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Impact Evaluation of the Food Security Programme on Household Food Security in the Western Cape

March 2015

SUMMARY OF PROGRAMME RECOMMENDATIONS

Key recommendations to strengthen the impact and enhance the effectiveness of the food security programme in the Western Cape Province on household food security, as noted from the food security impact evaluation undertaken for the period March 2009 to March 2014, are:

- **Solve weaknesses and inequalities in regards to community garden management/ownership, labour reimbursement and gains:** Additional beneficiaries need to replace beneficiaries no longer involved in community gardens now managed (and benefit derived) through an individual household. The Department needs to investigate the provision of stipends to community gardens managed through an individual household, where benefit is mostly for the community. School gardener's salaries or use of EPWP labourers, needs to be standardised.
- **Support development of family smallholders or commercial farming enterprises:** potential smallholders and/or champions need to be provided with additional support.
- **Improve beneficiary targeting:** There is policy tension between focusing on poor people and poor areas. Since serious hunger is widespread and in similar proportions throughout, beneficiaries should not solely be targeted from poverty nodes. Households should not be restricted based on land tenure, as the poorest of the poor stay in informal settlements without tenure security. Municipal indigent registers are neither up-to-date nor standard, therefore beneficiary identification should also be based on assistance from active roleplayers on the ground. The size of garden space should not disqualify beneficiaries as container planting, vertical trellises, etc can be considered.
- **Review garden input and equipment (suitcase):** The value of the suitcase can be reduced so that more households can be supported, where after households with proven productivity post year one can be awarded with yearly top-up additions as encouragement for continued gardening. The suitcase content needs revision and should include 2 or 3 options for flexibility. To curb immediate sale of suitcase post receipt, change 'acknowledgment of receipt' to an acknowledgement of loan'.
- **Streamline, intensify and advance training offered, and develop additional capacity:** Improve systemic understanding of food security to move beyond agricultural interventions towards cross-sectoral and interdepartmental initiatives. Provide sufficient training notice and at most 10-15 beneficiaries per group. Increase the training duration, and provide multiple training sessions with dedicated topics, so that beneficiaries can learn through repetition. Provide training on sustainability, innovation in production, health and wellbeing, etc. Training evaluations with incentives and disincentives based on performance not attendance, is suggested.
- **Implement permanent training/advice support and mentoring:** A clear exit strategy exists, however beneficiaries need permanent responsive training, as well as advisory and scientific services at low or zero cost to beneficiaries, without continued departmental resources, in order for sustained gardens. Local and de-centralised capacity for mentoring through a 'train the trainer' programme is suggested.
- **Implement a food production strengthening and self-sustainability programme:** Key interventions include: horizontal learning exchange, community based agri-input supply centres/nurseries, ease of access to capital, production diversification, a multiplicity of income sources at start-up, rewards and incentives, food purchasing co-operatives, and local short-food-chain markets.
- **Improve stakeholder collaboration:** Strengthen Departmental partnerships through clarifying Departmental roles, improving local level collaboration through development of District (and Metro) level Food Security sub-committees, undertake civil society exchange and collaboration, and develop a beneficiary stakeholder support referral and tracking system.
- **Monitor and evaluate productivity and food security of beneficiaries:** Suggestions include: registering households on smart pen, designing a dynamic monitoring tool, developing a simplified beneficiary harvest recording sheet, capturing data electronically, enlisting National Rural Youth Service Corps for monitoring assistance, and updating business plan and operational procedures with outcome-based indicators identified through this evaluation.
- **Undertake further research:** Research recommended: identification of 'best packages' to provide nutritious food all year round, determine reasons for lower rate of backyard gardens, compile a take-home training manual, a thorough audit of gardens in the Province, invest in research and development of agro-ecological farming processes and technologies.

