
| CRDA Grantee                     | IRD               | Republic             | Serbia   |
| District                         | All               | Municipality         | All      |
| Pillar                           | Income Generating | Category             | Economic |
| Project Start Date               | From 01-Jan-2006  | To 01-Jan-2007       |          |

| Code    | Description                    | Impact*    |            | Unit         | Project Cost |                 |             | Total Cost | Average Project Duration | Project Statistics |        |       | Mean Indicator Value |
|---------|--------------------------------|------------|------------|--------------|--------------|-----------------|-------------|------------|--------------------------|--------------------|--------|-------|----------------------|
|         |                                |            |            |              | CRDA Share   | Community Share | Other Share |            |                          | Average            | Median | Mode  |                      |
| 2.1.1.4 | Employment created             | 10,828     | 10,720     | person/month | 3,950,269    | 999,131         | 1,908,643   | 6,858,042  | 316                      | 62,918             | 11,638 | 4,172 | 98                   |
| 2.1.1.5 | Additional income generated    | 10,322,470 | 13,620,137 | 000 \$       | 3,950,269    | 999,131         | 1,908,643   | 6,858,042  | 316                      | 62,918             | 11,638 | 4,172 | 124,955              |
| 2.1.1.6 | Increase in agricultural sales | 4,131,279  | 8,896,272  | 000 \$       | 3,018,414    | 863,35          | 1,413,014   | 5,294,778  | 326                      | 79,027             | 29,18  | 4,172 | 132,78               |

To view detailed data for each indicator, please click on indicator description.

**Note:** For Indicators 2.1.1.4, 2.1.1.5, and 2.1.1.6, the left subcolumn contains 'Current' and the right subcolumn contains 'Target' figures.

| CEVES Indicator Report - Summary |                   |                               |          |
|----------------------------------|-------------------|-------------------------------|----------|
| Report date: 17-Jul-2007         |                   | Upon request of: Vuk Djokovic |          |
| CRDA Grantee                     | IRD               | Republic                      | Serbia   |
| District                         | All               | Municipality                  | All      |
| Pillar                           | Income Generating | Category                      | Economic |
| Project Start Date               | From 01-Jan-2006  | To 01-Jan-2007                |          |

| Code    | Description                    | Impact*   |            | Unit         | Project Cost |                 |             | Total Cost | Average Project Duration | Project Statistics |        |       | Mean Indicator Value |
|---------|--------------------------------|-----------|------------|--------------|--------------|-----------------|-------------|------------|--------------------------|--------------------|--------|-------|----------------------|
|         |                                |           |            |              | CRDA Share   | Community Share | Other Share |            |                          | Average            | Median | Mode  |                      |
| 2.1.1.4 | Employment created             | 12,003    | 10,720     | person/month | 3,958,077    | 1,055,711       | 2,096,792   | 7,110,581  | 315                      | 65,235             | 10,277 | 4,172 | 98                   |
| 2.1.1.5 | Additional income generated    | 9,804,208 | 13,620,137 | \$           | 3,958,077    | 1,055,711       | 2,096,792   | 7,110,581  | 315                      | 65,235             | 10,277 | 4,172 | 124,955              |
| 2.1.1.6 | Increase in agricultural sales | 3,820,185 | 8,896,272  | \$           | 3,023,115    | 912,295         | 1,577,307   | 5,512,717  | 326                      | 82,279             | 29,18  | 4,172 | 132,78               |

To view detailed data for each indicator, please click on indicator description.

**Note:** For Indicators 2.1.1.4, 2.1.1.5, and 2.1.1.6, the left subcolumn contains 'Current' and the right subcolumn contains 'Target' figures.

## II.3 Recommendations

**1. Define pillars clearly and make pillar selection unambiguous.** We mentioned the quality of data as one of the imperfections. Regarding the monitoring of data quality, it is recommended that the selection of pillar, category and type should be done centrally and according to clearly defined rules. In this way, subjective influence of the person entering the data, which can lead to inhomogeneous data, is avoided.

Non-homogeneity of pillars and categories has to be solved. Pillars and categories need to be redefined, and there should be only one pillar or category with the same name, or the difference between them should be clearly defined and the names should be changed. This is the only way to get more realistic picture about the contribution and participation of particular project groups.

**2. Make queries more flexible.** It was noted that the queries should be more flexible and should provide the user with the possibility to design the table with requested data in a single request. These requests should also make possible the use of functions like: minimum, maximum, average, sort by name, cost, indicator or date.

**3. Make the Beneficiaries indicator comparable across the projects.** Where the Beneficiaries indicator is concerned, users should be given different weights by different projects, in order to get homogeneous and comparable values. The quality of

benefits gained by the individuals should be taken into account and used to weight the total “raw” number of beneficiaries. This would allow different types of projects to be objectively compared, from those that have only small number of direct beneficiaries (e.g. entrepreneurs) to those with very high number of beneficiaries (e.g. roads).

**4. Use relative values, not only absolute.** It is recommended for both existing and proposed indicators not to use only absolute, but relative values as well. This means that the indicators should be expressed in the form of proportional changes or growth rates. This information exists in certain projects, but it is located in the *Impact* field, which makes it unusable for analytical purposes here. All indicators should be standardized so they can be used for analytical purposes.

**5. Add appropriate success indicators for projects that are aimed at founding various organizations.** Many projects were aimed at founding various organizations, such as, for example, Producer’s Cooperatives, CDA-community development association and CDC-community development center. These organizations offer different services, like business plan preparation, organized representation of the members in foreign markets, and training of the members. The question is: What is their contribution? For the projects with the goals of founding these and similar organizations, certain indicators should be introduced, such as: loans granted, jobs created, market growth percentage resulting from the better joint offer of small manufacturers. Indicators for monitoring achievements and efficiency of these organizations are needed. In other words, the data on the success of founded organizations should be entered into the database.

**6. Create direct links to indicator definitions.** It would be much easier for the users of this database if there was a link in the report allowing the user to select the indicator – for which the data in the report are given, and to get an indicator definition. This is useful because it shortens the time for receiving information: as was mentioned, the completion of some requests takes a lot of time, and to enter the Glossary of Terms introduces additional requests.

**7. Update manual regularly.** If the circumstances lead to changes in the fields for request making, which was the case with the new Economic pillar implementation, these changes have to be recorded. This implies regular updates of Web-PRS CRDA Manual and Glossary of Terms.

Being one of the projects of CRDA program, Web-PRS database should be evaluated like other projects. Since it operates on the internet basis, the number of hits and the type of visitors can be easily obtained. This would give us an idea about the usefulness of the database for the implementers. At the first glance, it seems that the database is used more for storing data than for obtaining information and further analysis: non-updated Manual and Glossary of Terms, discussion board which is practically unused, rigid queries and reports, and a home page which is not up to date (the project is now called CRDAE ) are indicative.

## III SEDP

### III.1 Program Overview

Serbian Enterprise Development Project (SEDP) was a USAID program started in 2003 with the main goals of economic development and enterprises support. It was designed as a three year program and received a one year extension. SEDP worked on improving Serbian companies' ability to access and sell into competitive, mainly international, markets. The aim of the project was to help business in Serbia to create well paid, skilled jobs by producing better products and by integrating Serbian economic sectors with high value international markets. The SEDP approach was to transition whole industries away from low value production, to full integration with higher value markets.

SEDP was focused on increasing the competitiveness of Serbian enterprises. The achievement of this goal is measured by: increased employment, export and sales. The sectors that were selected for SEDP program support are: fruit and processed fruit, apparel, information and communication technology (ICT), pharmaceutical research and furniture. After the first year of the program, furniture sector was dropped from the program.

