



**Impact Evaluation of the project**  
***“Strengthening Sustainable Orphans and Vulnerable Children (OVC)***  
***Care and Support in Côte d’Ivoire”*** in the urban context of Abidjan

**Final Evaluation Report**

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## Abbreviations

AVSI	Associazione Volontari per il Servizio Internazionale
CBO	Community-based Organization
DHS	Demographic and Health Survey
DSP	Distance Support Programme
IGA	Income Generating Activity
MFFAS	Ministry of Family, Woman and the Social Affairs
NGO	Non-Governmental Organization
OVC	Orphan and Vulnerable Children
PLWHA	People Living with HIV/AIDS
PN-OEV	Programme National de Prise en charge des OEV
RCT	Randomized Control Trial
SC	Social Centre
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
USG	United States Government

## EXECUTIVE SUMMARY

The present study aims to assess the impact of the AVSI initiative “Strengthening Sustainable Orphans and Vulnerable Children (OVC) Care and Support in Côte d’Ivoire” in the urban context of Abidjan, and provide a measure of the psychosocial and economic changes possibly experienced by the beneficiaries and their families in association to the AVSI initiative for children orphaned and/or made vulnerable by HIV/AIDS.

The overall research design was conceived as a longitudinal multi-method study with multiple sources of data and methods of analysis (a mix of quantitative and qualitative methods). The surveyed population is that of orphans or vulnerable children (affected/infected by HIV/AIDS) enrolled in the AVSI OVC programme and living in four sub-urban areas of Abidjan, Ivorian economic capital city, namely Abobo, Yopougon, Treichville and Koumassi. Data collection took place in 2013 (wave I) and 2014 (wave II). Data collected during both waves (by means of questionnaires and group interviews) were used to compile:

- A longitudinal child-based survey to assess the changes experienced by the beneficiaries over time in terms of psychosocial and economic wellbeing. The unit of observation is the child (child-based survey) and the instrument used is a structured questionnaire administered to the social worker and the caregiver in charge of the child.

- A longitudinal case study on selected AVSI-supported group income-generating activities implemented by the caregivers of the children, to analyze over time the functioning of these collective IGAs, and critically assess their strengths and weaknesses in a view of their capability to develop and sustain the beneficiaries. The instrument used is a structured questionnaire administered to the social worker and the caregiver in charge of the child and group interviews carried out with child caregivers involved in collective AVSI-supported IGAs.

It is important to note that the present report accounts only for the longitudinal survey focused on the assessment over time of the psychosocial/economic changes occurred to the children, while the findings of the case study on the group income-generating activities were presented in detail in a separate report and for this reason will not appear here.

Particularly, this report is meant to provide preliminary information about HIV/AIDS prevalence in Cote d’Ivoire and related issues, as well as an overview of the AVSI approach and activities in support of orphans and vulnerable children and their families in Cote d’Ivoire, with a specific focus on Abidjan.

The report accounts also for the overall impact assessment strategy and methods, and provides an illustration of the major findings obtained through the longitudinal analysis carried out on No.342 beneficiaries (with a time span of one year between the two periods of observation).

On the basis of the definition of psychosocial wellbeing, a construct that reflects the dynamic relationship between psychological and social processes, we focused on these three levels where wellbeing may be generated and expressed: the child, their caregivers and households, and the community. Since what happens in one of these areas will affect aspects of the others, and the material, biological, and psychosocial aspects of wellbeing are integrally related, we set mixed indicators of wellbeing for each area and put them under scrutiny in a longitudinal perspective, so as to see variations over time.

The study has highlighted a general improvement in the areas of interests, at all levels under scrutiny.

Particularly, at the child level, positive changes occurred in terms of an improvement in the orphan-hood index which testifies in 2014 of a “return” of a considerable number of parents who were absent in 2013; increased child school attendance (+12%), and good child relational attitude at school; increase in HIV testing (negative) and consequent reduction in the number of the children never tested (37%), general reduction of the incidence of the most common diseases (this positive trend characterizes more the children who reported bad or very bad health conditions at wave I). However, TB testing is still very limited and hygiene conditions, though slightly improved, are significantly poorer for girls.

At the level of the households and caregivers, the general positive trend consists of reduction in the number of caregivers never tested and slight improvement also in TB testing, marginal increase in the Caregiving Index, which is a measure of frequency with which caregiving behaviors occur between the adult and the child (it was already very high at the time of the first survey in 2014); improvement over time of material resources and assets (yet, overall living conditions remain quite poor and the beneficiaries live in households highly vulnerable to external economic shocks, thus needing further actions); significant improvement in the monthly income level (almost 60% of the children are associated to caregivers with regular work, and petty trade is the most relevant option for them), reduction in the number of existing debts; and lastly increase in the number of beneficiaries living in families involved in *income generating activities* promoted by AVSI/local partners.

At community level also occurred positive variations as the number of children associated to caregivers who perceive themselves (with respect to the community) wealthier, more sociable, more respected and consider their children healthier increased across the two waves of data collection; social integration (measure through an index which refers to the occurrence of non-peaceful experiences in the community) has increased over time, with a substantial improvement for caregivers who in 2013 had a low or very low level of integration into the community social fabric, and a confirmation for those who already were in the top positions.

Longitudinal analysis has been carried out on data disaggregated by districts, and no significant variations were found among the different areas of Abidjan where the program is implemented.

Longitudinal analysis showed the extreme fluidity that characterizes the life scenarios of the beneficiaries. This scenario of high fluidity must be taken into consideration when devising an intervention in support of a vulnerable population, as it adds up to other factors such as poverty, HIV/AIDS incidence, as well as the complexity of the relational subjects to which the program is addressed. In fact, children are the beneficiaries of the intervention, but they are always embedded in a family and community context of high complexity and volatility. For this reason it is important for AVSI to collaborate with reliable and strong local partners. They should also be able to accurately monitor and follow-up the cases and AVSI AVSI should devote specific attention to strengthen their organizational and operational capacities, especially in terms of case and data management.

# 1. INTRODUCTION

## 1.1. Background: HIV/AIDS in Cote d'Ivoire

Côte d'Ivoire is one of the countries most affected by HIV/AIDS in West Africa<sup>1</sup>.

The first case was detected in 1985 and, despite a recent slight improvement in the transmission rate, Côte d'Ivoire still holds a generalized epidemic. Since 2004, HIV/AIDS-related mortality has decreased, and in 2007, an estimated 56,000 people died from complications related to the virus. In 2009 people living with HIV/AIDS (PLWHA) in the country were estimated to be 450,000 (USAID, 2010).

According to the *Enquête Démographique et de Santé et à Indicateurs Multiples 2010-2011* (EDSIM-III) (<http://dhsprogram.com/pubs/pdf/FR272/FR272.pdf>; [http://hivdata.measuredhs.com/surveys/survey\\_detail.cfm?survey\\_id=538](http://hivdata.measuredhs.com/surveys/survey_detail.cfm?survey_id=538)), implemented by the Ivoirian Ministère de la Santé et de la Lutte contre le Sida (MSLS) and Institut National de la Statistique (INS), the national prevalence for people aged between 15 and 49 was 3.7% in 2010-11, showing a clear decrease with respect to the previous survey conducted in 2005 (4.6%). According to the EDSIM-III, the HIV prevalence increases per age groups (1% among the people aged 15-19, almost 8% among those aged 45-49) and it is higher among women than men. No ethnic community in Cote d'Ivoire has been spared by the epidemic and prevalence rates ranges between 4.9% among the Krou and 2.1% among the Mandé). The survey also showed a difference between urban and rural areas, with a higher prevalence of HIV in urban settlements (4.3% versus 3.1% in the countryside). Moreover, education makes the difference, insofar as men and women with a secondary (or higher) education have lower rates of infection compared to illiterate people or people who hold a primary education only.

For year 2012, UNICEF ([http://www.unicef.org/infobycountry/cotedivoire\\_statistics.html](http://www.unicef.org/infobycountry/cotedivoire_statistics.html)) reports estimated 450,000 people of all ages lived with HIV and 3.2% prevalence among the population aged 15 and above. Again, the number of children living with HIV in Cote d'Ivoire in 2012 was 63,000; while orphans and children orphaned by AIDS were 380,000 (while the number of children orphaned due to all causes was 1,300,000 in 2012).

In 2013, according to UNAIDS (<http://www.unaids.org/en/regionscountries/countries/ctedivoire/>), the number of people living with HIV in the country was 370,000 (330,000 - 410,000). Among them, 300,000 (260,000 - 330,000) were people aged 15 and above, while roughly 70,000 were children of 14 years and under (63,000 - 82,000). According to the same humanitarian agency, in 2013, the HIV/AIDS prevalence rate in the country for people aged 15 and up was 2.7% (2.4% - 3.0%). This was calculated by dividing the estimated number of people aged 15 and above living with HIV/AIDS at yearend by the total 15 years and above population at yearend. Again, USAID estimated that the number of deaths due to AIDS in Cote d'Ivoire was 28,000 (25,000 - 32,000) in 2013 and the number of children orphaned by AIDS (aged 0 to 17) was 400,000 (770,000 - 450,000).

Children have for too long constituted the hidden side of the response given to HIV and AIDS, and their needs are often neglected. According to the United Nations Children's Fund (UNICEF), approximately 15 million children worldwide have lost one or both parents to AIDS. Nearly 12 million of these children live in sub-Saharan Africa. Many more children have been made vulnerable because of family illness and the widespread impact of HIV/AIDS on their communities. OVC population is estimated to grow as HIV incidence rates increase.

The HIV/AIDS epidemic shatters children's lives and reverses many hard-won achievements in children's rights. Following more than a decade of inadequate action, there is now an absolute imperative that the

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<sup>1</sup> The World Health Organization estimates a prevalence of HIV among adults (15-49 years) in neighboring countries considerably lower to Côte d'Ivoire level (WHO 2007). African Region as a whole is assessed on 4.9% prevalence of HIV among adults (15-49 years). The last Measure DHS, elaborated through the *Enquête démographique et de santé et à indicateurs multiples 2011-2012*, indicates a prevalence of HIV among adults (15-49 years) of 3.7%.

global community and every individual nation urgently mount large-scale, multifaceted responses to secure the future of all orphans and vulnerable children (OVC).

Despite the children being often neglected in HIV/AIDS-related issues, the biggest hopes to get rid of the epidemic –as claimed by many humanitarian agencies- hinge on them. To be protected from negative outcomes and/or allowed participation, OVC need to be given special attention to remove the barriers that are obstacle to their equal participation in projects designed to benefit all children, or through special project components and targeting strategies tailored to their needs.

In Côte d'Ivoire, recently, there have been a number of collaborative efforts to care for the many OVC, including a framework for sharing best practices among public, private, and community-based organizations engaged in the care and support for OVC (cf. <http://www.pepfar.gov/documents/organization/222161.pdf>). As a result, the number of OVC living in households and receiving free basic external support for their care has increased markedly in the past few years. According to USAID, in 2007, 50,350 OVC were receiving care; they nearly doubled to 95,480 in 2008 and their number rose again to 116,500 in 2009. In 2009, however, OVCs (aged 0 to 17 years) receiving care and support from the Government still represented only 27.1% of all OVCs (USAID, 2010).

Within this context, AVSI initiative is intended to provide care and support for orphans and vulnerable children due to HIV/AIDS.

## **1.2. Overview of the AVSI initiative to support of orphans and vulnerable children in Côte d'Ivoire**

AVSI is established in Cote d'Ivoire since 2008, with the mission to promote human dignity through cooperation activities for development, while giving a particular attention to education and enhancement of individual dignity in all its dimensions.

The AVSI initiative called “Strengthening Sustainable Orphans and Vulnerable Children (OVC) Care and Support in Cote d'Ivoire” was developed as an extension of AVSI OVC-oriented activities in Uganda, Rwanda and Kenya, when USAID asked AVSI to plan specific actions to give direct care to OVC, as well as develop capacity-building initiatives for local partners and local authorities.

The total number of beneficiaries supported in the course of the four-year programme is No. 21,450 orphans and vulnerable children. Moreover, at least No. 470 families were enrolled in the economic strengthening plan, which complements AVSI OVC support programme. All forms of support are provided either directly by AVSI through its local staff, or by local NGOs and CBOs formally recognised as local partners, whose empowerment is considered to be a key aspect of AVSI's presence in the country.

Several field offices (AVSI main office a/o local partners) are in charge of the identification and need assessment of potential orphans and vulnerable children to enrol into the program. The first identification criterion applied by AVSI is the exposure of children to HIV/AIDS and the impact of the disease on their living conditions. This means that the children included in the programme are orphans and/or minors in a condition of vulnerability due to HIV/AIDS (affected/infected). A secondary inclusion criterion refers to the degree of socio-economical vulnerability (poverty, rejection, marginalization, stigma, poor access to education, basic social and health care services, etc.). Trained social workers and community counsellors preliminarily assess such conditions through interviews and home visits.

The main goals of AVSI initiative are to:

- Improve the psychosocial wellbeing of orphans and vulnerable children, and their households;
- Reinforce the economic capacities of the families of the orphans and vulnerable children enrolled in the program.

The sub-goals set by AVSI to provide OVC and their households with quality services in Côte d'Ivoire are:

- Support to quality education;
- Improvement of health and nutrition conditions;
- Reinforcement of child and family protection through provision of legal assistance;
- Start up of income-generating activities.

AVSI's vision is family-centred, that is every action intended to improve the wellbeing of the children cannot disregard their families, as the wellbeing of the children cannot be disconnected from their relational environment. Thus, although AVSI targets primarily vulnerable children, the wider approach is comprehensive of support and empowerment of the children's caregivers. As reported in AVSI's official documentation, practical examples of a family-centred way to devise interventions are family counselling, adult literacy initiatives, health education, and guardians' sensitization on different OVC-related issues (child growth, child protection, and child rights<sup>2</sup>), as well as household economic strengthening and involvement in income generating activities (IGAs).

AVSI approach is intended to consolidate and improve the local capacity to provide services for OVC. For this reason, AVSI works in collaboration with the Ministry of Family, Woman and the Social Affairs (MFFAS), actively participates in building a PN-OEV-supported collaborative "Platform" using the Social Centres (SC) as a base for coordinating OVC-related activities in any given geographic area, and operates for the reinforcement of the Social Centres.

In addition, AVSI works alongside with local NGOs and CBOs involved in OVC Coordination Platforms, and contributes to the strengthening of their organizational and operational capacities.

AVSI intervention is developed through three different strategies:

1. Technical and material support to SCs to build/reinforce their capacity and improve the quality and coordination of services provided to vulnerable children and their households;
2. Technical assistance and material support to local NGOs/CBOs to strengthen their organizational and operational capacities to provide quality care and services;
3. Support to OVC in different domains (psychosocial wellbeing, education, child protection, health, food and nutrition, household economic capacity), offered directly by AVSI social workers and professionals, or through local partners.