The purpose of this evaluation is to determine the impact of the Food Security Programme on household food security in the Western Cape for the period March 2009 to March 2014. The aim of the study is to determine the extent to which the Food Security Programme makes a difference and to consider how to strengthen its impact and enhance its effectiveness.

The **evaluation approach**, as detailed in Section 3 of the main evaluation report, entailed:

- Step 1: Project initiation: this entailed an inception meeting and finalisation of study outcomes
- Step 2: Evaluation framework and research design: literature and previous food security evaluations were reviewed and translated into food security and garden productivity measures. Details of the literature review are contained in Section 2 of the main evaluation report. An evaluation framework was designed to gauge the success of the food security programme and to frame and analyse relevant evaluation questions contained in the project and beneficiary questionnaires/evaluation tools. Sampling ensured provincial spread and distribution of community, school, and household gardens. An inception report was also prepared.
- Step 3: Secondary data collection: this entailed reviewing policy and programme documents, existing case studies, and analysing existing data sets such as the General Household Survey (GHS), South African National Health and Nutrition Examination Survey (SANHANES), etc.
- Step 4: Primary data collection: since this was an ex-post impact evaluation with a strong design evaluation element focusing on programme improvement, a multi-method evaluation approach was utilised in undertaking the evaluation and administering the evaluation framework. The following evaluation methods were used during the evaluation:
 - Site visits and observations
 - Project implementers and extension officer interviews
 - Beneficiary interviews: household, community, and school gardens
 - Stakeholder interviews: Programme Managers, Extension officers, Municipalities, Provincial Departments, food security stakeholders
 - Case studies of other NGOs providing support for development of food gardens
- Step 5: Food security profiling and analysis: An analysis of beneficiaries in terms of profile on participants, the degree of food production and utilisation, change in food security, etc. was undertaken. This was followed by a food security index rating system based on the elements and indicators derived from the primary data collection process. Since issues of food security, hunger, food access, sustainability, etc. are complex, a combination of 6 indexes, rather than a single rating system was used. To determine food garden and food security success factors, correlations between the dependent variable (rating) and the independent variables (factors obtained from the survey) was undertaken for each index.
- Step 6: Impact evaluation report: entailed producing the main evaluation report complete with recommendations, this summary report, and presentation material on the findings.
- Step 7: Reference group consultation: A steering committee ensured constant review.

The following **key problems/issues/challenges were encountered during the evaluation**:

- Sampling and cleaning of dataset challenges:
 - The database of gardens supported differed from that indicated in the TOR:
 - Community database: TOR revealed 205 projects, database reveals 319 projects
 - Household database: TOR revealed 2693 projects, database reveals 4898 projects
 - The datasets contain limited entries, not all fields are populated, and numerous inaccuracies.
 - Duplicate entries contained in both sets were identified, although due to limited completion of fields there was no means of identifying actual number of projects implemented.
 - Entries prior to 2013/14 seem to contain all applications whether accepted/denied.
- Community garden evaluation challenges:
 - Some gardens were difficult to trace as the listed contact person is no longer involved.
 - Some listed community gardens were actually school gardens.
 - All community garden evaluations had pre-scheduled evaluation dates and times, although some evaluations were cancelled without notice.
 - Information availability and quality: Data on production, income, food consumption, etc are based on opinion since gardens are not run as businesses with project records.
- Household garden evaluation challenges:

- Duplicates from the sample were dealt with prior to going into the field, although in the field even more duplicates were noted. Duplicates entailed:
 - Same entries in different years under different member's names but the same household.
 - Same entries in the same year under different member's names but the same household.
 - Different years but exactly the same household member's details and the same household.
- Sampled households claimed not to have received support from the DoA.
- Some households that received assistance refused to be evaluated.
- Many households were difficult to trace due to inaccurate data contained in the database.

In total **54 community food production projects** were evaluated (40 community and 14 schools). A total of 625 household gardens were evaluated (**561 beneficiaries** and 64 non-beneficiaries).