SEDP also had several indirect goals, aimed at improving general business environment and enhancing the way Serbia's economy does business. These indirect goals – to increase investment, especially foreign direct investment (FDI), drive policy reforms to improve the business environment and improve the international perception of Serbia and the Serbian business environment – were realized in cooperation with other institutions. These goals, and SEDP's general contribution to their achievement, are mostly neither quantifiable nor have been the subject of organized monitoring. Still, improvement has been registered in all of the fields mentioned; certain indicators – such as improving the business environment – were verified in reports published by a number of relevant institutions (e.g. World Bank *Doing Business Report*). This is a significant testimony to the efforts SEDP made in the right direction.

SEDP directed its efforts through:

1. Using a cluster-based conceptual framework, contributing project resources to six sectors through a combination of activities that will drive both short-term results and long-term change in the sectors (75 percent of effort);
2. Assisting the main business organizations in Serbia in developing research, analysis, and advocacy capacity (15 percent of effort);
3. Assisting SIEPA, as now the sole counterpart in this area, to improve communications and perceptions about the Serbian business and investment environment (10 percent of effort).

As of the program's end, the SEDP monitoring and evaluation database contained validated documentation of more than \$53 million in increased exports – as well as over 650 new jobs – due directly to SEDP activities.

## III.2 Main Findings

1. SEDP was a timely and well-directed program. It was initiated in the crucial year of Serbia's transition, and focused on sustainable and long-term economic growth, primarily through boosting the competitiveness of Serbian companies.
2. SEDP was, however, too limited in scope to have exerted a decisive influence on the revival of Serbia's economy. Still, its influence on certain industries (such as apparel, fruit, and ITC, for instance), as well as on the improvement of business climate in Serbia in general, is undoubted. At the start of transition in Serbia, with the banking sector still underdeveloped, and government support to exports not yet strictly defined, SEDP provided significant assistance. This is especially reflected in robust support (both logistical and educational) to export-oriented companies.
3. In addition to quantifiable short-term results, the project contributed to achieving long-term results related to improving general business environment. At the level of productivity initially encountered, Serbia's economic growth has, over the past several years, been based on growing productivity and competitiveness.
4. Indicators used for program monitoring (primarily employment generation, operating income and export revenues) are simple but not adequate in all cases. The database that contains them is designed and ordered in a user friendly format.
5. However, the lack of additional data obtained through primary research – such as the time dynamics – and the questionable validity of some entries, makes it impossible to place the recorded results in macroeconomic perspective and provide a clear analysis and evaluation.
6. Related to previous point, in the case of a large number of companies for which information is not available, the database does not clearly specify whether no effects ensued, effects were negligible, or data was not submitted.
7. The accuracy of data submitted by program participants was not verified. In practice, program participants often rate program effects more favorably in communication with implementers.

## III.3 Monitoring

SEDP program monitoring was comprised of primary (direct program impact) and secondary (sector level data) research. Primary research was carried out on the basis of data received from companies involved in SEDP, while secondary research focused on an analysis of trends by individual sector (export growth). Further analysis used data obtained through primary and secondary research to extrapolate the program's impact on employment growth based on the actual increase in a company's operating income and its calculated effect on employment generation.

In addition, the program had also foreseen periodic review of key companies involved, as well as the monitoring of process indicators. These data were, however, intended for project management and were not part of methodologically-treated

monitoring. Further discussion will focus on primary and secondary research as defined at the start of this chapter.

### **III.3.1 Primary Research**

Primary research involves the collection of data from companies that have taken part in projects. These companies are obliged to submit data on the impact of SEDP on their operation. Primary research must be clearly focused towards obtaining reliable data, adequate to be used for a predefined evaluation; well defined indicators are of the utmost importance for an assessment of program success. However, there was no rigorous program evaluation methodology envisioned at the program outset, so the indicators that were collected were not necessarily optimal for the ex-post evaluation.

In the following subsections we will discuss primary research in detail. In the first subsection, we list the primary indicators used and give general remarks on the validity of these indicators. Analysis of the suitability of these indicators for each of the SEDP sectors is presented in the second subsection. Analysis of the suitability of these indicators per type of activity is presented in the third subsection. Fourth subsection reviews the SEDP database. Finally, fifth subsection reviews the results of the SEDP program based on the analysis of the primary indicators from SEDP database.

#### **III.3.1.1 Monitored Indicators**

SEDP monitoring is based on the following primary indicators:

1. N° Of New Jobs Created
2. New Export Sales (\$)
3. New Revenues (\$)
4. Investment Completed Deals (\$)
5. New Non-Equity Financing Obtained (\$)
6. Reducing Cost (\$)
7. Substituted Import (\$)

All the indicators were monitored through direct communication with the enterprises that reported the changes after having participated in the SEDP. The data are entered into the single database. Those data are the basis for the estimation of the SEDP performance.

The indicators are simple, understandable and correlated with individual, but not all program goals. The indicators allow for the monitoring of short-term effects on employment, export and business revenues of the companies participating in the program. These indicators depict the improvement of the companies' business performance, but they are not particularly telling in terms of the specifically defined SEDP goals. The indicators also provide information on the basis of which we may analyze the impact of the program (trainings, grants, visits to fairs...) on a company's business since we have one-to-one correspondence: type of program – impact on indicators<sup>11</sup>.



Absolute values for the three categories under consideration, namely increase in operating income, export revenues and number of employees, are crucial for quantifying SEDP success – yet indicators cannot be placed into any type of macroeconomic context. The export data submitted, for instance, relate to total export values, without citing any timeframes. To be able to compare exports made by companies that took part in the program with the rest of the sector or the economy as a whole, which did not have this privilege, we need to have export time series for companies that took part in the program.

Also, available data, on the number of new jobs created, for instance, relate only to the number of new jobs at the particular company, along with a subjective assessment of program impact on this increase. In case participants are allowed to arbitrarily assess SEDP's impact on the growth of employment, revenue and exports, additional inconsistencies will appear, while the reliability of primary research in evaluating SEDP effects will decrease. Data on the existing number of employees, which could be used to put the increase in employment into perspective, is missing, as is a clear time dynamics that would make it possible to place the data into a macroeconomic context. On the other hand, very few companies existed throughout the entire 2002-2007 period, so time series comparable with official statistical data would be very difficult to compile.

There is also the problem of the reliability of data obtained through primary research, as it is impossible to establish adequate control of data supplied by a company. In practice, program participants often speak more favorably about program effects when communicating with implementers, which is why we must assume that positive effects attributed to SEDP in this way may be somewhat overrated. In addition, information we have analyzed lack a clear methodology and instructions on how to fill in primary research data; this might mean that there are some inconsistencies. For instance, new company revenues should, by definition, include new exports and new income realized in the domestic market. As we will come to see, data from the database raise some suspicions as to whether this approach was used throughout.

Furthermore, straightforward and simple cost-benefit analysis per program is not possible as the data on the costs of individual programs are not available. Also, it is not possible to monitor long-term and qualitative changes in business operations, because no indicators that might point to these changes are collected (for example, indicators that could allow for this may be: average price of the company's products, share of higher value added products in company's total production, etc). Furthermore, the indicators have no time dimension, and there is no information on the specific company size, hence, neither the changes can be put in context, nor their trend observed.