Support to orphans and vulnerable children:

1. Is focused on the child as a unique human being integrated in a relational environment within his/her family and community;
2. Is meant to ensuring that every child is cared for by an adult, either in the family or by someone in the community;
3. Is offered by enhancing the operational capacity of the local NGOs/CBOs involved in the provision of services for OVC through a stable collaboration with AVSI local staff.

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<sup>2</sup> In some cases, adults are also involved in the implementation of activities for the children, such as recreational activities, uniform production and school feeding programs. The aim is to increase the adults' capacity to care for their children and foster their responsibility towards them.

## 2. THE IMPACT STUDY

### 2.1. An overview on the multi-method research strategy and phases of implementation

The research was conceived as a longitudinal multi-method study with multiple sources of data and methods of analysis (a mix of quantitative and qualitative methods). The implemented longitudinal method (with data gathered for the same subjects repeatedly over a period of time) allowed to compare the same population at different points in time, and thus to look at changes over time.

This report therefore documents the comparison between the two waves of data collection and analysis, and is intended to highlight any changes that have occurred over time in the same study population.

The study has been articulated in two waves of data collection:

- Wave I took place in January-March 2013<sup>3</sup>;
- Wave II between January and March 2014.

Data collected during both waves (by means of questionnaires and group interviews – see paragraph on Research tools) were used to compile:

- A longitudinal child-based survey to collect information about the beneficiaries and their households and thus assess the changes experienced over time in terms of psychosocial wellbeing and economic strengthening.
- A longitudinal case study on No.10 selected AVSI-supported group income-generating activities implemented by the caregivers of the children, to analyze over time the functioning of these collective IGAs, and critically assess their strengths and weaknesses in a view of their capability to develop and sustain the beneficiaries.

It is important to note that the present report accounts only for the longitudinal survey focused only the assessment over time of the psychosocial changes occurred to the children, while the findings of the case study on the group income-generating activities were presented in detail in a separate report and for this reason will not appear here.

As a general strategy, the impact assessment was structured as follows:

#### 1) *Wave I: baseline survey and group IGAs case study (2013)*

The *baseline survey* was meant to collect information about the needs and characteristics of the beneficiaries (orphans and vulnerable children enrolled in the AVSI OVC support program) and their households. Specific areas of investigation were: nutritional and health conditions; child personality; sociability; participation attitudes; scholastic abilities and performances; household composition; housing characteristics; assets of the household). The baseline survey was also meant to gather information about the economic conditions of children's households (income, sources of income, household consumption and lifestyle) and the relationships between the child caregivers and the surrounding community (participation, inclusion, marginalization, etc.).

Through the *case study*, a specific attention was devoted to investigate group IGAs started up by the beneficiaries' caregivers thanks to the support provided by AVSI and its local partners. The capability of such group experiences to produce individual and family welfare, economic empowerment, as well as social inclusion was put under scrutiny.

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<sup>3</sup> Detailed information about wave I was presented in the mid-term report submitted in Autumn 2013.

The baseline survey and the case study at wave I were fundamental to assess the starting conditions of the beneficiaries and their households. Besides, data collected and analyzed in wave I have laid the foundation for drawing a comparison over time.

#### *2) Wave II: follow-up survey and IGAs case study (2014)*

After one year, the same population of respondents (wave I) was tracked for a follow-up survey and IGAs case study, in order to observe changes occurred over time for the selected variables. Research tools used in wave I were applied in wave II.

The overall longitudinal impact study was conceived as a mix of quantitative and qualitative methods of data collection and analysis, and two different research tools were used in both waves.

*1) Individual face-to-face structured questionnaire,*

*2) Group interview.*

During both wave I and II, a local coordinator was in charge of planning, organising and supervising the process of interviewing and questionnaire administration, in collaboration with three local interviewers/enumerators and the NGOs' social workers, who were asked to facilitate the access to the field.

## **2.2. Ethical concerns**

All the participants were informed about the purpose and methods of the research, and were asked to provide their written voluntary consent before becoming research participants.

The interviewers/enumerators were instructed and responsible for making sure that the potential research participants:

- Had understood all about the research, its goals and methods before giving informed consent,
- Had been given enough time for consideration or questioning,
- Had been presented information in the preferred language, without requiring high-level literacy skills,
- Had been presented the possibility to refuse participation,
- Had been guaranteed about their privacy protection.

Besides, before starting any group interview, the interviewer would ask permission to use a tape recorder.

## **2.3. Limitations**

The study presents some limitations:

- AVSI initiative is basically designed around the application of specific inclusion criteria and intervention strategies that are repeatedly implemented in identifying beneficiaries and including them into the programme framework. Within this fluid structure, the temporal inclusion of targeted beneficiaries into the programme activities cannot be pre-established; on the contrary, it is based on an on-going process of identification among the communities.

It has been necessary to set up a time-window in order to make a rigorous sampling and reduce as far as possible the effects due to the exposure to AVSI activity. However, this choice has affected the range of the reference population, by reducing and making it more focused in Yopougon district.

- Beyond every effort, it was not possible to reach all the beneficiaries involved in the first wave, mainly due to temporary displacement and health conditions. Moreover, some of them were no longer involved in AVSI project and the access to their households has not been feasible.

- The limited available resources (i.e. human resources and allocated time) make the possibility of organizing the research as a Randomized Control Trial (RCT) unfeasible. Even considering this approach as the most scientific design, other impact evaluation techniques are able to provide consistent and empirically based results. As a result, the data from this longitudinal study will effectively demonstrate the change observed in children and families within the scope of the project, but will not have the counter-factual to conclude how that change compares to a scenario in which they had not received the program treatment.
- One-year time is a limited amount of time to assess variations in long-lasting dimensions of well-being. Since it was not possible to expand the temporal gap, we decided to focus more on social dimensions, such as human and social capital, rather than long-run financial aspects, such as wealth. This builds on the adopted methodological approach which identifies in social capital a prominent engine of local development.
- Analogously to several other similar studies, due to reasons basically connected to the viability of the research, we focus only on beneficiaries in school age, excluding a specific analysis of early childhood.

### **3. FOCUS ON THE LONGITUDINAL CHILD-BASED SURVEY**

#### **3.1. Main objectives**

The main goal of this study is assessing the impact of AVSI US-sponsored initiative “Strengthening Sustainable Orphans and Vulnerable Children (OVC) Care and Support in Côte d'Ivoire” on its beneficiaries in terms of psychosocial wellbeing and household economic empowerment.

In order to attain this objective, the study focuses on AVSI program’s effectiveness in promoting over time positive changes in any areas where wellbeing is manifested.

Particularly, we meant to assess longitudinally variations in wellbeing indicators that took place at the:

- Child level,
- Household level,
- Community level.

#### **3.2. Rationale of the research**

We choose to focus on these three levels on the basis of the definition of psychosocial wellbeing<sup>4</sup>, a construct that reflects the dynamic relationship between psychological and social processes. Psychological processes are internal; they include thoughts, feelings, emotions, understanding and perception, while social processes are external and are comprised of social networks, community, family and environment. What happens in one of these areas will affect aspects of the others. The material, biological, and psychosocial aspects of wellbeing are integrally related, and it is not helpful to try to separate them.

Wellbeing is a condition of holistic health in all its dimensions: physical, cognitive, emotional, social, and spiritual. As a process, wellbeing consists of the full range of what is good for a person: participating in a meaningful social role; feeling happy and hopeful; living according to good values, as locally defined; having positive social relations and a supportive environment; coping with challenges through the use of appropriate life skills; and having security, protection, and access to quality services.

Wellbeing depends on many factors. Thus, individual and collective wellbeing depends on what happens in a variety of areas that can be imagined as several overlapping circles. Meeting at least some minimal level of need in each of these areas is necessary, and these areas are to some extent interrelated.

#### **3.3. Indicators of wellbeing**

In accordance with such a perspective of complexity, for each of the above-mentioned levels of investigation (the child, the household, the community), we have identified a list of wellbeing indicators.

In particular, with respect to the child level, we used as indicators of wellbeing:

- Presence/absence of the child’s parents (orphan-hood index);

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<sup>4</sup> Williamson, John & Robinson, Malia., (2006) ‘Psychosocial interventions, or integrated programming for wellbeing’, *Intervention: The International Journal of Mental Health, Psychosocial Work and Counselling in Areas of Armed Conflict*. Vol: 4 (1), pp4 - 25: <http://www.interventionjournal.com/index3.html>  
Becker, D., Weyermann, B., (2006) *Toolkit: Gender, Conflict Transformation and the Psychosocial Approach*. Bern: [Swiss Development Cooperation](#)

- Child education, school attendance and relational attitude at school (towards teachers and peers);
- Child health.

With respect to the household and the caregivers, the wellbeing indicators applied were:

- The caregivers' health conditions;
- The quality of the relations with the children;
- The characteristics of the house where the beneficiaries live;
- The household's assets, income and consumption;
- Food consumption in the children's households;
- Non-Food consumption in the beneficiaries' households;
- Sources of income in the beneficiaries' households.

When the focus is on the community, the wellbeing indicators were:

- The perception of the caregivers with respect to the local community about their wealth, respect received, sociability, and own children's health;
- The caregivers' extent of social integration<sup>5</sup> into the community;
- The caregivers' perception of having been supported in making plans for the future by some member of the local community.

All the indicators applied take into account multiple aspects of wellbeing - psychological, social and economic – and they must be regarded in their reciprocal interactions and influences. Such a composite understanding of wellbeing recall the most recent approach to sustainable development<sup>6</sup>, which is seen as composed of different types of capital: financial, natural, produced, human, and social<sup>7</sup>.

It seems that the actions devised and implemented by AVSI through the initiative “Strengthening Sustainable Orphans and Vulnerable Children (OVC) Care and Support in Côte d'Ivoire” can be framed in terms of generation of – at least - financial<sup>8</sup>, human<sup>9</sup> and social capital<sup>10</sup>.

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<sup>5</sup> Social integration was seen as a dynamic process where all members participate in dialogue to achieve and maintain peaceful social relations.

<sup>6</sup> “Sustainable development must maintain or increase all productive capital stocks, including natural capital, which is currently often depleted through economic production. The maintenance of stocks of human and social capital is equally important. Thus the traditional trio of essential economic activities – production, consumption, and distribution – must be supplemented with a fourth function, that of resource maintenance” (Goodwin, 2003, p. 1).

<sup>7</sup> In Goodwin's understanding, they all have the capacity to produce flows of economically desirable outputs and the maintenance of all five kinds of capital is essential for the sustainability of economic development.

<sup>8</sup> In terms of definition, *financial capital* makes generic reference to financial assets or the financial value of assets, such as cash, machinery and equipment owned.

<sup>9</sup> *Human capital* can be seen as health, knowledge, motivation, and skills, the attainment of which is regarded as an end in itself (irrespective of their income potential) because they yield fulfillment and satisfaction to the possessor. In an organizational context, human capital refers to the collective value of the organization's intellectual capital (competencies, knowledge, and skills).

<sup>10</sup> Social capital can be broadly defined as the norms and networks that enable people to act collectively. Italian sociologist Pierpaolo Donati gives a specific definition of social capital drawn on the basis of his relational theory of society: relational social capital can thus be defined as reciprocal, networked, trust-based and cooperation-oriented relationships meant to achieve a common and shared goal (Donati, 2007). In this perspective, social capital is a specific relation that enhances and promotes relational goods (Rossi and Boccacin, 2007), i.e. goods that are exclusively produced within/by human relationships, and that can be produced and benefitted only by those who take part in the relationship itself (Donati, 1993; 2011). Relational goods satisfy primary and secondary relational needs. Increasing evidence shows that social capital is critical for societies to prosper economically and for development to be sustainable. Enhancing social capital can improve projects' effectiveness and sustainability by

Generation of financial capital has to do with the support provided to the OVC caregivers to improve their economic condition and enhance their capability to support the material needs of the children.

Development of human capital is connected to the access/provision of quality health and education services for the beneficiaries.

And production of social capital can be seen in those actions meant to support the beneficiaries in building sense of openness, trust and self-confidence that enable them to actively engage in other positive life projects and participate in the life of their families and communities.

As a consequence, also the indicators applied to measure changes in the psychosocial and economic wellbeing of the children and their families reflect such vision on capital development.

The rationale behind the research to is assess changes at the level of the beneficiaries' human capital (see for example education and school related issues), economic capital (see for example households assets, properties and income), and social capital (see for example intra-family caregiving index, community relations, etc.).

### **3.4. The questionnaire**

French was the language chosen for both the questionnaires and the group interviews, as it represents the local vehicular language. However, where participants reported difficulties in communicating in French, they were allowed to use their mother languages and the interviewer/enumerator or other participants (in the case of the group interviews) provided a translation.

#### *1) Individual face-to-face structured questionnaire*

The questionnaire was administered to the social workers and the guardians/caregivers<sup>11</sup> of the sample children.

Each questionnaire refers to the situation of a specific child, for this reason the number of questionnaires corresponds to the number of children included in the sample. It is important also to note that the number of questionnaires exceeds the number of guardians/caregivers, as we reported cases of multiple guardianship over more beneficiaries (as in the case of siblings): in such cases the guardian/caregiver was asked to compile one questionnaire for each child included in the sample.

The questionnaire was intended to provide information about structural conditions, health, education and school-related matters, personal attitudes, economic conditions and relational environment of the children reached by the programme activities. The questionnaire comes as the result of desk-based activities (i.e.

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building the community's capacity to work together to address their common needs, fostering greater inclusion and cohesion, and increasing transparency and accountability. NGOs are an important factor of social inclusion and social capital generation: indeed, interventions put in place by third sector organizations can contribute to increase their beneficiaries' social capital, thus confirming the idea that civil society can play a decisive role in increasing the social capital of the communities in which it operates. Current policy in many donor agencies and much of the official literature is dominated by the "financial self-sustainability paradigm". Within this paradigm people's participation in groups is promoted as a key means of increasing financial sustainability and poverty targeting through drawing on "social capital", while at the same time being assumed to empower people through automatically strengthening this social capital (Yipa et al. 2007; Tolber et al. 1998).

<sup>11</sup> The questionnaire was devised as to acquire accurate information from the social worker about the identity of the child's official guardian (Section B). Sections C to F were meant to be answered by the official guardian as acknowledged by AVSI, and in most cases (69%) these sections were actually compiled by the official guardian. Yet, in a small number of cases, Sections C to F were not answered by the official guardian, as this does not correspond de facto with the person who knows more about the child and takes actual care of them. This is the case where AVSI for example registers the father as the official guardian, but the mother is the one who fills in the questionnaire as she actually takes care of the child and knows more about their situation. In any case, a specific field of the questionnaire allows identifying if there is correspondence between the guardian and the respondent.

extensive literature research on similar research tools, context analysis based on project documentation and preliminary consultations with local officers, etc.) and field activities (first field visit held from 26<sup>th</sup> November to 6<sup>th</sup> December, 2012).