A synopsis of the **profile of community and household beneficiaries**, is as follows:

- Gender distribution of community participants per age groups:

| | Male | Female | TOTAL |
|---------------|------|--------|-------|
| ➤ 15-35 years | 10% | 8% | 18% |
| ➤ 36-59 years | 26% | 33% | 59% |
| ➤ 60+ years | 15% | 8% | 23% |
| ➤ Total | 51% | 49% | 100% |
| ➤ Average | 3.3 | 3.2 | 6.5 |

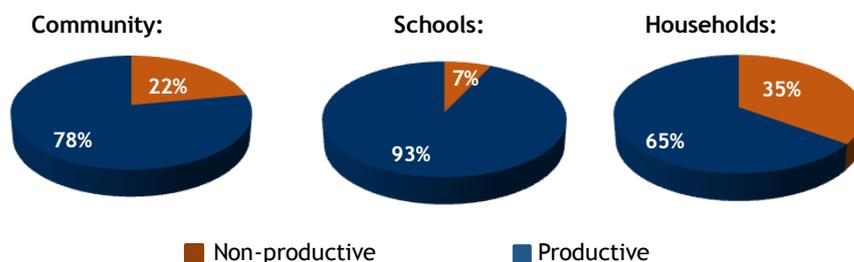
The low share of youth relates to youth regarding farming as an activity for the elderly.

- Beneficiaries of community food production initiatives:
 - Participants, household members and needy community: 46%
 - Participants and household members only: 25%
 - Participants only: 15%
 - Community members only: 14%
 - Total: 100%
- Beneficiaries of school food production initiatives:
 - Share of schools linked to a feeding scheme: 100%
 - Avg. number of school kids that obtain meals at school: 230
- Types of school beneficiaries per school food garden:
 - Scholars only: 36%
 - Scholars and needy community members: 36%
 - Scholars and their household members: 21%
 - Scholars and teachers: 7%
 - Total: 100%
- Gender distribution of household garden participants per age group:

| | Male | Female | TOTAL |
|--------------|------|--------|-------|
| ➤ 0-14 years | 5% | 6% | 11% |
| ➤ 15-35 year | 21% | 13% | 34% |
| ➤ 36-59 year | 21% | 18% | 40% |
| ➤ 60+ years | 9% | 6% | 16% |
| ➤ Total | 57% | 43% | 100% |
| ➤ Average | 1.0 | 0.8 | 1.8 |

At household level a lower share of elderly females help out in food production and a larger share of household gardeners are young. While there is the perception that young people are not interested in farming, and that small-scale production is mostly the preserve of older people, the evaluation shows that a substantial share of the household gardeners are young. At household level, the programme thus offers youth enticement into farming.

An analysis of **food garden productivity and utilisation** revealed that the programme improves food productivity. Over the last year the household gardens had the lowest share of being productive, albeit that a relatively large share are productive:



The likelihood of continuity of non-productive food gardens is as follows:

| | Community: | Household: |
|-----------------------------------|------------|------------|
| • Stopped production indefinitely | 38% | 29% |
| • Considering to continue: | 62% | 71% |

Garden beneficiaries are not productive throughout the year. The following average active garden production months throughout the year are noted:

- Community gardens: 8.6 months per annum productive
- Household gardens: 5.5 months per annum productive

Nearly a quarter of all food consumed comes from that self-produced. The average monthly share of food consumed from that produced is as follows:

| | October | November | December | January | February | March | April | May | June | July | August | September | AVERAGE |
|-------------|---------|----------|----------|---------|----------|-------|-------|-----|------|------|--------|-----------|---------|
| • Community | 25% | 23% | 24% | 23% | 22% | 22% | 23% | 23% | 23% | 22% | 24% | 25% | 23% |
| • Household | 21% | 22% | 24% | 23% | 19% | 17% | 16% | 16% | 21% | 26% | 27% | 28% | 22% |

Only a relatively low share of beneficiaries, perceive gardens as self-sustainable

- Schools garden beneficiaries: 21%
- Household gardens beneficiaries: 16%
- Community garden beneficiaries: 30%

It is noted that there is considerable movement into and out of agriculture: this suggests that many households treat agriculture as a residual activity from which they seek benefit when it suits them, but abandon when it is inconvenient. This especially arises when more remunerative opportunities surface and over December when beneficiaries go back to the Eastern Cape. Nonetheless, the programme enables poor to utilise food production as an element of their livelihood strategies.