### **III.3.1.2. Indicator Adequacy through Sectors**

The monitored indicators appropriately reflect the growth of the program-participating companies, but fail to impart information on the improvement of competitive edge and the manufacturing of products with higher value added. In relation to this, probably some additional indicators like those reflecting the increase of product's

average price, labor-cost share in the product price or even average worker's wages would tell us more about the essential changes to the business operation which the SEDP project is focused on.

The total changes of indicators by sectors over the course of the SEDP program are presented in Table 1:

**Table 1:** Indicators by sectors:

| Sector  | N° Of New Jobs Created | New Export Sales (\$) | New Revenues (\$) | Investment Completed Deals (\$) | New Non-Equity Financing Obtained (\$) | Reducing Cost (\$) | Substituted Import (\$) |
|---|------------------------|-----------------------|-------------------|---------------------------------|--|--------------------|-------------------------|
| Fruit and Processed Fruit                       | 519                    | 41,065,502            | 41,334,056        | 500,000                         | 985,000                                | 20,000             | -                       |
| Furniture                                       | -                      | 40,800                | 40,800            | -                               | 750,000                                | -                  | -                       |
| Tourism   | 37                     | 2,309,647             | 1,765,523         | -                               | 74,300                                 | -                  | -                       |
| Apparel   | 292                    | 5,110,278             | 5,110,278         | 620,000                         | 3,572,094                              | -                  | -                       |
| Pharmaceutical Research                         | 56                     | 15,046,000            | 15,516,600        | -                               | -                                      | 771,400            | 1,784,136               |
| Information and Communications Technology (ICT) | 15                     | 3,278,000             | 3,278,000         | -                               | 945,000                                | -                  | -                       |
| Total   | 919                    | 66,850,228            | 67,045,257        | ###                             | 6,326,394                              | 791,400            | 1,784,136               |

Source: SEDP database

The first three indicators are the most important whereas the remaining four pertain to individual cases, and in general, these are considerably smaller dollar values, hence their analysis is less significant and less reliable. Let us look at the indicator adequacy by goals for individual sectors:

**Table 2:** Specific sector goals

| Sector  | Goal   |
|---|--|
| Fruit and Processed Fruit                       | Provide companies with the tools and skills necessary to complete the transition from relying on bulk frozen exports, to fully integrate with higher value processing and fresh markets.                 |
| Apparel   | Continue to move Serbian contractors away from low value cut-make-trim work and into more complex but higher value "full package" work and branded apparel, where they can compete over the longer term. |
| Information and Communications Technology (ICT) | To bring project management skills to international levels while improving Serbian companies' access to international markets.   |
| Pharmaceutical Research                         | To make Serbia an internationally recognized center for clinical and pre-clinical research.  |
| Tourism   | To improve both Serbia's image and tourism products to make it a strong tourism destination for the broader region   |
| Furniture                                       | ???  |

Source: SEDP database

1. Fruit and processed fruit:

Companies from this sector reported values of six out of seven indicators (the value of substituted imports was not reported, see Table 1). Reported indicators provide general overview of the improvements to this sector. However, since the main goal of support to the sector is to integrate it with higher value processing and fresh markets (Table 2), some additional indicators to account for this would be very useful. These additional indicators should be directly related to the products of the supported

companies. For example, one of them could be average price of the product. This would indicate shift to higher value added products.

#### 2. Apparel:

Similar to the fruit production, the primary goal is the production of goods with higher added value (Table 2). In this case the recommendation would also be to focus on the monitoring of the product itself – not only the company’s business performance. The ratio between the workforce increase and the business revenue growth in this sector indicates that the revenue growth of companies in this sector has been achieved with disproportionately large number of new jobs created in the sector<sup>12</sup>. Whereas the fruit sector generated a revenue increase of \$41 million with 519 new jobs created, the apparel sector created revenue increase of \$5 million and generated 292 new jobs.

#### 3. ICT:

ICT is experiencing an upsurge in Serbia. For the goals set in the ICT sector pertaining to the access to international markets, sufficiently good indicator is the export growth which is already monitored. The monitoring of the workforce increase is also useful, and it should be in correlation with the export growth. In the case of ICT sector, data on total value of the realized export – and not only its increase – would be useful so that we could put in context the achieved impact.

#### 4. Tourism:

The objective defined as improvement of Serbia’s image and tourist services quality is difficult to measure. The indicators showing the growth of companies participating in the SEDP provide basic information on their performance.

#### 5. Pharmaceutical research:

The measurements of the revenue growth generated through business activities, exports and imports substitution (which is only measured in this sector) are.

### **III.3.1.3 Indicators by type of activities**

Values of indicators distributed by the types of activities are shown in Table 3.

**Table 3:** Indicators by type of activities

| Activities                      | No companies | N° Of New Jobs Created | New Export Sales (\$) | New Revenues (\$) | Investment Completed Deals (\$) | New Non-Equity Financing Obtained (\$) | Reducing Cost (\$) | Substituted Import (\$) |
|---------------------------------|--------------|------------------------|-----------------------|-------------------|---------------------------------|--|--------------------|-------------------------|
| Agent sales                     | 3            | -                      | \$1,103,500.00        | \$1,103,500.00    | -                               | -                                      | -                  | -                       |
| Business Visit                  | 2            | -                      | \$41,000.00           | \$36,000.00       | -                               | -                                      | -                  | -                       |
| Cluster Expansion               | 1            | -                      | \$120,000.00          | \$120,000.00      | -                               | -                                      | -                  | -                       |
| Cross Project Coordination      | 3            | 5                      | -                     | -                 | -                               | \$89,300.00                            | -                  | -                       |
| Design                          | 1            | 2                      | -                     | -                 | -                               | -                                      | -                  | -                       |
| Export Support                  | 18           | 1                      | \$12,071,794.00       | \$12,241,794.00   | -                               | -                                      | -                  | \$530,000.00            |
| Finance advisory                | 1            | 240                    | -                     | -                 | \$620,000.00                    | -                                      | -                  | -                       |
| Follow-up                       | 9            | 8                      | \$569,600.00          | \$19,000.00       | -                               | -                                      | -                  | -                       |
| Investment                      | 1            | -                      | -                     | \$300,000.00      | -                               | -                                      | -                  | -                       |
| Investment and Finance Advisory | 9            | 10                     | -                     | -                 | \$500,000.00                    | \$3,205,000.00                         | \$20,000.00        | -                       |
| Job Building                    | 5            | 92                     | -                     | -                 | -                               | -                                      | -                  | -                       |
| Meeting with Company            | 5            | 15                     | \$922,982.00          | \$1,080,982.00    | -                               | -                                      | -                  | -                       |
| Other                           | 3            | -                      | \$328,450.00          | \$345,450.00      | -                               | -                                      | -                  | -                       |
| Promotion                       | 1            | -                      | \$3,200,000.00        | \$3,200,000.00    | -                               | -                                      | -                  | -                       |
| Technical Assistance            | 51           | 264                    | \$13,930,249.31       | \$14,043,678.66   | -                               | \$3,032,094.00                         | \$631,400.00       | \$1,254,136.00          |
| Trade Show                      | 19           | 280                    | \$6,584,872.45        | \$6,576,472.45    | -                               | -                                      | -                  | -                       |
| Trade Show Sales                | 26           | -                      | \$27,978,380.00       | \$27,978,380.00   | -                               | -                                      | -                  | -                       |
|                                 | 1            | 2                      | -                     | -                 | -                               | -                                      | \$140,000.00       | -                       |
| Total                           | 159          | 919                    | 66,850,828            | 67,045,257        | 1,120,000                       | 6,326,394                              | 791,400            | 1,784,136               |

Source: SEDP database

Observations on the types of activities and the validity of indicators are summarized below:

- Too many activities are observed; consolidation is needed
- Poor division of activity types – some activities where only one company participated and which had minor impact on the indicators had the same weight as those activities in which over 50 companies participated
- Data on costs of program analysis are not available
- We have the problem of different interpretations of indicators (exports are bigger than business revenue for some activities)

### III.3.1.4 Database

The data that is submitted by companies that participated in SEDP is integrated into the SEDP database, which enables quick and easy access to information. The database is divided into three sections:

1. Company background – name, sector, location, contact information;
2. SEDP activities, and
3. SEDP grant.

The database provides a valuable filtering function for individual projects and their effect on companies taking part. This makes it very easy to identify programs that exerted the greatest influence on general improvement of operating results, as well as those that had the most favorable impact on individual categories (employment, turnover or exports).