The questionnaire was articulated into seven sections, in particular:

Section A and Section B were intended to identify the beneficiary children and collect data on education and school-related matters, as well as health conditions. The social workers/community counsellors in charge of each child were requested to answer the questions of these sections.

Section C (1 and 2) was meant to identify the guardian/caregiver of the child and collect data on their characteristics, such as education level, health conditions, as well as household's composition. These sections were to be filled in by the guardian/caregiver responsible for the child.

Section D was meant to collect data on the household's assets, consumption and income. This section was to be answered by the guardian/caregiver of the child.

Section E was intended for collecting information on the relational environment of the child's household, i.e. the relationship between the guardian/caregiver and the surrounding community. Also this section was to be answered by the guardian/caregiver.

Section F was meant to collect data on the possible involvement of the child's guardian/caregiver in (individual or collective) IGAs supported by AVSI. The section was specifically intended to explore economic development and group dynamics (only in case of group IGA). Whereas it applies, section F was to be answered by the guardian/caregiver.

Information provided with this research tools were used to compile the comparison between the baseline (wave I) and the follow-up survey (wave II).

### **3.5. The study population**

This research study focuses on the beneficiaries targeted by AVSI's, USAID-sponsored, support programme for orphans and vulnerable children in Cote d'Ivoire.

The study population is thus composed by:

- Children who are infected with HIV/AIDS: they generally live with one or both parents, but they can also be orphaned or rejected (most common for infants and youngsters) and end up in institutional care or in the streets. Infected children often experience social stigma that may result in their being refused access to school or other services. In addition, they have special health care needs that must be addressed.
- Children who live with parents infected with HIV/AIDS: they may experience exclusion as a result of parental illness, suffer social stigma, be responsible for caring for sick parents and younger siblings, have experienced abandonment by one parent who leaves to escape the other's illness, or simply live with great insecurity and anxiety as they wait for their parents to become sick(er) and eventually die. Property grabbing sometimes happens even while the parents are alive, but too ill to defend themselves.
- Children orphaned by HIV/AIDS (maternal, paternal or double orphans): children living with a step-parent or a co-wife can be particularly vulnerable in their own household, even if one of the parents is still alive.
- Families living in conditions of marginalisation and hardship as a result of their illness. These are the families targeted by AVSI economic strengthening program. The supported IGAs are not only meant to facilitate these families' integration into the economic fabric and provide for their needs, but also to enhance their inclusion into society for a better and more dignified life.

### 3.6. The sample: criteria of inclusion and characteristics

Among these groups, the impact study applied the following ordered inclusion criteria in order to specifically define the OVC sample under scrutiny:

- 1) AVSI-supported children living in one of the four sub-urban districts of Abidjan (Abobo, Koumassi, Treichville, Yopougon, which are assumed to be a homogenous socio-economic environment).
- 2) AVSI-supported children in scholar age (since a critical project activity is school support).
- 3) AVSI-supported children enrolled into the program within the period July, 1st-December, 31st, 2012.

Specifically:

- 1) Criterion one was chosen by AVSI, which asked the main research team to focus on the urban context.
- 2) Criterion two was decided because support to education and school activities is at the core of AVSI program.
- 3) The last criterion was decided to reduce any potential source of bias due to including into the sample children who had already been exposed to the program activities. In fact, since AVSI project started on 2008, several beneficiaries of the initiative may have already had experienced any (positive or negative) impact on their livelihoods as a result of the project implementation. As the final goal of this research project was to evaluate the impact of the project activities on the wellbeing of the children, we reduced this potential source of bias by including only those beneficiaries enrolled into the project activities within the period 1st July – 31st December 2012, that means immediately before the baseline survey. In that way, we included the last beneficiaries enrolled into the project framework and reduced as much as possible the influence of impact effects on their habits due to project timing.

Following these choices, we obtained a total population of No. 1,047 OVC, which constitutes the reference population for this study.

We then randomly selected a sample composed by No.524 children, maintaining the same district proportions as in the reference population, in particular: No.96 children in Abobo, No.92 in Koumassi, No.40 in Treichville and No.296 in Yopougon (Tab. 1). The proportion among the districts is determined by the effective project enrolments done by AVSI and/or its local partners during the selected time window (namely 1st July – 31st December 2012). In the implementation of the programme activities, AVSI is supported by a network of Local Partners (LPs), selected, trained, monitored and evaluated on a regular basis. To the extent of this research, No.9 local partners<sup>12</sup> (plus 4 AVSI local offices<sup>13</sup>) were involved.

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<sup>12</sup> AVSI's local partners in Abidjan are: AMEPOUH in Yopougon; BAYEWA in Abobo; CLUB DES AMIS in Yopougon; AJECI in Abobo; OGRADIE in Abobo; FANGOU'AN in Yopougon; TENDS-MOI LA MAIN in Yopougon; NOUV.DE.VIE in Treichville; ADF in Koumassi.

Four more Ivorian partners are involved in the OVC support program but they are located in Bouaké and were not included in the study. They are CSP; AIPS; CARITAS St MARTIN; AVSI Bouaké.

<sup>13</sup> AVSI Yopougon; AVSI Abobo; AVSI Treichville; AVSI Koumassi.

Table 1 Sample selection and administrated questionnaires during the two waves

District	Reference Population		Selected Sample		Administrated Questionnaires			
	No.	Percent	No.	Percent	I wave		II wave	
					No.	Percent	No.	Percent
Yopougon	595	56.8%	296	56.5%	226	53.1%	172	50.2%
Abobo	190	18.1%	96	18.3%	93	21.8%	75	22.0%
Treichville	80	7.6%	40	7.6%	29	6.8%	25	7.3%
Koumassi	182	17.4%	92	17.6%	78	18.3%	70	20.5%
<b>Total</b>	<b>1047</b>	<b>100%</b>	<b>524</b>	<b>100.0%</b>	<b>426</b>	<b>100.0%</b>	<b>342</b>	<b>100.0%</b>

The fourth column indicates the questionnaires effectively administrated during the first wave of data collection. The total amount of filled questionnaires is No.426, representing 81.3% of the total sample. The main reasons for data incompleteness are<sup>14</sup>:

- Inability to reach the beneficiaries, mainly due to permanent displacement of the families to different areas of the country.
- Unavailability of the guardians or absence of the social workers (community counsellors).
- Poor reliability of local partners in identifying and holding regular contact with beneficiaries<sup>15</sup>.
- (To a minor extent) Lack of sufficient personal data to make the enumerators able to find/identify the beneficiaries.

The fifth column provides indications about the questionnaires administrated during the second wave of data collection, that is one year later on the same people. During wave II, we totally collected No.342 questionnaires, losing almost 19% of the observations, mainly due to reasons analogous to what explained above.

The final missing observations were not replaced for two main reasons:

- The original selected sample derives from a homogenous socio-economic environment and it is highly representative of the reference population: it constitutes approximately 50% of the population, stratified with same district and gender distribution.
- We consider the analysis of the causes of such dropouts as useful information for the elaboration of recommendations to the implementation.

<sup>14</sup> In the circumstance of no availability of the selected participants, the interview was re-scheduled and re-tried at least twice.

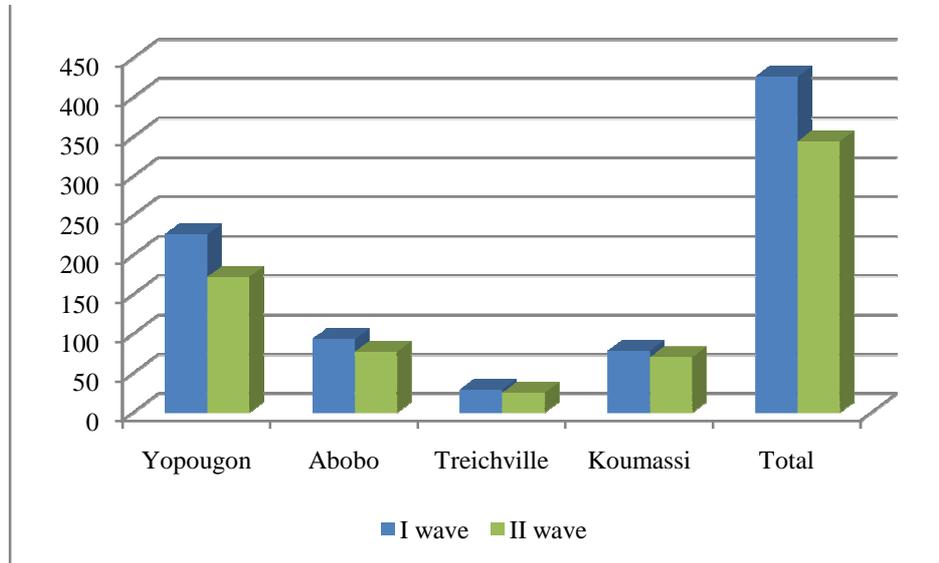
<sup>15</sup> This element constitutes a concern, even if it has been largely overcome in this research: with certain NGOs/local partners, the records of the beneficiaries were almost absent or incomplete, thus showing a poor archiving records system, in particular the local partner Tends Moi la Main (TMC), based in Yopougon. This can be partly explained by the high turnover rates at the level of the social workers/community counsellors: seemingly for the weakest (least structured) local partners there is no adequate handover of information regarding the beneficiaries from the leaving to the new staff.

In addition, in wave I it was noted that in one case the same beneficiary was recorded under more than one NGO, thus potentially benefitting from multiple AVSI support – which is not supposed to happen. This was fixed by the time of wave II.

Also, a few former beneficiaries (i.e. people who are now phased out from the project or no longer followed up by AVSI) were still in the records at the time of wave II. This raised a concern about the monitoring/control of the list of entitled/enrolled beneficiaries. Improved monitoring activities should be applied by AVSI on local partners' activities.

The geographical distribution of collected questionnaires across the two waves is reported in the following chart (Fig. 1).

Figure 1 Questionnaires collected by district (wave I and wave II)



### 3.7. Data analysis

We organized the data collected through the questionnaires as a balanced panel in order to be able to perform a longitudinal analysis and, in that way, verify the existence of possible variations of the dimensions of interest. The **Full Matched Sample** is thus composed of No.342 beneficiaries for whom data were gathered in both waves.

However, survey data are likely to be characterized by missing data: in our study, some variables – especially regarding health conditions of the beneficiaries – show a lack of information. Since we can assume that such missing values do not depend on the variable of interest, rather they are due to other exogenous factors, they can be considered missing at random. In our study, indeed, missing values are largely related to the turnover among social workers with connected loss of information.

This consideration is particularly related to the indexes we built to provide aggregate figures on the major investigated dimensions (human capital and social capital). Since the variables used to construct such indexes show largely less than 5% of missing values, we adopted a case deletion strategy (Little & Rubin, 2002). We then came up with a **Reduced Sample**, which is composed of No.330 beneficiaries.

For completeness purposes, throughout the whole analysis we provide data based on both the Full Matched Sample and the Reduced Sample. However, indexes and variations, i.e. the results of the longitudinal analysis, are all carried out on the Reduced Sample.

## **4. MAJOR FINDINGS OF THE LONGITUDINAL CHILD-BASED SURVEY**

The presentation of the findings of the survey will be articulated on three levels:

- The child;
- The household;
- The community.

They correspond to three main areas of investigation of wellbeing/vulnerability, which are representable in terms of concentric circles: they start from the innermost circle, which is that of the child, move through the household and caregivers of the child, to get to the community where they are all inserted. We can imagine that the psychosocial wellbeing of the beneficiaries is not confined to the first area (the child), but that is largely influenced by the levels of wellbeing in the other two areas, according to a perspective that takes into account the complexity of the reality and the relational dimensions of society in which all individuals are embedded.

### ***A. Focus on the child***

This first part is devoted to illustrate the findings of the survey in relation to some aspects of the welfare of the children, namely their orphan-hood status, school attendance, performance and attitudes, as well as their health conditions. These three macro indicators are connected to the other indicators of wellbeing at the household and community level, which will be illustrated in the next paragraphs.

#### **4.1. Child vulnerability and orphan-hood condition**

The level of vulnerability of the child worsens as the number of missing parents increases, with a major effect when the mother is the missing caregiver. In order to get this composite information, we elaborate an orphan-hood index.

The reason may be found in the fact that being raised by a single parent is a challenge that may affect children's emotional and psychological development. The social and economic vulnerability, which is often associated to single parenting, may also expose children to further risks of abuse and exclusion. Yet, being raised by a single mother is considered to be less of a risk because mothers are generally thought as more resilient and able to provide affection, guidance and care. It is also well known that female-headed households are in fact more common in Africa than single-parent families headed by a man. This comes as a consequence of many factors: town-ward migration, death or abandonment and consequent lack of responsibilities assumed by the side of men. On the contrary, for a woman is more difficult to abandon their children. Yet, female-headed families hardly fulfil their care-giving tasks: the great number of (dependent) family members (especially children) does not match their ability for mutual support in hardships, as family ties are too heavily challenged by personal loss (especially the disappearance of male figures) and by poverty. So a huge family network often turns into a burden where challenges accumulate, offering no protection to the most vulnerable members, i.e., children. Single mothers in fact are often challenged to provide for their children and look after them. Even working mothers are hardly able to pay their children's school fees and carry out educational and care-giving tasks. In this way, their unsupervised offspring tend to run to the streets, where they can find alternative means to survive poverty and be socialised: they are prone to become "street children" (Meda, 2013). In addition, single parenting is significantly stigmatised in Africa because of the accustomed culture in African society: in fact, it is always assumed as a conventional norm for a woman to remain in her husband house for the rest of her

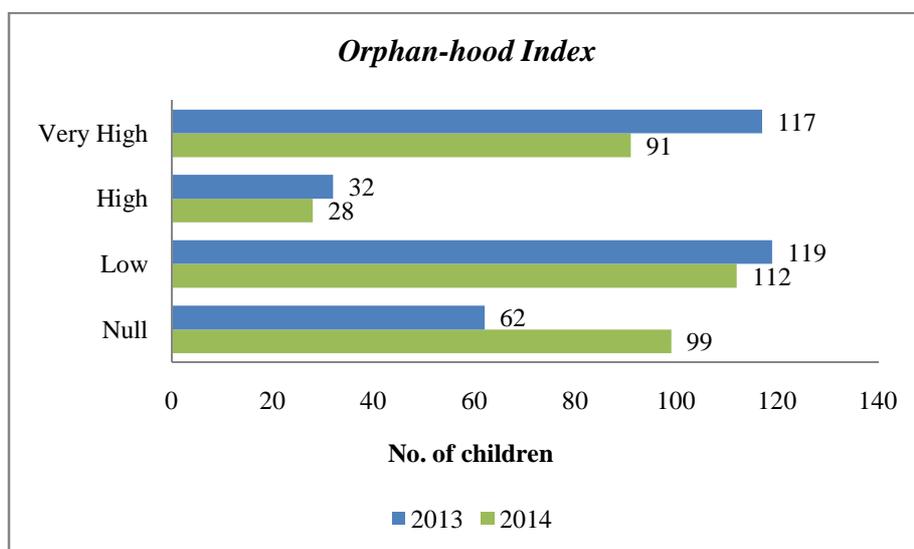
life regardless of the challenges encountered. It is now regarded as a disconformity for a woman to return to her parents' house or remain single by taking care of the children alone. This act obviously deprives single parents some basic societal respect and dignity. This is quite opposite of how single parents in other parts of the world are being assessed (especially Western societies). Again, the circumstances that lead to single parenting may range from conflict, abandonment and natural disaster (death). The adverse effect may be at minimal level or the view of the people may be very light if the cause is natural such as death. Yet, the adverse effect of this phenomenon is often on the children. It may even affect the development of the child, the future, career and behaviour. They often develop negative behaviour as a result of their inability to be taken care of by both parents and most of them become aggressive as a result of their lack of parental affection. Suda (2002) observes that single-parent households, as a new family structure, are weak and much less capable of child support. Olumu and Chege (1994) found that the marital status of a youth's parents might impact rates of pregnancy as well as abortion among adolescent girls. Furthermore, the weakening of family ties also weakens local communities and society in general, which end up more insecure, violent, eroded in their social capitals made of trust and collaborative relationships.