The programme also enabled 5% of community projects and 2% of household projects sampled to show potential for progressing to smallholder/commercial and smallholder level of food production, respectively.

A synopsis of the **change in food security** as brought about by the programme reveals:

- Ability to meet food needs pre and post assistance:
 - Community: 33% always met food needs pre assistance and 80% always met food needs post assistance
 - Households: 37% always met food needs pre assistance and 76% always met food needs post assistance
- Degree of households needing to use food coping mechanisms declined for community and household gardens from pre to post assistance.
- Share of beneficiaries claiming improvements in food security after receiving assistance:

| | Community | Household |
|-----------------------------------|-----------|-----------|
| ➢ Amount of food eaten | 59% | 57% |
| ➢ Different types of food eaten | 62% | 59% |
| ➢ Nutritional value of food | 59% | 60% |
| ➢ The health of household members | 59% | 54% |
| ➢ Spend less on food, saving more | 67% | 57% |
| ➢ Quality of agricultural produce | 59% | 58% |

The food gardens provide a source of nutrition not only for the beneficiaries involved in gardening but also members in the surrounding communities. The evaluation revealed that poor households that engage in own-production are more food secure. Access to fresh vegetables (and fruit) also results in healthier lives and reduces the risk of lifestyle diseases like diabetes and hypertension fuelled by poor nutrition. Food production improves household nutrition both directly and indirectly:

- Directly by providing nutrient dense food for consumption, albeit not year round
- By availing money for the purchase of foods, fruit and vegetables, either through sales of produce or through saving on food expenditure.

The contributions which food production is able to make towards increased household incomes is severely constrained by the small parcel size the majority of productive beneficiary households are able to cultivate. Nevertheless, productive beneficiary households appear to achieve higher levels of productivity than non-productive beneficiaries and non-beneficiary households, and are able to generate significant savings on food expenditure as well as earning small but potentially meaningful incomes to supplement other sources of income.

However, the **food security rating index results** revealed in regards to responses to the Household Hunger Score (HHS) that only a minority of productive beneficiaries experience hunger, and that the proportion of those who do is clearly lower than non-productive beneficiaries or non-beneficiaries. Hunger thus does not appear to be a key issue for the vast majority of households.

The Household Food Insecurity Access Score (HFIAS) shows that a significant minority of productive beneficiary households (21%) are nevertheless food insecure, though again less than non-beneficiaries and non-productive beneficiaries and far less than other reference groups in the Western Cape. Taken together with the self-assessment of food security pre- and post intervention, these findings seem to indicate that the programme is reducing hunger and food insecurity.

This is also confirmed by the Coping Strategy Index (CSI) findings, which indicate that about 75% of productive household beneficiaries respondents fall into the lowest CSI quintile. This is not as clear for community garden beneficiaries, which report only 58% in the lowest quintile. However the CSI also shows that food insecure households tend to reduce the quantity and quality of dietary intake in order to cope, thereby compromising nutritional status.

This is further corroborated by the Household Dietary Diversity Scores (HDDS). Even though the productive beneficiaries scores compare favourably with non-productive beneficiaries and non-beneficiaries and other reference groups, the dietary profiles reflect preferences for risky high-calorie foods and animal proteins which place beneficiaries at significant risk of non-communicable diseases like cancer, hypertension, obesity, diabetes, and circulatory disorders. The programme appears to enable productive beneficiary households to improve their level of self-reliance for food and reduce household food expenditure, but this fluctuates seasonally. Also, respondents still rely primarily on the market for food access and 60% spend more than 30% of household incomes on food, making them very vulnerable to food insecurity due to price increases or loss of income.