However, what is missing is an indication of the cost of individual programs, making it impossible to do a cost-benefit analysis using data from the database.

Another database-related problem is the lack of data for all companies. There is no clear explanation why a piece of data for a particular company is missing. For example, the program might have had no impact on a category observed, the impact may be unquantifiable, or the company may simply fail to supply the requested data. In case the program did have an impact, and this went unrecorded, the database contains a confirmed – but perhaps not complete – indication of SEDP impact.

The lack of additional data (time dynamics, company size, etc) to put information from the database into perspective particularly underlines the possible problem of lack of data for all companies. In case not all companies submitted new jobs or new exports data, we will be left with no opportunity to make an assessment based on possible percentage growth in the number of employees, or the like.

#### Box 1: Grant Monitoring

A smaller part of SEDP focused on providing grants of various amounts and uses. Grants were treated separately in the database. This part of the database is organized better than the rest of the data base, and it could be used as a starting point for future project monitoring database.

The grants were mainly provided during 2004, and involved companies from the six sectors. SEDP's grants were designed to encourage companies to take risks that they otherwise would not have taken. These were mainly related to improving business processes and quality, or to increasing and improving market access. The grants were not used for capital investments. Most of the companies could produce, but did not have markets. Markets came before capital investments.

Well-designed methodology was used to monitor effects of the grant program, and was adequately supported by an accessible database. The database contains the company name and grant amount and purpose; four indicators were foreseen for monitoring: Net Revenue, Net Export Sales, Number of New Jobs Created and Reducing Costs. Both direct effects of individual projects (i.e. effects immediately after the realization of a project) and indirect effects were monitored. We particularly stress the quality and practical value of both the methodology described above and the software used to support grant monitoring.

The problem is, however, the fact that the SEDP database contains very few specific pieces of data about the effects of these grants. The reason for this is not known. It is possible that the effects of most grants are not easily quantifiable – i.e. that they are mainly qualitative – and that it is difficult to precisely assess their actual contribution to the development of a company.

### **III.3.1.5 Review of the SEDP primary research results**

Selected primary research results are shown in Table 4.

**Table 4:** Selected primary research results

|                | N° Of New Jobs Created |                  | New Revenues (\$) |                   | New Export Sales (\$) |                   |
|----------------|------------------------|------------------|-------------------|-------------------|-----------------------|-------------------|
|                | Value                  | SEDP Attribution | Value             | SEDP Attribution  | Value                 | SEDP Attribution  |
| Fruit          | 519                    | 365              | 41,334,056        | 36,138,959        | 41,065,502            | 36,654,557        |
| Furniture      | 0                      | 0                | 40,800            | 26,340            | 40,800                | 26,340            |
| Tourism        | 37                     | 28               | 1,765,523         | 1,742,893         | 2,309,647             | 1,857,695         |
| Textile        | 292                    | 225              | 5,110,278         | 2,703,689         | 5,110,278             | 2,703,689         |
| Pharma Testing | 56                     | 43               | 15,516,600        | 11,980,600        | 15,046,000            | 11,606,600        |
| ICT            | 15                     | 6                | 3,278,000         | 719,400           | 3,278,000             | 719,400           |
| <b>Total</b>   | <b>919</b>             | <b>667</b>       | <b>67,045,257</b> | <b>53,311,881</b> | <b>66,850,228</b>     | <b>53,568,281</b> |

Source: SEDP database

The data presented in Table 4 points to the exceptional results achieved by SEDP. Over 900 jobs were created at companies that took part in the program – of these, 667 are directly attributable to SEDP. The program’s impact on exports and operating revenue is significant.

Additionally, what also remains unclear is the difference in SEDP impact on increasing company revenue, of some 80%, in relation to its lower impact on employment generation, of about 73%. Primary research data, therefore, provide an important insight into operations of companies that took part in SEDP and their perception of SEDP’s contribution, but are still not trustworthy enough to be accepted without hesitation as the sole basis for program evaluation.

### III.3.3 Secondary Research

With all the advantages and problems that could arise from primary indicator analysis in mind, there was a need to do a separate evaluation of SEDP impact, based on secondary, independently collected data. Secondary research was performed for just one year, and one of the aims of it was to establish whether primary analysis results hold up when compared to review based on secondary data. This analysis is presented in the *Annual Project Summary and Report – July 2005 through June 2006*. The results derived using secondary research differ significantly from the ones obtained through primary research. We believe, however, that the primary research results are more reliable.

Secondary research encountered in the *Annual Project Summary and Report – July 2005 through June 2006* involves the analysis of export dynamics data for the six SEDP sectors. The selection of data for analysis is fully justified. While it is quite possible that official data (i.e. data submitted by companies to government institutions) on the number of employees are not completely reliable, in the case of export data we can rely on secondary information derived from official statistics. In addition, sectorial data can be extracted in a manner identical to that defined by SEDP. In the case of employment, for instance, there are no official data comparable to sectors as defined by SEDP. Official data for exports achieved by sectors under consideration will be given in Annex \_\_\_\_.

An as-yet insolvable problem is: how can one quantify SEDP's undoubted contribution to this export growth, and the growth of these sectors in general, given primary research data that cannot be compared? Sectors involved in SEDP are generally propulsive – partly due to the program itself – but sufficient arguments to fully correlate evident sector growth with SEDP are not present.

The *Annual Project Summary and Report – July 2005 through June 2006* also gives an assessment of the number of new jobs created, relying on both secondary and primary research. The basic piece of data used here is the value of new exports; the number of jobs created is then extrapolated based on this figure. This evaluation methodology is known in practice and, with certain reservations, represents a good way of estimating the impact of SEDP activities on employment growth.

The methodology used by SEDP to estimate the number of newly created jobs based on exports is as follows. New revenues from exports are partly redistributed into employee salaries. The coefficient adopted for the share of workforce costs in new exports is 0.7 for across-the-board project affecting all sectors (and varies from 0.5 to 0.8 depending on sector). Although there is no information on where these data were sourced, we can assume that this is the standard share of workforce costs for sectors analyzed in Serbia. Any increase in exports during the course of the SEDP project is translated, using the coefficient provided above, into the number of monthly salaries paid. Then this figure is divided by the number of months the project took, and the average salary for the sector, to translate the new revenue into the number of new jobs. When we apply this methodology, and use the actual figures, we get a number of some 3,700 new jobs created (according to primary survey 919 new jobs were created, see Table 1) at companies that took part in SEDP<sup>13</sup>. As SEDP's estimated contribution to export growth is 80%, it follows that the program's total impact was the creation of about 3,000 new jobs (according to primary survey 667 new jobs were created, see Table 4).