The orphan-hood provides aggregate information about the vulnerability of the child respect to the parental absence (Fig. 2). At the first data collection, No.117 children – corresponding to 35% of the sample – share a very high level of vulnerability due to the absence of both parents. That means the responsibility of their care is demanded to other people within the family. It is interesting to note that No.120 children – corresponding to 36% of the sample – live with the mother only, in other words they are likely to live, at least temporary, in female-headed households<sup>16</sup>.

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<sup>16</sup> As robustness check, we verified whether the use of all available observations (No. 334 OVC) for the elaboration of the orphan-hood index would have changed the estimations: the results are consistent and confirm our assumptions (see footnote 5). Median values, for 2013 and 2014 observations, are steadily 1, corresponding to the 'Low' level, as for the reduced sample.

Figure 2 Orphan-hood index, by year<sup>17</sup>



The longitudinal analysis suggests a positive improvement of the vulnerability level due to parents' absence in the family: in 2014, children with missing parents are No.91, corresponding to 27% of the sample. Conversely, the number of children actually living with both parents has increased to No.99, with a 37% growth rate. This result is explained by the fact that several absent parents have returned back to the households.

Table 2 provides the transition matrix for the orphan-hood index. The highlighted cells refer to the percentage of children with unchanged vulnerability level across periods: as the table shows, 56.45% of beneficiaries did not change their vulnerability status due to the permanence of both parents in the household. However, the remaining children are characterized by a worsened situation, in particular, 14.52% of them passed from a null level to a very high one, suggesting a re-location – at least temporarily – of the parents far from the household.

The percentage of beneficiaries who improved their situation from 2013 is higher: for example, 15.38% of children with a very high vulnerability level is characterized by a null level one year later. This change supports the idea that several parents returned back to their household during the period of observation.

<sup>17</sup> Different values have been assigned to the variable “mother” and “father” according to their presence and relevance in terms of child care: a higher value, indeed, has been given to the mother, assuming that her absence may have more severe consequences on the child’s wellbeing than the father one. The transformed variables have been summed up and the frequency distribution of the resulting orphan-hood index has been classified in: **Very High** value when both parents are not present (corresponding to the dead, unknown, alive and absent status); **High** value when only the mother is absent; **Low** value when only the father is absent; **Null** value when both parents are alive and present.

Table 2 Transition matrix for Orphan-hood Index

		Orphan-hood Index 2014				% of Total
		Null	Low	High	Very High	
Orphan-hood Index 2013	Null	56.45	17.74	11.29	14.52	100
	Low	23.53	63.87	0.84	11.67	100
	High	56.25	3.13	37.50	3.13	100
	Very High	15.38	20.51	6.84	57.26	100
	% of Total	30.00	33.94	8.48	27.58	100

The most straightforward way to meet the needs of the beneficiaries is to prevent the children from the possibility of becoming orphans by keeping their parents alive and present. The preservation of family social environment is a key point for a substantial reduction of vulnerability. In these terms, data suggest a positive impact of the AVSI project.

It is worth noting that in 2014, 27.58% of the sample is characterized by a very high level of vulnerability and the 33.94% of OVC live with the mother only: these two sub-groups should be targeted in a specific way by AVSI action.

#### 4.2. Child Education, School Attendance and Attitude

The strict majority (83%) of children is enrolled in school programs and attend classes on a regular basis, with a growth rate of 12% compared to the previous year, whereas very few children report irregular attendance (Tab.3). Two-sample non parametric test confirms that there are no significant differences at the mean due to gender or district of residence. The longitudinal analysis shows a statistically significant improvement in school attendance at 1% level.

At the same time, the number of beneficiaries with incomplete dossier and information about their school attendance is reduced respect to the first wave of data collection. However, it is necessary to highlight that missing data are still a relevant feature for this variable.

Table 3 Child attendance at school (wave I and wave II comparison)

Attendance	Full Matched Sample				Reduced Sample				Δ	***
	I WAVE (342 Obs.)		II WAVE (342 Obs.)		I WAVE (330 Obs.)		II WAVE (330 Obs.)			
	Obs.	Perc.	Obs.	Perc.	Obs.	Perc.	Obs.	Perc.		
Extremely irregular	2	0,58	0	-	2	0,61	0	-	-	
Very irregular	1	0,29	0	-	1	0,3	0	-	-	
Irregular	7	2,05	3	0,88	7	2,12	3	0,91	-	
Regular	254	74,27	286	83,63	251	76,06	280	84,85	+	
Missing Data	78	22,81	53	15,50	69	20,91	47	14,24	-	
	<b>342</b>	<b>100</b>	<b>342</b>	<b>100</b>	<b>330</b>	<b>100</b>	<b>330</b>	<b>100</b>		

Note: \*\*\* significant at 1% level; \*\* significant at 5% level; \* significant at 10% level

We asked the social worker (in charge of following-up school-related issues) what could be the main reasons of irregular attendance to school, in order to get useful information for policy recommendations.

As for 2013, the main reasons refer to economic constraints and causes related to the child itself, such as lack of motivation/interest, difficulties in the relation with the teachers a/o other children, lack of self-confidence, cognitive deficiency, pregnancy, recurrent diseases, sickness, and child abduction.

On average, the children performance at school seems fairly good with a higher frequency on the median categories of results (Tab.4). The regular attendance at school might be a leading factor in explaining such results. Again, at the aggregate level, there is a positive and statistically significant variation in the improvement of results.

Although the results suggest an increase of collected data, there is still a problem of missing data which still represent 17.25% of the sample (Full Matched Sample).

Table 4 Child performance at school (wave I and wave II comparison)

School Performance	Full Matched Sample				Reduced Sample				Δ	***
	I WAVE (342 Obs.)		II WAVE (342 Obs.)		I WAVE (330 Obs.)		II WAVE (330 Obs.)			
	Obs.	Perc.	Obs.	Perc.	Obs.	Perc.	Obs.	Perc.		
Bad	4	1.17	8	2.34	4	1.21	8	2.42	-	
Poor	23	6.73	40	11.70	23	6.97	38	11.52	-	
Fair	97	28.36	98	28.65	96	29.09	97	29.39	+	
Good	76	22.22	109	31.87	76	23.03	107	32.43	+	
Great	12	3.51	24	7.02	12	3.64	23	6.97	+	
Excellent	1	0.29	4	1.17	1	0.3	4	1.21	+	
Missing Data	129	37.72	59	17.25	118	35.76	53	16.06	-	
	<b>342</b>	<b>100</b>	<b>342</b>	<b>100</b>	<b>330</b>	<b>100</b>	<b>330</b>	<b>100</b>		

Note: \*\*\* significant at 1% level; \*\* significant at 5% level; \* significant at 10% level

Children are also involved in extra-curricular activities, such as sport activities, theatre and music, on voluntary basis: the survey highlights that, on average, schools are able/can organize mainly sport activities which are found, as commonly expected, attractive for the children.

Table 5 Child Attitude at School (wave I and wave II comparison)

School Performance	Full Matched Sample				Reduced Sample				Δ
	I WAVE (342 Obs.)		II WAVE (342 Obs.)		I WAVE (330 Obs.)		II WAVE (330 Obs.)		
	Obs.	Perc.	Obs.	Perc.	Obs.	Perc.	Obs.	Perc.	
Very Bad	0	-	2	0.58	0	-	2	0.61	+
Bad	11	3.22	13	3.80	10	3.03	13	3.94	+
Fair	57	16.67	85	24.85	56	16.97	82	24.85	+
Good	184	53.80	177	51.75	183	55.45	174	52.72	-
Very Good	3	0.88	9	2.63	3	0.91	9	2.73	+
Missing Data	87	25.44	56	16.37	78	23.64	50	15.15	-
	<b>342</b>	<b>100</b>	<b>342</b>	<b>100</b>	<b>330</b>	<b>100</b>	<b>330</b>	<b>100</b>	

Beyond school performance and extra-curricular activities, the survey assesses the general attitude of the child at school. Indeed, the behavioural attitudes and personality traits of the child, as may emerge in a protected environment such as school, works as significant indicator of psychosocial wellbeing of the

child. With no significant differences at the mean between male and female sub-groups<sup>18</sup>, the child participation in class activities and general behaviour at school is good on average. No statistically significant variations have been found across the periods (Tab.5).

### 4.3. Child health condition

The second broad indicator taken into account is the health condition of the beneficiaries.

Firstly, we asked the social workers to give a general evaluation of children's health condition, in order to get data on their perception of the children's health needs. It is worth noting that the use of broad indicators, based on subjective perceptions, does not lead to quantitative measures of health features; however they have a great descriptive power at the local level and enrich our analysis, which is focused on a large evaluation of the well-being of the beneficiaries. In general terms, we found a general tendency to increasingly evaluate the children as more or less regular in height and weight, with a reduction of extreme evaluations, compared to the first data collection.

The social workers were also asked to evaluate the general hygiene of the beneficiaries, since it may be used as indicator of the received care within the household and, at the same time, of the possibilities of the corresponding families to achieve an acceptable hygiene condition.

Table 6 Evaluation of hygiene condition (wave I and wave II comparison)

	Reduced Sample				Δ
	I WAVE (330 Obs.)		II WAVE (330 Obs.)		
	Obs.	Perc.	Obs.	Perc.	
Very Bad	5	1,52	2	0,61	-
Bad	18	5,45	10	3,03	-
Fair	91	27,58	109	33,03	+
Good	210	63,63	200	60,6	-
Very Good	6	1,82	9	2,73	+
	<b>330</b>	<b>100</b>	<b>330</b>	<b>100</b>	

As Table 6 shows, there is a slightly positive improvement in the qualitative evaluation of the hygiene condition of the beneficiaries. Although in aggregate terms such variations do not achieve any statistical significance, once disaggregated by gender, data suggest that being a girl is significantly associated with a lower level of hygiene, as we found during the first wave of data collection<sup>19</sup>.

The criterion applied to identify child's vulnerability, and thus the programme's direct beneficiaries, is being infected or affected by HIV/AIDS: in other words, beneficiary children are infected by HIV/AIDS or they are seriously exposed to the risk of contagion by living with infected parents a/o guardians.

In general terms, there is still a considerable number of children (No.120 representing 35% of the full matched sample) who have not been tested for HIV/AIDS, regardless of their exposure to the infection risk<sup>20</sup>. In addition, in No.45 cases the social worker who is following the case does not know whether the child has ever been tested, highlighting a specific weakness of preventive controls for the monitoring of the epidemic and identification of project's beneficiaries. We found a positive improvement in the

<sup>18</sup> Two-sample Wilcoxon rank-sum test, *p-value*: 0.3530 for 2013; *p-value*: 0.1224 for 2014 data.

<sup>19</sup> Two-sample Wilcoxon rank-sum test, *p-value*: 0.0041 for 2013; *p-value*: 0.0016 for 2014 data.

<sup>20</sup> We remind that considering the total number of collected questionnaires (No. 426) during the first wave, No.234 OVC have never been tested for HIV/AIDS, representing almost 55% of the sample.

number of tested children between the two waves with a reduction rate of almost 37% of not-tested children (Tab. 7).

Table 7 Child status with respect to HIV/AIDS testing<sup>21</sup> (wave I and wave II comparison)

	Full Matched Sample				Reduced Sample				Δ	***
	I WAVE (342 Obs.)		II WAVE (342 Obs.)		I WAVE (330 Obs.)		II WAVE (330 Obs.)			
	Obs.	Perc.	Obs.	Perc.	Obs.	Perc.	Obs.	Perc.		
Tested and positive	19	5.56	20	5.85	18	5.45	19	5.76	+	
Never tested	190	55.56	120	35.09	184	55.76	116	35.15	-	
Tested less than 6 months and negative	25	7.31	10	2.92	24	7.27	10	3.03	-	
Tested more than 6 months and negative	72	21.05	146	42.69	70	21.22	143	43.33	+	
Tested but not reveal	-	-	1	0.29	-	-	1	0.31	+	
Don't know	36	10.53	45	13.16	34	10.3	41	12.42	+	
	<b>342</b>	<b>100</b>	<b>342</b>	<b>100</b>	<b>330</b>	<b>100</b>	<b>330</b>	<b>100</b>		

Note: \*\*\* significant at 1% level; \*\* significant at 5% level; \* significant at 10% level

In aggregate terms, there is a statistically significant variation in the HIV/AIDS status: in particular, a large reduction of children never tested, as well as a large increase of “children tested more than 6 months ago and negative” lead to a general improvement of the indicator.

Tuberculosis (TB) is a leading killer of people living with HIV causing one fifth of all deaths (WHO, 2014). Despite the rising morbidity and mortality of tuberculosis in patients with HIV/AIDS<sup>22</sup> infection and, in turn, the higher risk to contract tuberculosis once HIV-positive, almost all the surveyed children still have never been tested for tuberculosis (84.5% of the Full Matched Sample).

<sup>21</sup> We remind that we labelled **Full Matched Sample** the sample composed by all available matched observations between the two waves, as regards the health indicator, it is composed by No.342 OVC. However, as explained in footnote 5, we have to take into account that other variables include some missing values, thus reducing the available sample. For comparison purposes, we verify the HIV/AIDS status in the **Reduced Sample** (composed by No.330 OVC) applied for the construction of the Indexes. Results are consistent and show the same distribution.

This consideration applies to the whole section.

<sup>22</sup> WHO (2014) claims “HIV and TB form a lethal combination, each speeding the other's progress. HIV weakens the immune system. Someone who is HIV-positive and infected with TB is many times more likely to become sick with TB than someone infected with TB who is HIV-negative. TB is a leading cause of death among people who are HIV-positive. It accounts for about 11% of AIDS deaths worldwide. In Africa, HIV is the single most important factor determining the increased incidence of TB in the past 10 years”.