Key **recommendations to strengthen the impact and enhance programme effectiveness** include:

- Solve weaknesses and inequalities in regards to community garden management/ownership, labour reimbursement and gains
- Support development of family smallholders or commercial farming enterprises
- Improve beneficiary targeting
- Review garden input and equipment (suitcase)
- Streamline, intensify and advance training offered, and develop additional capacity
- Implement permanent training/advice support and mentoring
- Implement a food production strengthening and self-sustainability programme
- Improve stakeholder collaboration
- Monitor and evaluate productivity and food security of beneficiaries
- Undertake further research

Agricultural initiatives are not a panacea for food security. The reason being that the poorest of the poor need food security assistance, but they are not necessarily the most appropriate participants for an agricultural driven programme, which requires participants to have some security, skills, resources, etc. to enable them to do the required gardening and have the leisure to wait for crops to mature. Nonetheless, the programme improves food security of its active participants, and provides beneficiaries with a hand-up, not a hand-out by providing beneficiaries with a daily task which

enables households to be creative, realise their own self-worth and the feeling of being useful to household members and the community. The smallest-scale production makes an important contribution to household livelihoods from household savings on food expenditure per household. In the context of household's low average earnings, these savings can be significant, permitting greater expenditure for education, healthcare, or investment into productive household assets.

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1. EVALUATION SCOPE AND PURPOSE

According to Western Cape Department of Agriculture, the Agricultural Sector of the Western Cape Province produces sufficient food to inter alia provide: one loaf of bread per person per day; 118 kg of apples; 65 kg of pears; 259 kg of grapes; and 127 l of milk per person per day. Notwithstanding this, 23% of the households in the Province reported some form of inadequate food status (GHS, 2013). As such, the purpose of this evaluation is to determine the impact of the Food Security Programme on household food security in the Western Cape for the period March 2009 to March 2014.

The study **aim** is to determine the extent to which the Food Security Programme makes a difference and to consider how to strengthen its impact and enhance its effectiveness. The scope of work entails addressing the following questions:

- How many of the food gardens/projects supported by the Western Cape Province under the programme are still active, and is there any difference in the success rate between household and community gardens/projects?
- Who are the beneficiaries (male/female/children) that are doing the actual work in the projects?
- Develop an appreciation of the internal programmatic and external factors that contribute to success of the programme and sustainability of household and community food production initiatives, as well as those factors associated with less successful outcomes (impact evaluation).
- What factors were associated with discontinuation/failure of household and community gardens/projects?
- What difference did the food gardens/projects make in the socio-economic and household food security status of beneficiaries?
- Describe and quantify the contribution of the food security interventions in terms of the variety of food, the volume of food that is available over a certain period and the nutritional value of the food to the households.
- What changes in the Department's interventions should be introduced in order to enhance the success rate of this intervention?
- Develop informed perspectives on future directions for the food security program in keeping with the findings of the evaluation and the current policy and food systems environments (design evaluation).

This report, submitted by Kayamandi Development Services (Pty) Ltd, serves as a main summary report for the undertaking of the Impact Evaluation of Food Security Programme on household food security in the Western Cape, on behalf of the Unit for Technical Assistance an initiative of the Western Cape Provincial Department of Agriculture (WC: PDA), administered by **Casidra** SOC Ltd.