Discrepancies that occurred vis-à-vis the primary survey are the consequence of a different methodological approach. It is possible that the primary survey results underestimate the number of employees in case that, say, all companies have not submitted the data on employment growth, which has already been discussed in the analysis of the primary survey. Although this methodology can be useful, very large difference in number of new jobs created raises the question its validity. However, we believe the primary survey results are more reliable than those obtained indirectly.

### **III.4 SEDP Evaluation**

Although evaluation of the SEDP program is not the aim of this report, we will suggest a possible methodology for impact evaluation. This suggested methodology is based on the data that is available and our analysis of their reliability.

First we draw attention to possible problems that could impede the evaluation. Then, we suggest to possible approaches two impact evaluation methodologies.

### III.4.1 Possible Problems in evaluation

In order to establish a framework in which to appraise the success of SEDP, we must first define possible problems that could affect the program's evaluation.

1. How can job sustainability be estimated?
2. Are new jobs really new, or do workers transfer from other companies?
3. The problem of data reliability
4. What is the impact on the growth of employment in related industries?
5. How can SEDP's actual contribution be assessed?

1. A lasting increase of employment in Serbia involves the creation of jobs that are sustainable in the long term. Companies that took part in SEDP were not obliged to assess the sustainability of jobs whose creation was attributed to SEDP. The program was from the outset defined as an activity that indirectly affects the creation of new jobs by boosting competitiveness and access to markets. This type of approach does not necessarily lead to increased employment, but a positive effect on greater employment – as a rule, permanent – is also possible. However, some newly-created jobs may be temporary or part-time positions. We cannot know this for certain, but we are inclined to believe that the vast majority of new jobs are permanent, due to the nature of SEDP.

2. A special problem in measuring SEDP's impact on employment growth may be the fact that sources of new jobs were not defined at the program's outset. Doubts are justified as to whether SEDP, aimed at several companies from target sectors, had any role to play in favoring them over other firms. A consequence of this could be the redistribution of already employed human resources into companies that take over parts of the market from their competitors due to the positive impact of SEDP. It is not impossible to assume that companies taking part in SEDP are, as a rule, more productive than their competitors. In this case SEDP's total effect on greater employment would be negative, increased efficiency notwithstanding. Although we consider any increase in company competitiveness of great importance for Serbia's economy, monitoring SEDP impact, limited as it is exclusively to employment growth, will not take into account a number of jobs lost due to certain companies being favored.

3. The problem of data reliability is especially pronounced in any research carried out into company operations in Serbia. There was a long-established practice of concealing actual company operating results to avoid paying tax. Similarly, companies not infrequently employed unregistered workers or reduced their operating revenue figures. Research into employee numbers can still be fraught with unreliability. It should be particularly stressed that there have been important changes to the business environment since 2001: socially-owned companies are being privatized, the banking sector is developing, income tax has been reduced, fiscal cash registers have been introduced, and accounting standards have changed. These changes have boosted companies' honesty in reporting their real operations – including their employee numbers. A consequence of this could be a fictitious increase in the number of employees resulting from nothing more than the formal recording of already employed workers. Additionally, taking part in SEDP could have created an obligation with companies to report more new jobs than actually created to USAID. The influence of data accuracy on employment measuring can therefore



manifest itself in several ways, either through the unreliability of the defined macroeconomic framework we use to analyze SEDP's impact, or the reliability of data made available to USAID by companies taking part in the program.

4. SEDP has indisputably had an influence on growth in related industries. Its positive impact on tourism can, for instance, reflect on growth in transport, trade, and even production of agricultural produce. Any consideration of effects limited to just companies that took part in the program will not fully appreciate the positive effect on related industries. This problem can be solved to some extent by applying the methodological approach used in SEDP monitoring, of which more will be said in the next chapter.

5. And, finally, one key question remains – that of quantifying SEDP's impact on the improvement of company operations. A fundamental question is how companies would have developed had they not taken part in SEDP: to put it differently, would the companies that took part in the program have achieved identical or similar growth without SEDP's assistance? This is compounded by the fact that it now appears impossible to set up a control group of companies with similar characteristics to compare the development of firms that took part in SEDP. One can even differentiate between companies – in terms of how informed or proactive they are – by whether or not they applied for SEDP. It is, therefore, to be expected that companies that did take part in SEDP would have probably had better operating results than other firms in the same sector, due to their proactive stance, even without SEDP's influence. In ideal circumstances, in evaluating SEDP we would have had a control group made up of companies that also applied for the program, but did not take part.

These are all “objective” problems, which we would have encountered in evaluating any similar project, and which should not have a fundamentally decisive influence on the evaluation, but, rather, only on its precision. However, they need to be considered alongside a myriad of other problems related to monitoring methodology, which we have discussed in more detail in the previous chapter.

### **III.4.2 Suggested Project Evaluation Methodology**

In analyzing the effects of certain projects, a good deal of partiality is inherent in the very manner of selecting sectors and companies to take part in SEDP. Of the six sectors included in the program (actually five, as the furniture sector was abandoned after the first year), four have had very high growth in the entire period, from 2002 to the present. In addition, a number of companies involved in SEDP have led their industries throughout the period. These two facts make project evaluation more difficult, since it cannot be ascertained to what extent the growth of these companies was the product of SEDP's projects, and how much of it is due to other factors. To establish this, an ex post benchmark of companies and sectors needs to be done.

Essentially, the proposed methodology uses publicly available data from the Solvency Center on the financial results of individual companies. Among the information recorded by the Solvency Center database that we find useful are data on employee numbers, operating revenue and company location. These data can be used to evaluate SEDP in several ways – we will propose two.

#### **III.4.2.1 Sample-based analysis**

This type of analysis involves the creation of a random, statistically significant sample of companies that took part in SEDP. For each of these companies, a similar company should be randomly selected from among those that did not take part in SEDP. This group of companies will be our control group. A “similar company” is one that belongs to the same sector, and is of similar size and located in the same area. The added element of location becomes essential when one analyzes sectors such as ICT, where infrastructure (in this case telecommunications infrastructure) is invaluable for business success, but also for other regional differences that mean results of companies from different regions cannot be mutually compared.

We will now, on the one hand, add up operating incomes and the number of new jobs of all companies from the sample of those that took part in SEDP, and, on the other hand, the same data for the sample of companies that did not take part in the program. The difference that appears at the end of the three-year period (2003-2006) indicates SEDP's direct impact on participants.

The main problem with this methodology is that many companies that took part in SEDP were only established after 2003, which could have an adverse impact on sample quality. Still, if all else fails, the period of observation for both samples could be reduced.

#### **III.4.2.2 Analysis by sector**

In this approach, in relation to the previous limited sample, we propose to use Solvency Center data on the number of employees and operating revenue of all sectors in their entirety, divided into three regions (Belgrade, Vojvodina and Central Serbia). The companies would be benchmarked by comparing total employment and operating revenue data by region of SEDP participants and other firms.

Such wide-ranging analysis would make it possible to assess SEDP's penetration of target sectors, i.e. what portion of company capacities, out of the total, was involved with SEDP activities in each sector. A further assessment could attempt to evaluate SEDP's contribution to total growth of individual sectors.

There are problems with both of these methodologies, and relate to a measure of statistical subjectivity that cannot be avoided. It is to be expected that companies that applied to take part in SEDP were, from the outset, more proactive and better informed than those that did not – these two characteristics being in themselves good preconditions for growth faster than that of the rest of the sector. Any comparison of operating results with similar companies from the same sector would, under the proposed methodologies, ascribe all differences to SEDP, without taking into account the fact that companies that took part in the program were not statistically randomly chosen.