Table 8

Child status with respect to TB testing (wave I and wave II comparison)

	Full Matched Sample				Reduced Sample				$\Delta$
	I WAVE (342 Obs.)		II WAVE (342 Obs.)		I WAVE (330 Obs.)		II WAVE (330 Obs.)		
	Obs.	Perc.	Obs.	Perc.	Obs.	Perc.	Obs.	Perc.	
Tested and positive	-	-	2	0,58	-	-	2	0,61	+
Never tested	294	85,96	289	84,50	285	86,36	282	85,45	-
Tested less than 6 months and negative	3	0,88	1	0,29	2	0,61	1	0,3	-
Tested more than 6 months and negative	6	1,75	14	4,09	6	1,82	14	4,25	+
Tested but not reveal	3	0,88	-	-	3	0,91	-	-	-
Don't know	36	10,53	36	10,53	34	10,30	31	9,39	-
	<b>342</b>	<b>100</b>	<b>342</b>	<b>100</b>	<b>330</b>	<b>100</b>	<b>330</b>	<b>100</b>	

Note: \*\*\* significant at 1% level; \*\* significant at 5% level; \* significant at 10% level

As before, we calculated the variations in TB testing status among the two waves in the Reduced Sample: there is a marginal improvement in the number of children who have been tested and in the number of beneficiaries “tested more than 6 months ago and negative” (Tab.8). However, such variations are very limited and do not reach any statistical significance.

It seems that tuberculosis is not perceived as a major disease and, probably, the dangerous connection with HIV/AIDS is not properly assessed.

Regarding other diseases commonly reported in the Sub-Saharan Africa (diarrhoea, malaria, worms, typhoid, cough/respiratory infections, other diseases), we collected data on their incidence<sup>23</sup> among the sample.

We used these data to construct the Health Index: on the basis of their incidence (as measured at the first data collection) we assigned a higher weight to malaria, worms and other diseases<sup>24</sup> since they affect more often the population under study. Figure 3 summarizes the values assumed by the Health Index during the two years of observation.

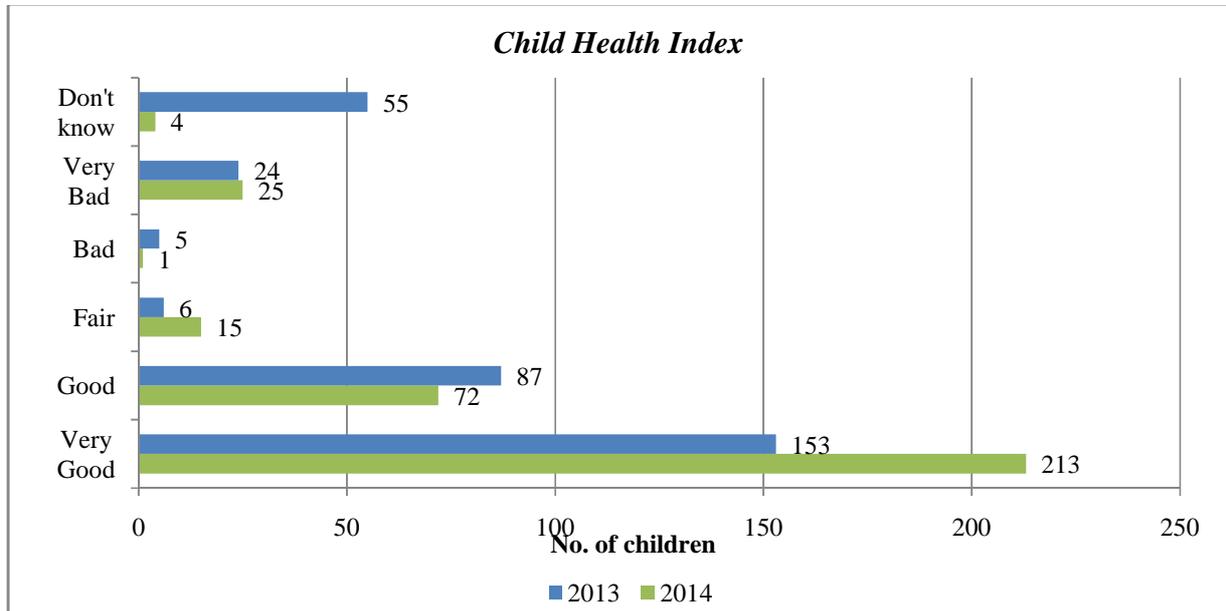
The number of children associated to a *Very Good* health condition is considerably increased and data report a corresponding reduction in the number of beneficiaries lying in the lower categories. However, the number of beneficiaries associated to a *Very Bad* health condition seems almost unaffected by the implementation of the AVSI project. It is also interesting to underline that the number of children with not complete monitoring information has been considerably reduced, suggesting a revitalized effort by AVSI and local partners in get basic health information and systematize them<sup>25</sup>.

<sup>23</sup> Disease frequency is defined as follows: **Very often**: more than four times a year; **Often**: three/four times a year; **Sometimes**: twice a year; **Rarely**: once a year. We included also a **Don't know** option.

<sup>24</sup> The most cited diseases are toothache, skin diseases, eye problems, stomach pain.

<sup>25</sup> As robustness check, we verified whether the use of all available observations (No.337 beneficiaries for the elaboration of the health index would have changed the estimations: the results are consistent and confirm our analysis. Median values for 2013 are in both samples 4, corresponding to the ‘Good’ level; median values for 2014 are in both samples 5, corresponding to ‘Very Good’ level.

Figure 3 Child Health Index, by year<sup>26</sup>



To closer evaluate the variations among categories, we calculated the transition probability matrix for the Health Index (Tab.9), which introduces a more complex scenario.

In particular, 100% of the beneficiaries associated to the *Don't know* category have changed their status by being clearly recognized in a full defined category; among them, the strict majority is now placed in the *Fair* category or above. 37.5% of children with a *Very Bad* health condition did not change at all, while the remaining part has experienced a considerable improvement. The central categories (*Bad* and *Fair*) hold a very limited number of children and their variations should be treated with care. An interesting feature is provided by 67.67% of beneficiaries with a *Good* health condition at the first data collection and actually placed in the *Very Good* category one year later, thus underlining a very positive path. A second element to be mentioned is that only 70.59% of children associated to a *Very Good* health condition keep maintaining the same status, while others report worsened health conditions; among them 6.54% experience a very negative path.

<sup>26</sup> An increasing weight has been assigned to progressively higher frequency of occurrence of every disease; the transformed variables have been summed up obtaining a new frequency distribution, divided into categories of values, as follow:

**Very Bad:** the child is affected often or very often by at least two diseases

**Bad:** the child is affected often or very often by one disease

**Fair:** the child is affected only sometimes by at least three diseases

**Good:** the child is affected only sometimes by one or two diseases

**Very Good:** the child is never or rarely affected by any disease

**Don't know** class refers to OVC whose social workers are not able to provide any information about their health status in relation to the incidence of the selected diseases.

Table 9 Transition matrix for Child Health Index

		Child Health Index 2014						
		<i>Don't know</i>	<i>Very Bad</i>	<i>Bad</i>	<i>Fair</i>	<i>Good</i>	<i>Very Good</i>	<i>% of Total</i>
Health Index 2013	<i>Don't Know</i>	0.00	1.82	0.00	3.64	27.27	67.27	100.00
	<i>Very Bad</i>	0.00	37.50	4.17	20.83	8.33	29.17	100.00
	<i>Bad</i>	0.00	20.00	0.00	0.00	40.00	40.00	100.00
	<i>Fair</i>	0.00	16.67	0.00	16.67	50.00	16.67	100.00
	<i>Good</i>	2.30	5.75	0.00	3.45	21.84	66.67	100.00
	<i>Very Good</i>	1.31	5.23	0.00	2.61	20.26	70.59	100.00
	<i>% of Total</i>	1.21	7.58	0.30	4.55	21.82	64.55	100.00

Results show a good trend in health condition and support the positivity of AVSI intervention; once considering 2014 only, 64.55% of the sample is now placed in the *Very Good* category respect to 46.36% reported one year before.

### ***B. Focus on the household and the caregivers***

Paying attention to the household where children live is also relevant in order to understand the environment where children live, how many people directly or indirectly interact with the children (social ties) and how many people the project interface with.

Thus, this study is intended to gather information on the household wellbeing, in order to properly assess the child social environment and opportunities. In this perspective, we collected data on house characteristics, household's income, assets and consumption: these elements are used to construct indicators of economic wealth.

For the purpose of this study, we define "household" all the people who normally live and eat their meals together at home, as it is said "from the same pot". In 2013, the beneficiaries used to live in households, on average, of almost 9 individuals, whereof No.4 minors aged 0-15 years. That underlines the households are characterized on average by the presence of several children who - assuming these are included in educational programs because of their age - depend totally on the economic capacities of the family.

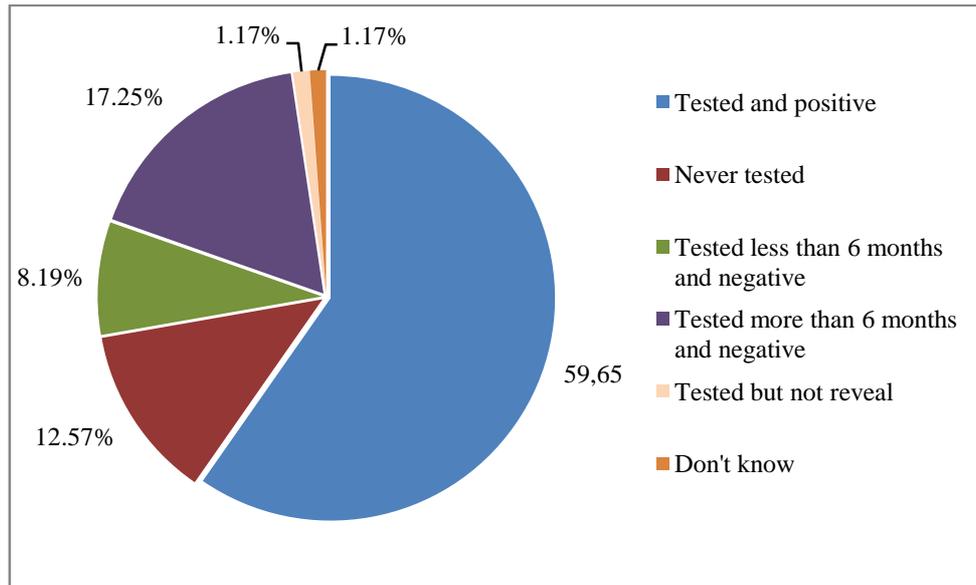
### **4.4. The caregivers: health and quality of the relations with the children**

Children are affected by HIV/AIDS before they are orphaned. When a parent develops HIV-related symptoms, children often shoulder new responsibilities; these include domestic chores such as cooking, cleaning, carrying water and laundry, care giving activities such as feeding, bathing, toileting, giving medication and accompanying relatives for treatment, agricultural or income generating activities and childcare duties. Strategies for coping of extended families have negative impacts on children in households indirectly affected by HIV/AIDS, thus enlarging the overall impact and number of children affected. For example, children may experience reduction in their quality of life when their mother goes to provide home care for an HIV/AIDS-affected relative or because of transfers of money to a sick relative's household. Children may see their standard of living deteriorate when cousins come to live with them following the death of an aunt or uncle.

To investigate the impacts, both negative and positive, on children of such aspects, we decided to explore the caregivers' serological status and the quality of caregiving provided to the children within the household.

In investigating the serological status of the caregivers, we first want to provide an estimate regarding the situation at the time of wave I (2013) calculated on the No.342 available observations (corresponding to the Full Matched Sample) (Fig.4).

Figure 4 Caregivers' serological status at the time of wave I



Note: elaboration based on No.342 observations, Full Matched Sample

Afterwards, since several caregivers have changed across the two waves and yet we needed to assess variations in time as a longitudinal analysis, we explored the existence of any change in the serological status of only the caregivers matched across the waves (No.231). In other words, this reduced sample corresponds to the number of caregivers (defined as the person who takes care of the child on daily basis and with prevalence with respect to other adults of the households, regardless the fact that this might be recognised by AVSI as the official guardian<sup>27</sup>) who remained the same across the two waves of data collection (that is the same respondent for questionnaire administered in wave I and II).

Given these premises, concerning the serological status of the caregivers, one can note a growing number of caregivers who have been tested and resulted HIV-positive across the two waves. Correspondingly, the number of caregivers who have never been tested has decreased (Tab.10).

<sup>27</sup> In 2013 (wave I), there is correspondence between the caregiver responding to the questionnaire and the official guardian in 73.7% of the cases.

Table 10 Caregivers' serological status (variations across wave I and II)

	I WAVE (231 Obs.)		II WAVE (231 Obs.)		Δ	**
	Obs.	Perc.	Obs.	Perc.		
Tested and positive	148	64.07	177	76.62	+	
Never tested	26	11.26	6	2.6	-	
Tested less than 6 months and negative	22	9.52	3	1.3	-	
Tested more than 6 months and negative	30	12.99	33	14.29	+	
Tested but not reveal	1	0.43	3	1.3	+	
Don't know	4	1.73	9	3.9	+	
	<b>231</b>	<b>100</b>	<b>231</b>	<b>100</b>		

With regards to Tuberculosis, one can note an increase across the two waves of data collection in the number of caregivers tested and positive, and a corresponding reduction in the number of caregivers never tested (Tab.11). Although these variations are not statistically significant, these are changes to be taken into account

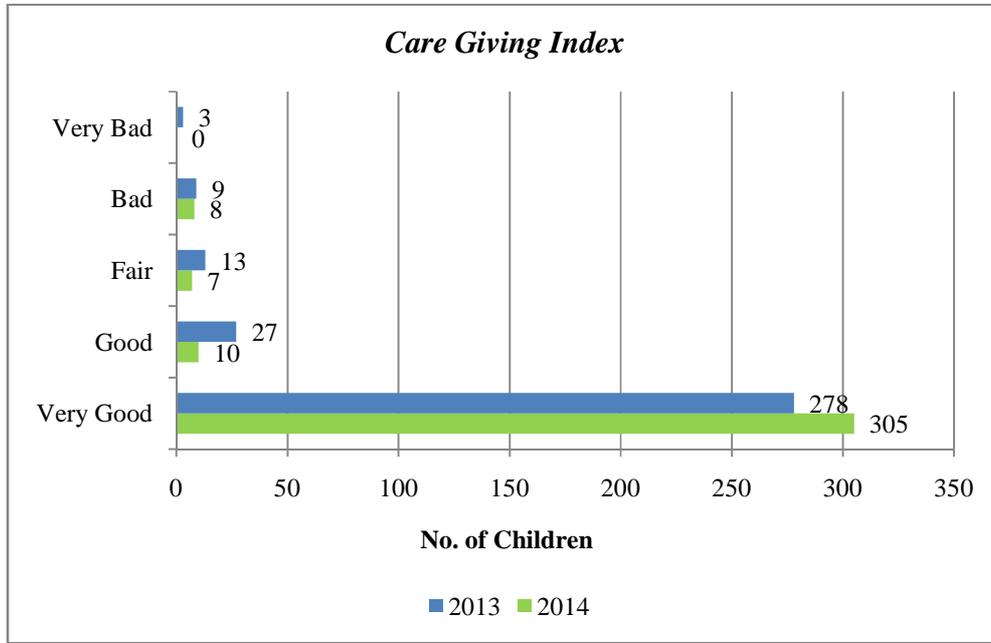
Table 11 Caregivers' TB status (variations across wave I and II)

	I WAVE (231 Obs.)		II WAVE (231 Obs.)		Δ
	Obs.	Perc.	Obs.	Perc.	
Tested and positive	21	9.09	43	18.61	+
Never tested	131	56.71	109	47.19	-
Tested less than 6 months and negative	21	9.09	6	2.60	-
Tested more than 6 months and negative	53	22.94	67	29.00	+
Tested but not reveal	0	-	0	-	-
Don't know	5	2.16	6	2.60	+
	<b>231</b>	<b>100</b>	<b>231</b>	<b>100</b>	

In addition to the health conditions of the caregivers, to assess the vulnerability of the household in which the child lives, we calculated an Index of Caregiving, which is a proxy of the ability of the adult to take care of the child (quality of the relation). The Index of caregiving was built on the basis of the questionnaire items that measure the frequency with which certain actions of caregiving take place between the beneficiary and their caregivers, based on the knowledge possessed by the social worker. Thus, the information included in the index may refer also to different caregivers over time and reflect the measure of care received by any child.