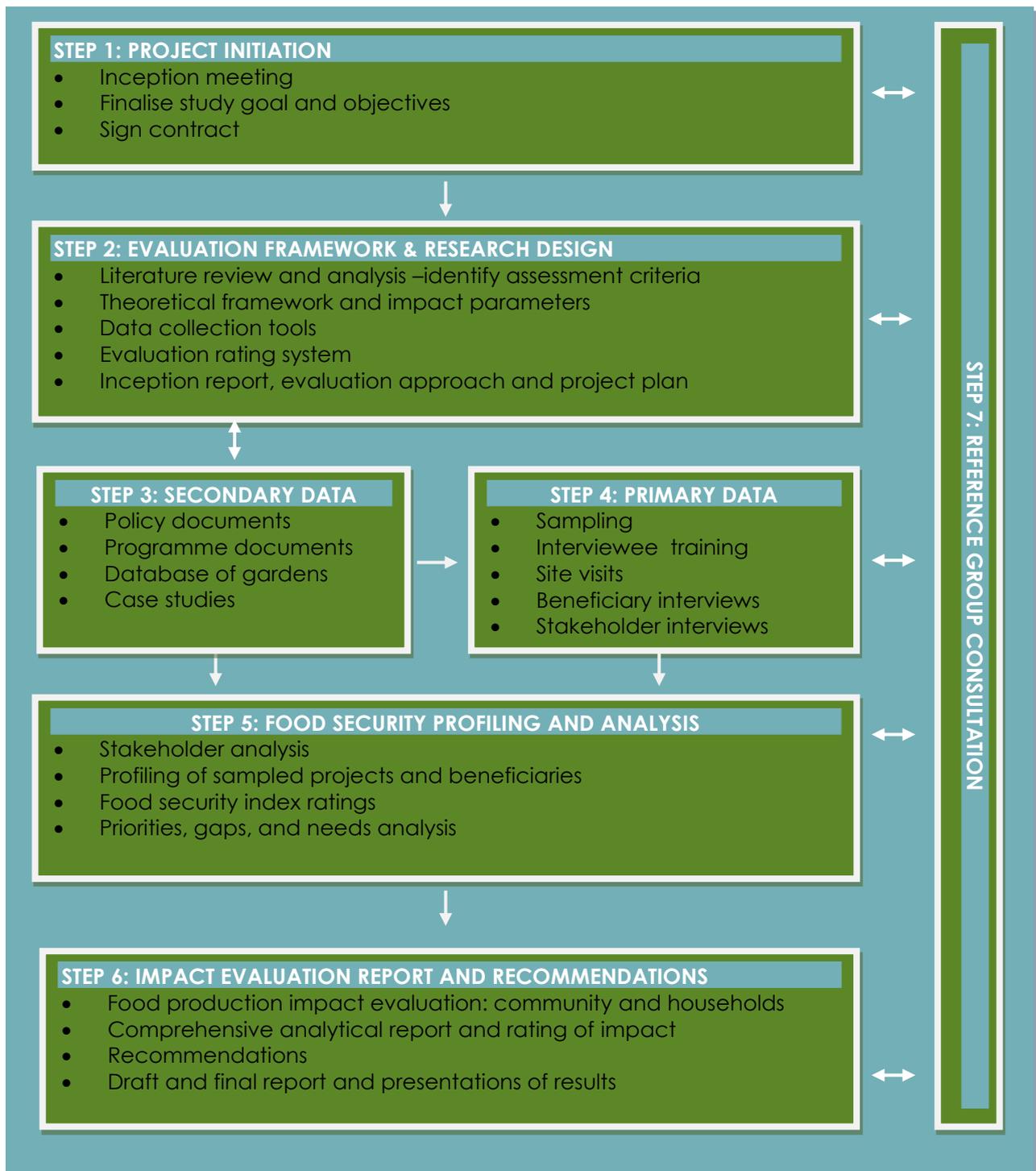
The following sections form part of this report:

- Evaluation approach
- Overview of food production initiatives
- Food Security Index Rating Results
- Key programme recommendations

The Comprehensive Evaluation Report is annexed to this report.

2. EVALUATION APPROACH

The evaluation was conducted according to these main steps as shown below.