## IV Macroeconomic Framework

CRDA project started at the very outset of transition in Serbia in 2001, with the aim of achieving community development, civic participation and democracy strengthening. SEDP project started in 2003 and its aims were related to economic development and enterprise support. Year 2003 was the most critical transition year in Serbia. In the course of it all negative effects of the transition peaked: industrial production dropped, employment decreased and foreign trade deficit reached 23% of GDP. This was paired with deep political crisis which led to the change of the first transitional government. However, foundations for the sustained growth of Serbian economy have been mostly established by then. Banking sector was transformed, many socially owned enterprises have been privatized, new legislation was adopted, etc.

Since 2003, most of the key indicators show significant improvement of Serbian economy. Tables 1 and 2 summarize selected economic parameters related to SEDP program, during the period it ran (2003-2006).

**Table 1:** Serbia: Selected macroeconomic indicators, 2003–2006

|                                   | 2003  | 2006  | Real growth<br>2006/2003 (%) |
|-----------------------------------|-------|-------|------------------------------|
| GDP (mil dinars)                  | 808   | 2,085 | 21.7                         |
| Exports (mil euros)               | 2,441 | 5,102 | 209.0                        |
| Foreign trade deficit (mil euros) | 4,144 | 5,360 | 29.3                         |
| Number of employed (thousands)    | 2,046 | 2,019 | -1.3                         |
| Unemployment rate                 | ..    | 21.6  | ..                           |

Source: SBS

In the period from 2003 to 2006 GDP registered a real growth of 21.7%, or 6.8% on average annually. During the same period the real growth of 13% for the industrial production was registered or 4.2% on average annually. Exports grew dramatically albeit from a low base, they more than doubled from 2003 to 2006. Looking in real terms this is a growth of about 26% on average annually. However, considering that imports in the same period were also considerable (although growing slower than exports) foreign trade deficit – a perennial problem of the Serbian economy - was very high in that period as well. Expressed in euros it increased by 29.3% nominally from 2003 to 2006 or in real terms about 7.1% on average annually. A slight drop in the number of non-farm employed was also recorded during this time (-1.3%), but this drop was lower than in the first years of the transition (from 2001 to 2003 the number of employed dropped by 2.7%, while from 2003 to 2006 this figure was halved). Number of employed in the private sector increased during the transition, but this was not enough to compensate for the jobs lost in state and socially owned enterprises (Table 2).

**Table 2:** Number of employed in Serbia, by ownership

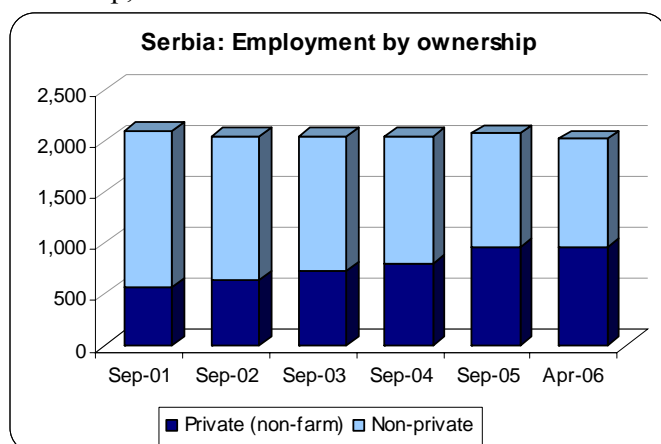
| Employment by Ownership<br>(no. of employed) | Sep-01    | Sep-02    | Sep-03    | Sep-04    | Sep-05    | Apr-06    | Diff<br>2003/2001 | Diff<br>2006/2003 |
|--|-----------|-----------|-----------|-----------|-----------|-----------|-------------------|-------------------|
| <b>Total Employment</b>                      | 2,787,858 | 2,736,087 | 2,710,161 | 2,678,509 | 2,654,136 | 2,600,776 | -77,697           | -77,733           |
| <b>Total Non-farm Employment</b>             | 2,096,129 | 2,048,252 | 2,036,290 | 2,036,789 | 2,067,428 | 2,014,068 | -59,839           | -22,721           |
| <b>Non-private</b>                           | 1,529,650 | 1,418,750 | 1,315,617 | 1,231,843 | 1,114,579 | 1,050,151 | -214,033          | -181,692          |
| <b>Private, non-farm</b>                     | 566,479   | 629,502   | 720,673   | 804,946   | 952,849   | 963,917   | 154,194           | 158,971           |
| <i>sep.01 = 100</i>                          |           |           |           |           |           |           |                   |                   |
| <b>Total Non-farm Employment</b>             | 100.0     | 97.7      | 97.1      | 97.2      | 98.6      | 96.1      | -2.9              | -1.1              |
| <b>Non-private</b>                           | 100.0     | 92.7      | 86.0      | 80.5      | 72.9      | 68.7      | -14.0             | -20.2             |
| <b>Private, non-farm</b>                     | 100.0     | 111.1     | 127.2     | 142.1     | 168.2     | 170.2     | 27.2              | 33.8              |

Source: IMF Country Report, October 2006

The growth of GDP in Serbia was achieved by means of increase in productivity. Other transition economies had similar experiences. In most of them the growth in GDP per capita in economies in transition in the period from 1998 to 2003 is more the result of the growth in labor productivity (GDP/EMPL) than improved employment rates.

The number of employed in Serbia in 2006 is just above 2 million (farm employment not included), while the employment rate<sup>14</sup> is very low: just 40.7%.<sup>15</sup> According to the official statistics, the number of employed from 2001 to 2006 has not dropped dramatically (it decreased by about 80 thousand people, or about 4%, Chart 3). A bigger drop might have been expected due to the privatization and transition processes. There are several reasons why this didn't happen. We highlight two of the most important ones. First, by the beginning of transition in 2001, registered number of employed has already significantly decreased from the late 80's (it dropped by about 15%, from about 2.5 million in 1989 to 2.1 million in 2000). In spite of the fact that even bigger drops could have occurred (bearing in mind the international sanctions and a devastated economy in Serbia), it is obvious that only a part of the redundant workers were actually laid off while at the same time a large number of them remained only formally employed (they didn't actually work and were receiving only a fraction of their salaries). Second, even as the decreasing trends of employment in state and socially owned companies continued, there was a significant increase of new jobs with sole proprietors from 2001 onwards. By 2005, total number of people employed in this sector reached almost half a million, or about a quarter of all persons employed. This eased the impact of job losses in the state and socially owned sector.