In the comparison between 2013 and 2014, one can note a substantial improvement in absolute terms of the Caregiving Index with No.305 beneficiaries associated to the higher values respect to the No.278 of the first wave<sup>28</sup> (Fig.5).

Figure 5 Index of Caregiving (variations across wave I and II)<sup>29</sup>



It deserves to be noted that also at the first stage of project implementation such index is characterized by a high number of children associated to very good care modalities.

The transition matrix reported in the following table (Tab.12) shows that the children receiving a better caregiving have increased in absolute and percentage terms over time. Particularly, the majority of the children who in 2013 stood in the lower categories, have moved in 2014 into the *Very Good* category.

<sup>28</sup> As robustness check, we verified whether the use of all available observations (No.339 beneficiaries for the elaboration of the caregiving index would have changed the estimations: the results are consistent and confirm our analysis. Median values for 2013 and 2014 observations are in both samples 5, corresponding to the 'Very Good' level.

<sup>29</sup> The Care Giving Index has been built on the basis of the information on the quality of the relations with the child, indicated by the three variables:

- The caregiver listens to the child
- The caregiver spends time with the child
- The caregiver takes care of the child when sick.

An increasing weight has been assigned to progressively higher frequency, which the caregiver uses to take care of the child. The transformed variables have been summed up and the resulting frequency distribution has been divided in classes of values as follow:

**Very Bad:** the caregiver takes care of the child not more than rarely in any of the three modalities

**Bad:** the caregiver takes care of the child not more than sometimes in any of the three modalities

**Fair:** the caregiver takes care of the child often or very often in only one of the three modalities

**Good:** the caregiver takes care of the child often or very often in two of the three modalities

**Very Good:** the caregiver takes care of the child often or very often in all the three modalities.

Table 12 Transition matrix for Caregiving Index

		Care Giving Index 2014					% of Total
		Very Bad	Bad	Fair	Good	Very Good	
Care Giving Index 2013	Very Bad	0.00	0.00	0.00	33.33	66.67	100.00
	Bad	-	0.00	0.00	11.11	88.89	100.00
	Fair	-	0.00	7.69	7.69	84.62	100.00
	Good	-	0.00	3.70	0.00	96.30	100.00
	Very Good	-	2.88	1.80	2.52	92.81	100.00
	% of Total	-	2.42	2.12	3.03	92.42	100.00

Indeed, the improvement experienced by children belonging to the *Very Bad* and *Bad* categories is impressive.

It is conceivable that the activities with the families carried out by AVSI and its local partners have really enhanced the ability of the adults to take care of the children, as demonstrated by the fact that 92.42% of the beneficiaries is now in the *Very Good* category of the Index of caregiving. At the aggregate level the variation in the index is significant at 5% level.

#### 4.5. Household's assets, income and consumption

With the same logic applied to the previous section, household's assets, income level and consumption expenditure might be used to better understand poverty dimensions experienced by the households of the beneficiaries and, in that way, by the children. As it is clearly understandable, poverty and associated effects are the major causes for missed development and lack of opportunities for vulnerable children.

In this perspective, we analysed house furniture, the presence of productive animals and additional possessions – such as television, radio, CD player and others –, which are usually associated to a higher standard of living.

The following table (Tab.13) reports the number of children living (thus indicating possession) in a household endowed with any of the items listed on the first column.

Table 13 House furniture (wave I and wave II comparison)

Items	Full Matched Sample				Reduced Sample				$\Delta$	
	I WAVE (342 Obs.)		II WAVE (342 Obs.)		I WAVE (330 Obs.)		II WAVE (330 Obs.)			
	Obs.	Perc.	Obs.	Perc.	Obs.	Perc.	Obs.	Perc.		
Chairs	205	59.94	230	67.25	200	60.61	225	68.18	+	**
Table	226	66.08	250	73.10	220	66.67	241	73.03	+	*
Bed	232	67.84	249	72.81	226	68.48	241	73.03	+	
Sofa	111	32.46	116	33.92	109	33.03	114	34.55	+	
Mattress	311	90.94	309	90.35	302	91.52	298	90.3	-	
Wash basin	317	92.69	330	96.49	307	93.03	318	96.36	+	*
Stoves	8	2.34	22	6.43	8	2.42	22	6.67	+	***
Pots/Pans	336	98.25	332	97.08	325	98.48	320	96.97	-	
Ploughs	2	0.58	6	1.75	2	0.61	5	1.52	+	

Note: \*\*\* significant at 1% level; \*\* significant at 5% level; \* significant at 10% level

We found a general improvement in the number of house furniture across the two periods of observation, especially referring to the possession of chairs, tables and beds. It is also interesting to cast light on the rising endowment of stoves and sofas, which are, instead, not a common asset at very low income level and play as signal of improved economic wealth.

Almost all the beneficiaries live in households that do not possess any productive animals, with no variations with respect to the data found one year before. This is an expected result since, living in a suburban area of Abidjan, it is very difficult for households to hold some productive animals, and consequently, they essentially base their food consumption on bought products.

The last category of assets we include in the analysis is represented by items that are usually related to improved standard of living and are likely to be associated to some measure of saving capacity of the household. The following table provides information about the number of beneficiaries who live within families endowed by the items listed in the first column, meaning that such families possess the items (Tab.14).

Table 14 Household assets and devices (wave I and wave II comparison)

Items	Full Matched Sample				Reduced Sample				Δ
	I WAVE (342 Obs.)		II WAVE (342 Obs.)		I WAVE (330 Obs.)		II WAVE (330 Obs.)		
	Obs.	Perc.	Obs.	Perc.	Obs.	Perc.	Obs.	Perc.	
Car	8	2.42	8	2.42	8	2.42	8	2.42	
Motorcycle	15	4.55	15	4.55	15	4.55	15	4.55	
Bicycle	11	3.22	15	4.39	9	2.73	15	4.55	+
Generator	4	1.17	-	-	4	1.21	-	-	- **
Car battery	3	0.88	1	0.29	3	0.91	1	0.30	-
TV	245	71.64	251	73.39	239	72.42	247	74.85	+
Mobile phone	325	95.03	329	96.20	314	95.15	318	96.36	+
Radio	112	32.75	100	29.24	110	33.33	99	30.00	-
DVD player	91	26.61	105	30.70	91	27.58	104	31.52	+
CD/mp3 player	41	11.99	57	16.67	41	12.42	56	16.97	+
laptop/desktop pc	17	4.97	22	6.43	17	5.15	22	6.67	+
Watch/clock	89	26.02	66	19.30	85	25.76	64	19.39	- *
Charcoal bags	24	7.02	25	7.31	24	7.27	25	7.58	+

Note: \*\*\* significant at 1% level; \*\* significant at 5% level; \* significant at 10% level

With reference to the Full Matched Sample, approximately 95% of the beneficiaries live in households which do not possess any means of transportation, implying that family members can reach others locations (for example, to buy cheaper food or go to a higher school), only by paying private/public transports at market prices. Beyond this option, it is reasonable to suppose that human activities of family's members are clustered in the neighbourhood they live.

Television and mobile phone are, instead, common assets for the households where the children live and their possession has grown by respectively a 2.5% rate and a 1.2% rate.

The other items in the list – such as radio, DVD player, mp3 players, and watches – are generally regarded as desirable goods. In our sample, they are available for few children at their household level (approximately 15%).

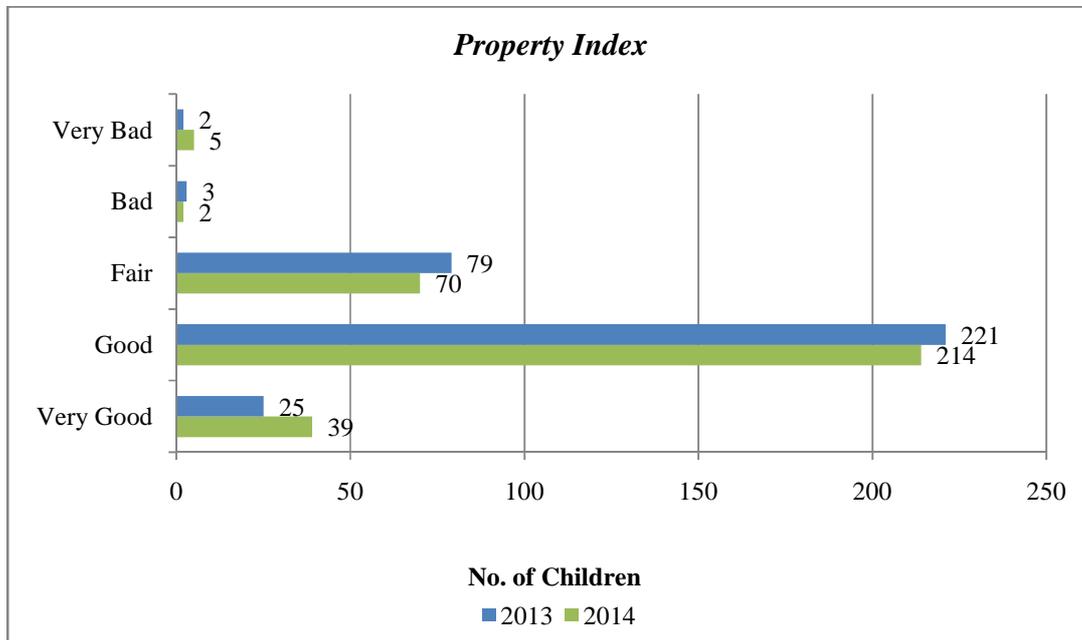
Finally, charcoal sacks, which are durable goods basically used for cooking, are usually adopted as measure of savings of a household. In this case, only 7.3% of the beneficiaries possess in their household at least one sack of charcoal in 2014.

The longitudinal analysis carried out on the Reduced Sample highlights some variations with a general positive trend; however these changes are very limited in absolute terms and rarely reach a statistical significance level.

In general terms, we can derive that although the capacity to invest in house furniture and other assets/devices appear partially improved, living conditions remain quite low and they could be further improved. It is also necessary to remind that, due to the project timing, we had to include a time span of just one year, which is a relatively short period in order to find considerable variations in the possession of durable items such as house furniture and other assets/devices.

In order to measure families' wealth, we developed a Property Index by using some more relevant households' assets – such as basic furniture, improved house furniture, means of transportation, devices - which have been ordered according to their importance/value in supporting higher living conditions (Fig.6). At wave II, it has been confirmed that the majority of the children live in households that at least possess, behind basic house furniture, also common devices (such as a mobile phone) a/o basic means of transportation (such as a bicycle) a/o improved house furniture (such as a sofa).

Figure 6 Property Index, by year<sup>30</sup>



In the Reduced Sample, No.284 OVC live in households associated to *Fair* and *Good* categories of the Property Index, corresponding to 86% of the sample<sup>31</sup>. With respect to the previous observation, there is a slight reduction on the number of children living in households belonging to such categories; however this reduction seems to be compensated by the rise in the number of children living in households belonging to the *Very Good* category, thus suggesting an improvement.

Table 15 provides useful information about the transition of the beneficiaries' households among the different categories of the Property Index. The perception of a general improvement is confirmed by the data: among others, 50% of households in the *Very Bad* category raised their condition till the *Good* category; all households in the *Bad* category raised their condition till the *Fair* category.

<sup>30</sup> We include several items in the elaboration of the Property Index: house furniture (chairs, table, mattress, bed and sofa), means of transportation (bicycle, motorcycle, car), other assets (energy generator, stove, productive animals) and devices (television, mobile phone, laptop/desktop PC). An increasing weight has been assigned to them in relation to higher standard of living; the transformed variables have been summed up obtaining a new frequency distribution, divided into categories of values, as follow:

**Very Bad:** the child live in a household that do not possess any item

**Bad:** the child live in a household that possess only basic house furniture a/o productive animals

**Fair:** the child live in a household that possess also at least a common device a/o basic mean of transportation a/o improved house furniture (sofa)

**Good:** the child live in a household that possess also improved means of transportation

**Very Good:** the child live in a household that possess also improved assets (energy generator, stove) a/o improved device (laptop/desktop PC).

<sup>31</sup> As robustness check, we verified whether the use of all available observations (No.342 beneficiaries) for the elaboration of the Property Index would have changed the estimations: the results are consistent and confirm our assumptions.

Table 15 Transition matrix for Property Index

		Property Index 2014					% of Total
		Very Bad	Bad	Fair	Good	Very Good	
Property Index 2013	Very Bad	50.00	0.00	0.00	50.00	0.00	100
	Bad	0.00	0.00	100.00	0.00	0.00	100
	Fair	0.00	1.27	60.67	36.71	1.27	100
	Good	0.90	0.45	6.79	77.83	14.03	100
	Very Good	8.00	0.00	16.00	48.00	28.00	100
	% of Total	1.52	0.61	21.21	64.85	11.82	100

Children living in households belonging to the *Fair* and *Good* categories have almost seen confirmed or improved their living condition. Conversely, only 28% of the beneficiaries who were living in households belonging to the *Very Good* category remained in the same category, while remaining 72% (No.18 children) experienced an even sharper reduction of their wealth condition.