The following evaluation methods were used during the evaluation:

- Site visits and observations
- Document/record analysis
- Project implementers and extension officer interviews
- Beneficiary interviews: household, community, and school gardens
- Stakeholder interviews: Programme Managers, Extension officers, Municipalities, Provincial Departments, and food security stakeholders
- Case studies of other NGOs providing support for development of food gardens

The following key problems/issues/challenges were encountered during the evaluation:

Sampling and cleaning of datasets:

- The database of gardens supported differed from that indicated in the TOR:
 - Community database: TOR revealed 205 projects, database reveals 319 projects
 - Household database: TOR revealed 2693 projects, database reveals 4898 projects
- The datasets contain limited entries, not all fields are populated, and numerous inaccuracies.
- Duplicate entries contained in both sets were identified, although due to limited completion of fields there was no means of identifying actual number of duplicates or projects implemented.
- Entries prior to 2013/14 seem to contain all applications whether accepted/denied.

Community garden evaluation challenges:

- Two sampled community gardens were not evaluated, and were replaced with an oversample.
- Some gardens were difficult to trace as the listed contact person is no longer involved.
- Some listed community gardens were actually school gardens.
- All community garden evaluations had pre-scheduled evaluation dates and times, although some evaluations were cancelled without notice.
- Information availability and quality: Data on production, income, food consumption patterns, etc are based on beneficiary's opinion since gardens are not run as businesses with project records. Respondent's level of education and lack of production knowledge led to difficulties.

Household garden evaluation challenges:

- Duplicates from the sample were dealt with prior to going into the field, although in the field even more duplicates were noted. Duplicates entailed:
 - Same entries in different years under different member's names but the same household.
 - Same entries in the same year under different member's names but the same household.
 - Different years but exactly the same household member's details and the same household.
- Sampled households claimed not to have received support from the DoA.
- Some households that received assistance refused to be evaluated.
- Many households were difficult to trace due to inaccurate data contained in the database
- Information availability and quality: same as with community gardens (see above).
- Two non-beneficiary gardens per sample point were targeted, although non-beneficiary gardens did not always exist in each of the sampled areas.

Fieldworkers challenges:

- Some fieldworkers did not turn up for scheduled training, whilst others attended training, received compensation (transport, meals and wage) but quit before starting.
- Many of the fieldworkers, obtained through the municipalities, were actually not unemployed and were noted as only completing surveys part-time.
- Fieldworkers lost interest due to difficulties encountered with obtaining sampled households.
- It was anticipated that weekends and evenings would produce more garden evaluations, although both fieldworkers and households were unwilling/unable to work afterhours.
- Some of the streets within areas assigned to fieldworkers were noted as being severely unsafe and fieldworkers were unwilling to go to these places even though they were from the area. In these cases, other safer areas were identified from the oversample.

Stakeholder interview challenges:

- Not all municipal officials from sampled municipalities were willing to be interviewed.
- Scheduled meetings with officials from two Provincial Departments did not materialise without notice of cancellation, nor did numerous follow-up attempts to obtain information.

3. OVERVIEW OF FOOD PRODUCTION INITIATIVES

This section provides an overview of the following analytical results of the community and household food production initiatives sampled and evaluated:

- Projects sampled
- Profile of beneficiaries
- Food production and utilisation
- Change in food security

3.1 PROJECTS SAMPLED

In total 54 community food production projects were evaluated (40 community and 14 schools) distributed by type and region as tabled hereunder.

Table 1: Number of community projects evaluated per type and region

| REGION | PROJECTS | | TOTAL |
|-----------------|-----------|-----------|-----------|
| | Community | School | |
| Cape Metro | 16 | 2 | 18 |
| Cape Wine lands | 5 | 4 | 9 |
| Central Karoo | 3 | 0 | 3 |
| Eden | 5 | 8 | 13 |
| Overberg | 4 | 0 | 4 |
| West Coast | 7 | 0 | 7 |
| TOTAL | 40 | 14 | 54 |

Source: Kayamandi Community Garden Survey, 2014

Support with community gardens enable previously disadvantaged to participate in land redistribution, which assists with redressing imbalances. The programme also facilitates human resources development and practical training and skills development on food production (gardening, small stock rearing, food production, etc) to both community and household projects.