**Chart 3:** Number of employed in Serbia (farm employment not included), by ownership, in thousands

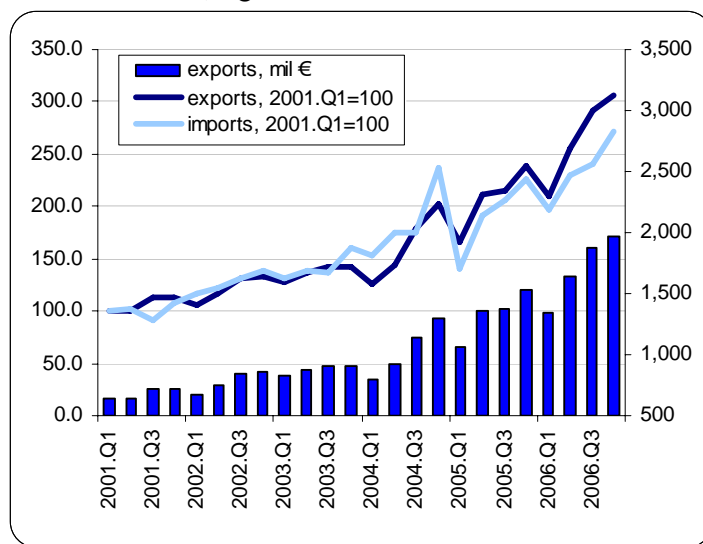


Source: IMF Country Report, October 2006

According to Labor Force Survey, the unemployment rate in Serbia in 2006 stood at 21.6%. Unemployment in Serbia has been recognized as one of the biggest problems and will be given special attention in the process of creating the economic policy in the years to come. Unemployment figures come from two official sources. One is the National Employment Service (NES); the other is Serbian Bureau of Statistics – which is basing its figures on Labor Force Survey (LFS). Both sources use the same definition of unemployment rate (unemployment rate = no. of unemployed / active population, where active population = no. of employed + no. of unemployed), but the data they use, and consequently the rates they get, differ substantially. To calculate the number of unemployed National Employment Service uses its own records. On the other hand the LFS is based on a survey of a sample of households: the household members declare their status themselves (employed or unemployed) regardless of their real official status. Much higher rate of unemployment that is reported by NES is due to the fact that a number of employed - but not *formally* employed, register themselves as unemployed at NES in order to qualify for health and social benefits. We are of the opinion that the figures from LFS are more relevant and objective.

Serbia's exports register a constant and strong growth, albeit from a low starting point. They have reached 5.1 billion euros in 2006, or 20.6% of the GDP. Although in the last four years exports more than doubled, their share in the GDP is still relatively low. On the other hand, imports were growing at a slower rate, but from a higher base, and their share in GDP reached 40.6% in 2006. This means that imports to exports ratio is about 2. If the foreign trade deficit is too narrow, exports must grow at a double rate compared to imports. There are also some other negative tendencies. Dominant in Serbian exports are low value added products, like intermediary goods, agricultural goods, etc. Also, Serbian economy is highly dependent on imports of energy, further burdening the foreign trade deficit. As a consequence, activities geared towards exports growth and increase of the share of higher value added goods are critical in the process of improving foreign trade position. Exports and imports performance is shown in Chart 4.

**Chart 4:** Imports and exports, base indices (2001.Q1 = 100), left scale, and exports in millions of euros, right scale



Source: SBS

The development of Serbia is marked by significant regional differences. This can be seen in Table 5, where we show net domestic material product (NDMC) per capita, by regions as defined in CRDA program. NDMC is not an ideal measure of economic situation, but since GDP data is not available at regional level, we use NDMC as a proxy. In this way, we underrate to a certain extent municipalities that have either strong services sector, or those that have higher than average share of small enterprises and sole proprietors<sup>16</sup>. However, even with all this in mind, it is obvious that differences are significant. Likewise the growth rates of different regions vary substantially. Balanced regional development is stated as one of the priorities of the current government, and it will probably continue to be one of the important issues in the future.

**Table 5:** Net domestic material product per capita, by regions

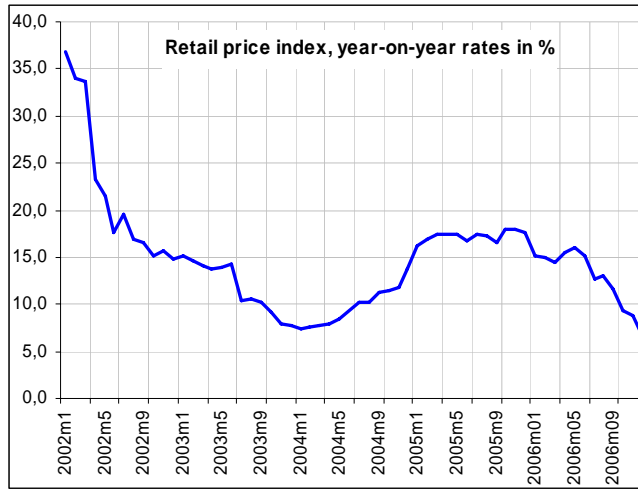
|           | 2001   | 2002   | 2003    | 2004    | 2005    | 2005/2001 |
|-----------|--------|--------|---------|---------|---------|-----------|
| IRD       | 52.426 | 62.765 | 66.169  | 87.698  | 97.602  | 86,2      |
| ADF       | 84.476 | 92.155 | 106.634 | 137.158 | 148.445 | 75,7      |
| ACDI-VOCA | 45.991 | 57.919 | 66.595  | 83.931  | 84.040  | 82,7      |
| CHF       | 46.708 | 55.738 | 60.226  | 77.905  | 77.627  | 66,2      |
| MCI       | 41.891 | 48.018 | 52.685  | 61.918  | 64.405  | 53,7      |

Source: SBS

In 2006 there was a significant disinflation effort, bringing the inflation to the lowest level in the last 16 years. The y-o-y inflation rate at the end of 2006 was just 6.6%. This has been achieved mostly thanks to the strong dinar appreciation. Serbia has a long history of struggling with high and persistent inflation and great efforts have been put towards achieving disinflation since the beginning of the transition (Chart 6). Inflation rates have dropped significantly, from average yearly inflation of 103% in 2001 to 16.5% in 2005 and 12.7% in 2006. One additional goal was to correct disparities between the prices under administrative control and freely formed prices.

Compared to December 2000, by December 2006 the core prices<sup>17</sup> have risen by about 80%, while non-core prices<sup>18</sup> were raised by almost 200%.

**Chart 6.** Retail price index



Source: SBS



## Appendix: Selected Indicators

In this appendix we provide data on selected indicators disaggregated by CRDA IPs AoR

**Table A1: Net Domestic Material Product (per capita, dinars)**

|                  | 2001   | 2002   | 2003    | 2004    | 2005    |
|------------------|--------|--------|---------|---------|---------|
| <b>IRD</b>       | 52,426 | 62,765 | 66,169  | 87,698  | 97,602  |
| <b>ADF</b>       | 84,476 | 92,155 | 106,634 | 137,158 | 148,445 |
| <b>ACDI-VOCA</b> | 45,991 | 57,919 | 66,595  | 83,931  | 84,040  |
| <b>CHF</b>       | 46,708 | 55,738 | 60,226  | 77,905  | 77,627  |
| <b>MCI</b>       | 41,891 | 48,018 | 52,685  | 61,918  | 64,405  |

Source: SBS

**Table A2: Number of Telephone Lines per 100 households, 2005**

|                  |     |
|------------------|-----|
| <b>IRD</b>       | 90  |
| <b>ADF</b>       | 87  |
| <b>ACDI-VOCA</b> | 100 |
| <b>CHF</b>       | 88  |
| <b>MCI</b>       | 86  |

Source: SBS

**Table A3: Number of Inhabitants per MD, 2005**

|                  |     |
|------------------|-----|
| <b>IRD</b>       | 596 |
| <b>ADF</b>       | 519 |
| <b>ACDI-VOCA</b> | 596 |
| <b>CHF</b>       | 353 |
| <b>MCI</b>       | 571 |

Source: SBS

**Table A4: Annual Electricity Consumption, 2004, (KW/h per capita)**

|                  |       |
|------------------|-------|
| <b>IRD</b>       | 690.8 |
| <b>ADF</b>       | 729.8 |
| <b>ACDI-VOCA</b> | 730.6 |
| <b>CHF</b>       | 800.8 |
| <b>MCI</b>       | 580.0 |