#### 4.6. Food consumption in the children's households

The purpose of this section of the study is to assess possible variations in the food consumption of the beneficiaries at their household level across the two observations. The following table reports the number of children living in families where any of the listed food items have been consumed within the seven days prior to the administration of the questionnaire (Tab.16).

Cassava and rice are confirmed to be at the basis of the weekly diet of the beneficiaries' household and their consumption is very common across the sample. Fish is largely consumed due to the geographical location of Abidjan, placed on the Ébrié Lagoon and represents a common characteristic of the local diet. The most interesting result is the positive and statistically significant variation in the consumption of meat: this is a less common food item for poor households and its increased consumption is a relevant improvement.

Table 16 Variations in food consumption (wave I and wave II comparison)

Items	Full Matched Sample				Reduced Sample				Δ
	I WAVE (342 Obs.)		II WAVE (342 Obs.)		I WAVE (330 Obs.)		II WAVE (330 Obs.)		
	Obs.	Perc.	Obs.	Perc.	Obs.	Perc.	Obs.	Perc.	
Cassava	289	84.50	297	86.84	278	84.24	286	86.67	+
Potatoes	38	11.11	44	12.87	34	10.30	43	13.03	+
Rice	329	96.20	330	96.49	318	96.36	318	96.36	
Meat	201	58.77	221	64.62	196	59.39	216	65.45	+ *
Fish	315	92.11	331	96.78	304	92.12	319	96.67	+ **
Fruits	162	47.37	122	35.67	158	47.88	121	36.67	- **
Vegetables	325	95.03	336	98.25	315	95.45	324	98.18	+ **
Oil/Butter	305	89.18	297	86.84	296	89.7	288	87.27	-

Note: \*\*\* significant at 1% level; \*\* significant at 5% level; \* significant at 10% level

As in the baseline survey, the children living in Treichville district are associated to a slightly higher consumption of food items, included meat, on percentage.

Food items included in Tab.17 are associated to a higher standard of living: sugar, milk, tea and sodas, indeed, are proportionally more expensive and additional items. Their use is connected to higher consumption possibilities. Surprisingly, all the items are characterized by a negative variation, although only milk consumption reaches a statistical level of significance.

These variations may suggest a worsening of the economic possibility of consumption for the children at their household level; however such negative figure is not supported by other data collected which, on the contrary, cast light on positive results.

Table 17 Variations in food consumption: other items (wave I and wave II comparison)

Items	Full Matched Sample				Reduced Sample				Δ
	I WAVE (342 Obs.)		II WAVE (342 Obs.)		I WAVE (330 Obs.)		II WAVE (330 Obs.)		
	Obs.	Perc.	Obs.	Perc.	Obs.	Perc.	Obs.	Perc.	
Sugar	177	51.75	174	50.88	175	53.03	172	52.12	-
Milk	123	35.96	89	26.02	119	36.06	89	26.97	- **
Tea	131	38.30	118	34.50	130	39.39	118	35.76	-
Sodas	105	30.70	100	29.24	105	31.82	98	29.7	-
Alcohol	17	4.97	20	5.85	16	4.85	20	6.06	+

Note: \*\*\* significant at 1% level; \*\* significant at 5% level; \* significant at 10% level

Almost all the children live in households where alcohol is not consumed. However, this result could be influenced by some effects of social pressure inspired by the survey, since the data seem to be underestimated with respect to considerations driven by common knowledge.

Finally, it is worth noting that almost every child lives in a household that buy food items at the local market at current prices: self-productions are extremely limited and represent rare cases.

#### 4.7. Sources of income in the beneficiaries' households

The wellbeing of the beneficiaries is largely affected by the economic opportunities that the household can provide and, at the same time, by the economic constraints they have to cope with.

Thus, across the two wave of data collection, we explored the existence of variations in the total income level of the households where the beneficiaries live: we used monthly income categories, defined by factual observation of costs of living in Abidjan<sup>32</sup>, in order to obtain an estimate of the economic capacity of households.

On average, the beneficiaries live in households placed in the second income level, that means having a monthly budget between 30,000 and 100,000 CFA. This value does not change across the two observations. Considering that the family size is, on average, around 9 members, data suggest that the beneficiaries live in households highly vulnerable to external economic shocks and characterized by poverty conditions.

Table 18 Household Income level associated to OVC (wave I and wave II comparison)

CFA/month	Full Matched Sample				Reduced Sample				Δ	**
	I WAVE (342 Obs.)		II WAVE (342 Obs.)		I WAVE (330 Obs.)		II WAVE (330 Obs.)			
	Obs.	Perc.	Obs.	Perc.	Obs.	Perc.	Obs.	Perc.		
0 - 30,000	62	18.13	31	9.06	56	16.97	29	8.79	-	
30,001 - 100,000	181	52.92	181	52.92	177	53.64	174	52.73	+	
100,001 - 300,000	84	24.56	118	34.5	82	24.85	115	34.85	+	
above 300,000	10	2.92	8	2.34	10	3.03	8	2.42	-	
Missing Data	5	1.46	4	1.17	5	1.52	4	1.21	-	

Note: \*\*\* significant at 1% level; \*\* significant at 5% level; \* significant at 10% level

With a statistical significance at 5% level, we found an improvement in income level at aggregate terms. Looking at the transition matrix reported in Table 19, it is clear that children who were living in households belonging to the first income level have experienced the major improvement with 66.07% of them now living in households belonging to the second income level, 12.50% in the third income level and 1.69% in the fourth income level. It is interesting to note that only 20% of the children associated to the higher income level remained in the same level of income, whereas 80% have experienced a worsening of their economic condition.

<sup>32</sup> At the time of the first data collection, the income threshold of 30,000 CFA/month approximately corresponds to the income required for one person to live just above the 2USD/day poverty line, at current prices.

Table 19 Transition matrix for Income level

		Income Level 2014					% of Total
		Missing Data	0-30,000	30,001-100,000	100,001-300,000	>300,000	
Income Level 2013	Missing Data	0.00	20.00	0.00	80.00	0.00	100
	0-30,000	1.79	19.64	66.07	12.50	0.00	100
	30,001-100,000	0.56	9.04	59.89	28.81	1.69	100
	100,001-300,000	2.44	0.00	36.59	57.32	3.66	100
	above 300,000	0.00	10.00	10.00	60.00	20.00	100
	% of Total	1.21	8.79	52.73	34.85	2.42	100

In terms of economic activities, almost 60% of the children are associated to caregivers with regular work, and petty trade is the most relevant option for them. On the other side, 26.4% of the beneficiaries are associated to caregivers with any work activity: the majority of these children live in Yopougon district. This percentage has been reduced to 8.5% one year later, with a consequently rise in the number of caregivers involved in at least occasional activities.

Not surprisingly, all caregivers involved in full-time family support are women.

Finally, we gathered information on the presence of debts at the household, if any. It is worth nothing that 56.7% of the children live in a household that required a financial loan, which was to be repaid at the first survey time (wave I). Among them, the perception of such debt as a burden for the family is very high in 43% of the cases, high in 34.7%, tolerable for 15.5% and irrelevant for 6.7%. With respect to the second wave of observation, we found a statistical significant variation in the number of debt holders who have been reduced to 45.6% of the beneficiaries.

At the time of the first data collection, No.19 children lived in households whose members were involved in Income Generating Activity (IGA) initiatives promoted by AVSI; one year later they have become No.41, highlighting the role that economic empowerment is progressively taking in the rationale of the AVSI intervention<sup>33</sup>.

### C. Focus on the community

Combining the most recent theoretical reflections on social capital and development with the importance that community ties have in Africa, we thought important to dedicate a part of the survey to investigate the possible presence and strength of the participants' household relational networks, that is how families are integrated into the community social fabric.

Operationally, we decided to include items to be responded by the guardians/caregivers on the perception they have about their material wealth with respect to the community, respect they received from other members of the community, presence and quality of their network of friends (sociability), as well as help received. We also measured the level of social integration with a specific index meant to assess the varying degree of personal attacks (physical and verbal) to the caregivers and their children.

<sup>33</sup> For a full discussion about the social impact of this project component, refer to the case study "Income Generating Activity component of AVSI project 'Strengthening Sustainable Orphans and Vulnerable Children (OVC) Care and Support in Côte d'Ivoire'" (2014) which analyses ten cases of IGA implemented by AVSI and its local partners.

The idea is to see how the beneficiaries' household community relations have changed over time.

#### 4.8. Perception of the relations with the local community at the level of the households where the children live

To assess how the guardians/caregivers perceive themselves with respect to the local community we focused on four main aspects: wealth, respect received, sociability, own children's health.

The interviewers/enumerators showed the guardians/caregivers the picture of a 10-step ladder, and told them to imagine that at the bottom (step one) stand the poorest people in their community, while at the top (step ten) stand the wealthiest people in their community. We then asked the beneficiaries' caregivers to indicate on which step they would place their household:

- at the exact time of the baseline survey (wave I in 2013) and in one year time (perspective on the future, ideally in 2014);

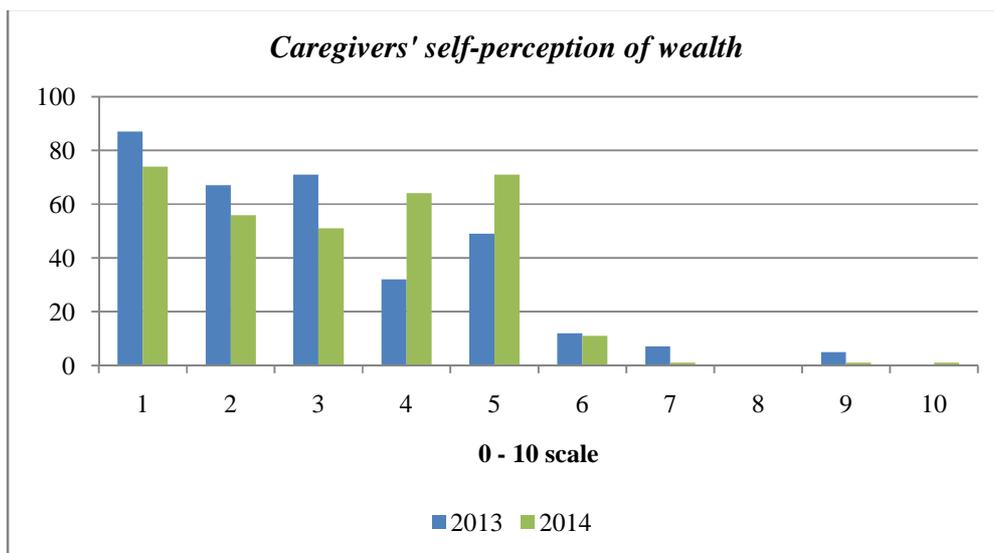
- at the exact time of the follow-up survey (wave II in 2014) and in one year time (perspective on the future, ideally in 2015).

The interviewers/enumerators repeated the question for the least/most respected and least/most sociable people in the community, as well as for the people whose children are the least/most healthy in the community.

Particularly, we compared where the respondents placed their households at the exact time of the data collection in 2013 and 2014. The following figures (Fig.7 – Fig.10) show the variations occurred over time between wave I and II.

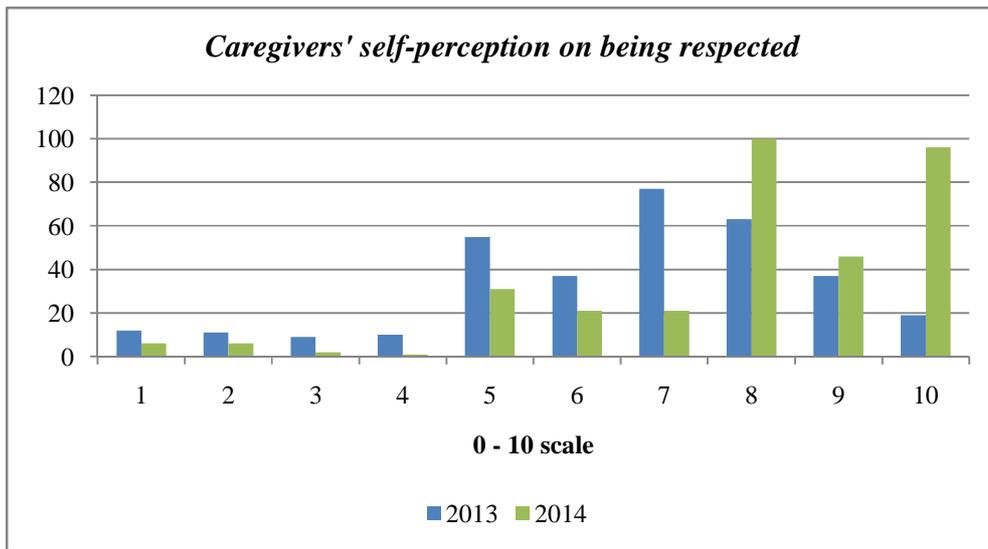
In general, the data show an improvement at the level of perception of the subjects in all areas investigated, with respect to the community. This means that in the transition from 2013 to 2014, the caregivers of the beneficiaries feel wealthier, more respected, more sociable, and that their children are healthier than the previous year, with respect to the community in which they are inserted.

Figure 7 Caregivers' self-perception of their household's wealth with respect to the community



As Fig.7 shows, the number of beneficiaries associated to caregivers who placed themselves in the lower three steps is clearly reduced, with a corresponding increase of placements in the central steps, suggesting an improved perception of wealth.

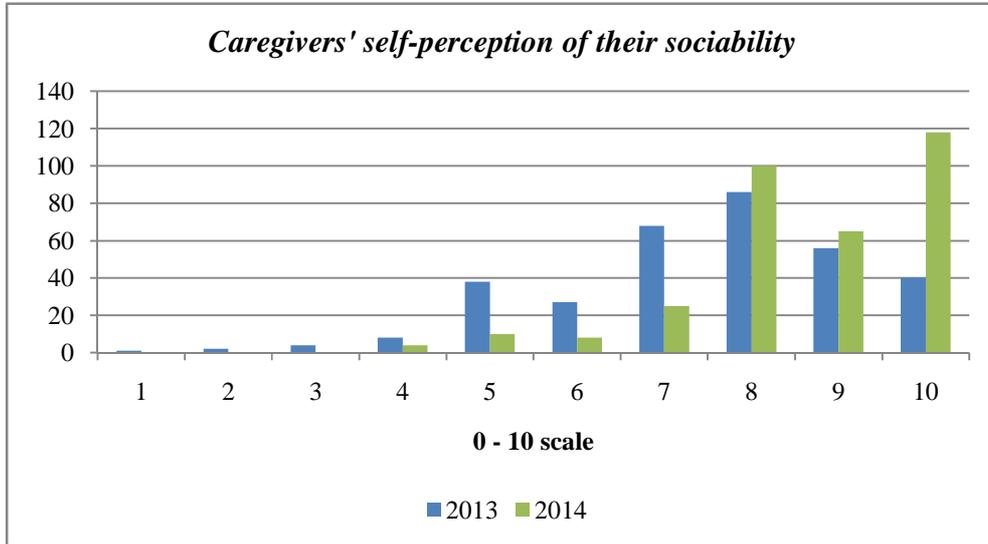
Figure 8 Caregivers' self-perception being respected in relation to the community



As regard the perception of being respected (Fig.8), it is interesting to note that caregivers already placed themselves in moderately high steps at time of wave I, indicating that respect was already perceived as characterizing the relations with the community. In one year, we found a considerable improvement in the same perception.