Source: SBS

**Table A5: Number of tourists (p.a.)**

|                  | 2001    | 2002    | 2003    | 2004    | 2005    |
|------------------|---------|---------|---------|---------|---------|
| <b>IRD</b>       | 302,103 | 291,070 | 273,899 | 305,706 | 307,011 |
| <b>ADF</b>       | 261,551 | 259,625 | 224,392 | 209,942 | 230,518 |
| <b>ACDI-VOCA</b> | 155,383 | 150,811 | 136,164 | 129,097 | 148,125 |
| <b>CHF</b>       | 208,622 | 216,688 | 196,148 | 202,370 | 207,517 |
| <b>MCI</b>       | 315,195 | 378,631 | 329,622 | 359,190 | 319,005 |

Source: SBS

**Table A6:** Population Aged 15-64 with More Than Primary Education, 2002 (% of total)

|                  | <u>%</u> |
|------------------|----------|
| <b>IRD</b>       | 54.8     |
| <b>ADF</b>       | 61.5     |
| <b>ACDI-VOCA</b> | 56.2     |
| <b>CHF</b>       | 56.1     |
| <b>MCI</b>       | 54.8     |

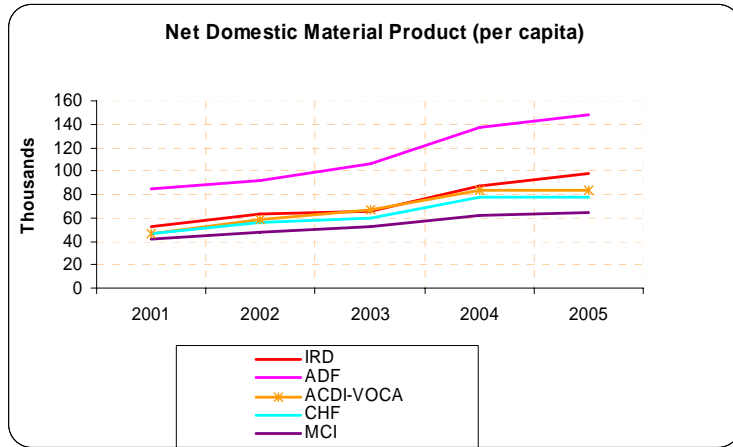
Source: SBS

**Table A7:** Population Aged 65 and Over (% of total)

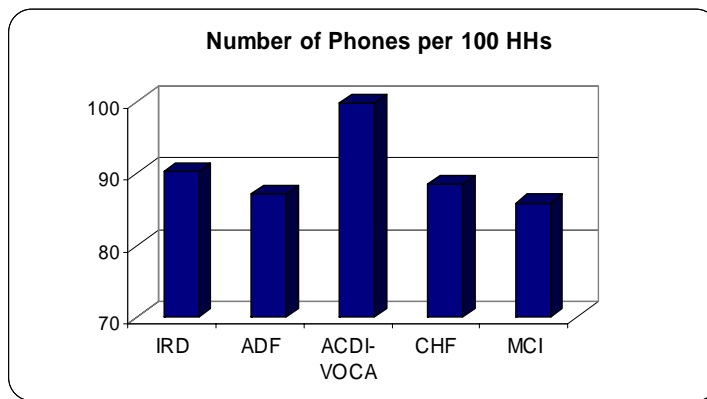
|                  | <u>%</u> |
|------------------|----------|
| <b>IRD</b>       | 16.7     |
| <b>ADF</b>       | 15.5     |
| <b>ACDI-VOCA</b> | 18.2     |
| <b>CHF</b>       | 17.9     |
| <b>MCI</b>       | 15.8     |

Source: SBS

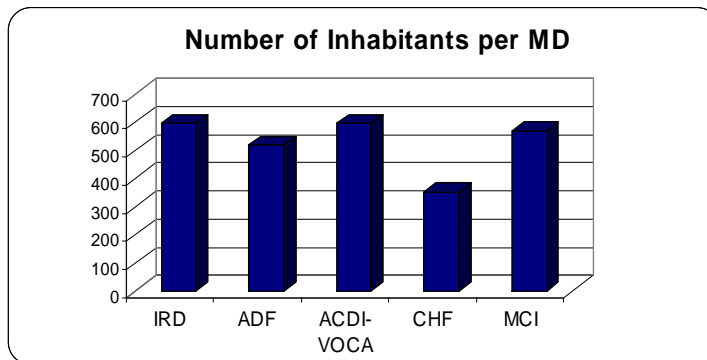
**Charts:**



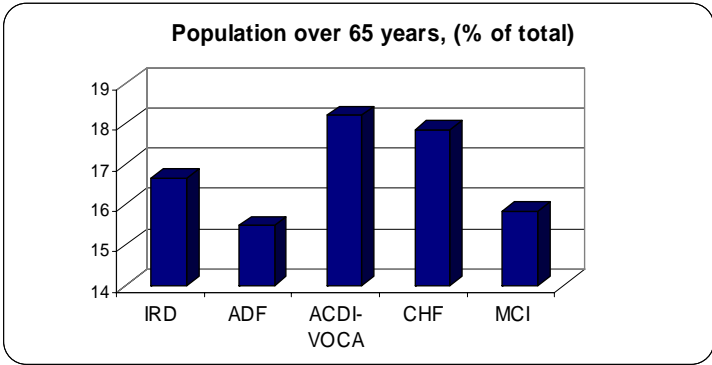
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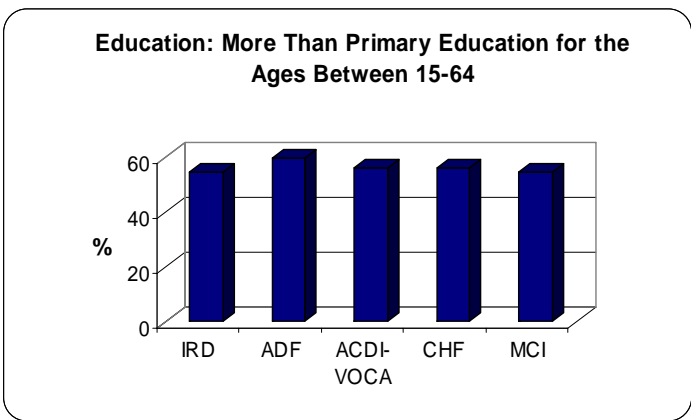
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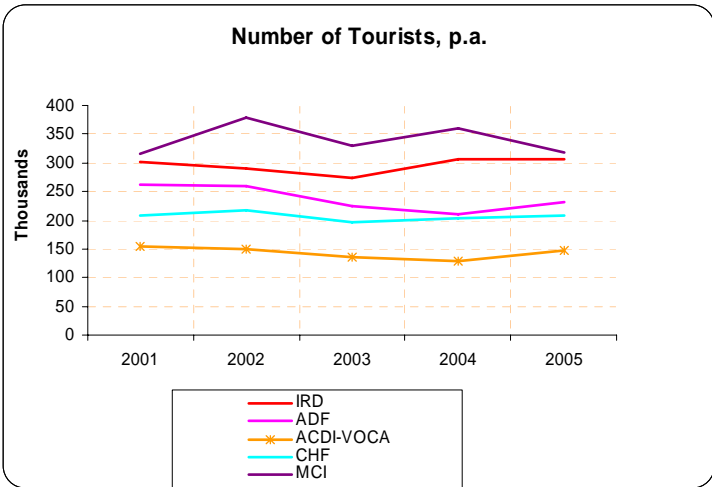
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Source: SBS



Source: SBS



Source: SBS