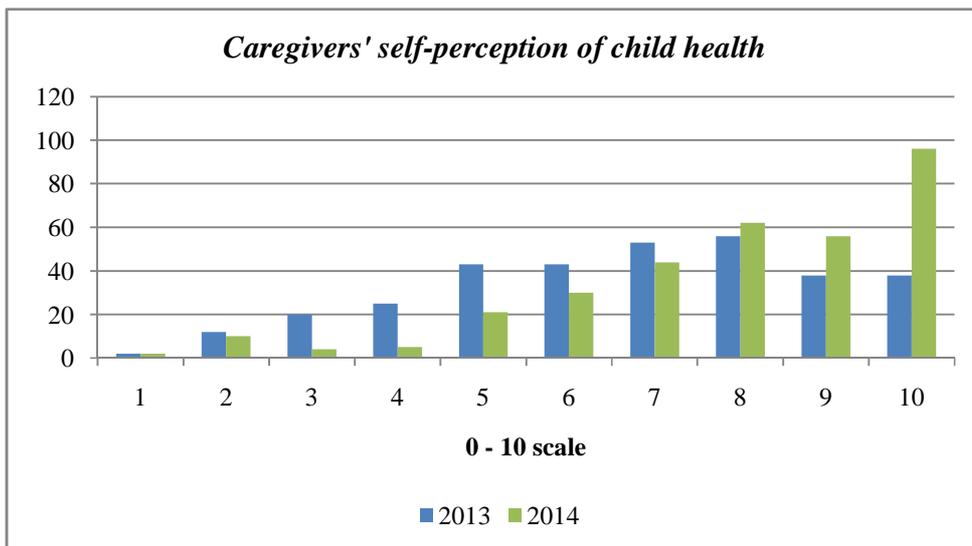
In relation to sociability (Fig.9), data highlight a substantial improvement of the number of beneficiaries associated to caregivers who place themselves in the higher steps of the scale. In particular, in 2013 11.9% of respondents placed themselves in the tenth step – that means the higher one – whereas one year later 35.2% did the same.

Figure 9 Caregivers' self-perception of their sociability with respect to the community



A similar positive trend is also confirmed in relation to the self-perception of the child health with respect to the community, with a considerable improvement of the indicator (Fig.10). In 2013, indeed, only 11.4% of respondents placed themselves in the higher step, whereas one year later 28% of them perceive the child health as very good.

Figure 10 Caregivers' perception of their children's wealth with respect to the community



All variations are statistically significant. In particular, the caregivers' perception of their household's wealth with respect to the surrounding community is statistically significant at 5% level; while all the other perceptions (respect received, sociability, own children's health) are significant at 1% level.

#### **4.9. Social integration**

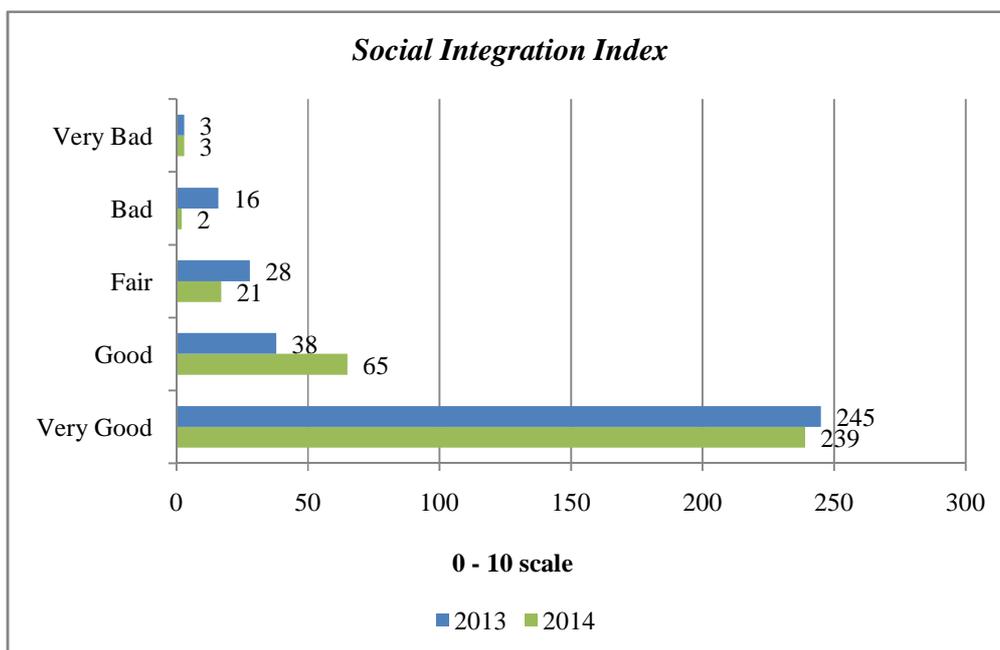
In addition, we investigated the social integration experienced by the caregivers within their communities. Social integration can be seen as a dynamic process where all members participate in dialogue to achieve and maintain peaceful social relations. Then we assumed that being subjected to episodes of verbal abuse, physical aggression and insult to the children from members of the community could indicate, to a varying degree, challenges or obstacles to the process of social integration. On such premises, we built the Index of social integration.

The following chart (Fig.11) illustrates the Social Integration index<sup>34</sup> and its variations across the two waves of data collection. As it is easily understandable, a substantial improvement in the level of social integration of the caregivers occurred over time, as the caregivers who were in 2013 in the lower categories (*Very Bad* and *Bad*) have migrated towards superior categories.

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<sup>34</sup> As robustness check, we verified whether the use of all available observations (No.338 beneficiaries for the elaboration of the caregiving index) would have changed the estimations: the results are consistent and confirm our analysis. Median values for 2013 and 2014 observations are in both samples 5, corresponding to the 'Very Good' level.

Figure 11 Social integration index<sup>35</sup>



In absolute terms, the number of children associated to families with considerable levels of social integration (that means belonging to the *Very Good* and *Good* categories) increased from No.283 to No.304 beneficiaries, corresponding to the 92% of the sample.

Particularly, if we look closely at the transition matrix (Tab.20), we can see that those who were in the *Very Bad* category went up towards the *Good* and *Very Good* categories, and all those who were in the *Bad* category moved up towards higher categories. In other words, data suggest a substantial improvement for all people who were less integrated in the community at the project start. Then the majority of those who were in the *Fair* category went up to the *Very Good* (77.78%), and only a small share remained in the same category or went down. Similarly, majority of those who were in the *Good* category went up to the *Very Good* (68.42%) and majority of those in the *Very Good* remained in the top category (76.45%).

<sup>35</sup> The Social Integration Index has been built on the basis of the information on the quality of the relations with the community, with reference to the possible occurrence of non-peaceful experiences, indicated by the three variables:

- Being insulted during the last 6 months
- Being victim of an aggression during the last 6 months
- The child has been insulted during the last 6 months

An increasing weight has been assigned to progressively higher frequency which the caregiver reports to have suffered such experiences. The transformed variables have been summed up and the resulting frequency distribution has been divided in classes of values as follow:

**Very Bad:** the caregiver has often experienced any of the three circumstances

**Bad:** the caregiver has sometimes experienced any of the three circumstances

**Fair:** the caregiver has rarely or never experienced any three circumstances

**Good:** the caregiver has rarely or never experienced no more than two of the three circumstances

**Very Good:** the caregiver has rarely or never experienced no more than one of the three circumstances

Table 20 Transition matrix for the Social integration index

		Social integration Index 2014					% of Total
		Very Bad	Bad	Fair	Good	Very Good	
Social integration Index 2013	Very Bad	0.00	0.00	0.00	66.67	33.33	100.00
	Bad	0.00	0.00	18.75	43.75	37.50	100.00
	Fair	3.70	3.70	3.70	11.11	77.78	100.00
	Good	0.00	0.00	7.89	23.68	68.42	100.00
	Very Good	0.83	0.41	4.13	18.18	76.45	100.00
% of Total		0.92	0.61	5.21	19.94	73.31	100.00

#### 4.10. Help received by community members

In addition, to assess the quality of the relations with respect to the community, we decided to investigate the help received by the caregivers in making plans for the future on the side of community members.

Table 21 Help received by the caregivers in making plans for the future at the community level

Frequency	Full Matched Sample				Reduced Sample				Δ	***
	I WAVE (342 Obs.)		II WAVE (342 Obs.)		I WAVE (330 Obs.)		II WAVE (330 Obs.)			
	Obs.	Perc.	Obs.	Perc.	Obs.	Perc.	Obs.	Perc.		
Never	251	73.39	301	88.01	242	73.33	289	87.58	+	
Rarely	48	14.04	29	8.48	45	13.64	29	8.79	-	
Sometimes	39	11.40	9	2.63	39	11.82	9	2.73	-	
Often	4	1.17	3	0.88	4	1.21	3	0.91	-	
	<b>342</b>	<b>100</b>	<b>342</b>	<b>100</b>	<b>330</b>	<b>100</b>	<b>330</b>	<b>100</b>		

Note: \*\*\* significant at 1% level; \*\* significant at 5% level; \* significant at 10% level

To some extent, data concerning the help received by the caregivers in making plans for the future are partially in contrast with the results obtained earlier. However, considering the available information, we cannot tell if help was not received because it was asked and denied, or not required at all: it could be the case that in the community there are no subjects – individuals as well as services – able to provide support in making plan for the future.

Table 21 shows, indeed, a negative trend: the number of children whose caregivers were often or sometimes helped by community members in making plans for the future has decreased, while that of children whose caregivers were never helped has increased.

Overall, data suggest the need to move toward a safe, stable and just society by expanding and strengthening conditions of social integration towards peaceful social relations of coexistence, collaboration and cohesion.

## 5. CONCLUSIONS

This study is intended to provide evidence of the impact generated by the AVSI initiative “Strengthening Sustainable Orphans and Vulnerable Children (OVC) Care and Support in Côte d’Ivoire” implemented in Abidjan on the psychosocial wellbeing of vulnerable children and economic strengthening of their families.

The study has highlighted a general improvement in the areas of interests, at all levels under scrutiny.

Particularly, if we look closely at the child level, positive changes occurred in terms of wellbeing:

- Vulnerability due to parental absence has decreased (with a corresponding improvement in the orphanhood index which testifies in 2014 of a “return” of a considerable number of parents who were absent in 2013).
- Child school attendance has improved over time with an increase rate of 12%, and the child relational attitude at school (with teachers and peers) is confirmed to be good.
- Hygiene conditions have slightly improved even without reaching statistical level of significance. However, once we analyzed hygiene conditions by gender, data suggest that being a female is significantly associated to worse hygiene conditions.
- In terms of child health, there is an improvement in testing and monitoring HIV/AIDS incidence: particularly, the number of children tested more than six months prior to the survey and resulted negative has increased, with an associated reduction in the number of the children never tested (37%).
- On the contrary, TB testing is still very limited, thus underestimating the relevant association between HIV and this infection.
- In aggregate terms, the incidence of common diseases, taken into account through the Health Index, show a general reduction with a substantial improvement of the index in absolute terms. However, this positive trend characterizes more the children who reported bad or very bad health conditions at wave I.

Also at the level of the households and caregivers, we found a general positive trend:

- Over time there was a rising attention devoted to the caregivers’ HIV testing, with consequent reduction in the number of caregivers never tested. Slight improvement is also found for TB testing.
- The Caregiving Index, which provides a measure of the frequency with which caregiving behaviors occur between the adult and the child, has marginally increased in 2014. It is important to note that it was already characterized by high values in 2013.
- Seemingly, material resources and assets (at the household level) had a general improvement over time, thus suggesting a rising in the spending capability of the families. Beyond this improvement, living conditions remain quite poor and deserve further actions. Collected data, once aggregated in the Property Index, confirm a general improvement in absolute terms.
- Consumption is confirmed as mainly based on cassava and rice, which are largely available and inexpensive items. It is worth noting that the consumption of meat has significantly increased, whereas the consumption of other items, generally associated to higher standards of living, – such as milk, tea, and sugar – decreased, thus providing mixed results. Children living in Treichville district benefit from a slightly higher consumption of food items.
- In terms of income, the analysis confirms that the beneficiaries live in households highly vulnerable to external economic shocks and characterized by poverty conditions. However, there is a significant improvement in the monthly income level: almost 60% of the children are associated to caregivers with regular work, and petty trade is the most relevant option for them. The number of existing debts as financial loans – to be repaid at the survey time – has reduced over time. Lastly, the number of

beneficiaries living in families involved in *income generating activities* promoted by AVSI/local partners has increased, and this could partially explain the improvement in income level.

Finally, positive variations occurred also at community level:

- The number of children associated to caregivers who perceive themselves (with respect to the community) wealthier, more sociable, more respected and consider their children healthier increased across the two waves of data collection.
- Also the social integration (which refers to the occurrence of non-peaceful experiences in the community) has increased over time, with a substantial improvement for caregivers who in 2013 had a low or very low level of integration into the community social fabric, and a confirmation for those who already were in the top positions.

Longitudinal analysis has been carried out on data disaggregated by districts, and no significant variations were found among the different areas of Abidjan where the program is implemented.

Longitudinal data analysis revealed an improvement in absolute terms the conditions of wellbeing of the children at the psychosocial and economic level, also considering their caregivers and the communities in which they live. Beyond such general improvement, the longitudinal analysis showed also the extreme fluidity that characterizes the life scenarios of the beneficiaries. In practice, there is a high mobility of families, which over time may determine the child dropout from the program or changes in the designed caregiver. There is a state of high fluidity even with regard to the other domains of life: work and income, purchase capability of the households, access to health and education services, community relations.

This scenario of high fluidity must be taken into consideration when devising an intervention in support of a vulnerable population, as it adds up to other factors such as poverty, HIV/AIDS incidence, as well as the complexity of the relational subjects to which the program is addressed. In fact, children are the beneficiaries of the intervention, but they are always embedded in a family and community context of high complexity and volatility.

For this reason it is important for AVSI to collaborate with reliable and strong local partners. They should also be able to accurately monitor and follow-up the cases. Unfortunately, the analysis (and the implementation of the research itself) show that the capacity to follow-up the children and monitoring the activities on the side of AVSI's local partners is still a concern, especially when the partner organization is not well established and an informal management of information and activities is largely applied. For this reason, AVSI should devote specific attention to strengthen their organizational and operational capacities, especially in terms of case and data management.