In total 625 household garden evaluations (561 beneficiary households gardens and 64 non-beneficiary households gardens) were undertaken distributed per region as tabled hereunder.

Table 2: Number of household gardens evaluated per type and region

| REGION | HOUSEHOLD GARDENS | | TOTAL |
|-----------------|-------------------|-----------------|------------|
| | Beneficiary | Non-beneficiary | |
| Cape Metro | 171 | 22 | 193 |
| Cape Wine lands | 43 | 2 | 45 |
| Central Karoo | 104 | 14 | 118 |
| Eden | 64 | 8 | 72 |
| Overberg | 118 | 11 | 129 |
| West Coast | 61 | 7 | 68 |
| TOTAL | 561 | 64 | 625 |

Source: Kayamandi Household Garden Survey, 2014

3.2 PROFILE OF BENEFICIARIES

On average the community gardens have 6.5 participants each with a relatively equal gender share. The gender distribution of community participants per age group is shown below.

Table 3: Average gender distribution of community participants' age group

| GENDER | AGE GROUP OF PARTICIPANTS | | | TOTAL |
|--------------|---------------------------|-------------|------------|-------------|
| | 15-35 years | 36-59 years | 60+ years | |
| Male | 10% | 26% | 15% | 51% |
| Female | 8% | 33% | 8% | 49% |
| Total | 18% | 59% | 23% | 100% |

Source: Kayamandi Community Garden Survey, 2014

Approximately 82% of project's beneficiaries are older than 36 years of age. The reason for the low percentage of respondents younger than 36 years of age is that youth are usually young school leavers who prefer white collar jobs and regard gardening and agriculture as an activity meant for older people. The gender share in age groups of community garden reveals that there is a higher share of male participants older than 60 years of age (15%) than compared with female participants (8%) in the same age group. There are however more female participants between 36 and 59 years of age (33%) compared to males within the same age group (26%).

Community project participants and their household members are however not the only beneficiaries, except for 25% of the projects. The share of beneficiaries of projects, in order of importance is as follows:

- Project participants, households members and needy community: 46%
- Project participants and household members only: 25%
- Project participants only: 15%
- Needy community members only: 14%
- **Total:** **100%**

On average the schools evaluated had the following distribution of scholars:

- Less than 100 school children: 29%
- 101-200 school children: 36%
- 201-500: 7%
- 501-1000: 14%
- 1001+: 14%
- **Total:** **100%**

All of the schools evaluated are linked to a school feeding scheme and ten out of the 14 schools, or 71% of school gardens, have all the children in the school benefit from meals provided at the school. The average share of the schools' school children that benefit from meals provided at the school is 81%. The average number of school children that benefit from meals at schools are 230 children.

The share of school garden's beneficiaries is, in order of importance, as follows:

- Scholars only: 36%
- Scholars and needy community members: 36%
- Scholars and their household members: 21%
- Scholars and teachers: 7%
- **Total:** **100%**

This programme, contributes to the School Nutrition Programme championed by the Department of Education. School food gardens imparts knowledge and practical skills on food production, transforms a barren schoolyard into an attractive space that reconnects learners to the natural world, creates an outdoor environment that promotes creative thinking, active learning and interpersonal skills. School gardens also have the potential to changes learners (the youth's) attitude and value towards agriculture. School gardens also provide a complement to school meals offered through the National School Nutrition Programme (NSNP) through the provision of fresh vegetables.

The below table shows age and gender distribution of household garden participants.

Table 4: Average age and gender distribution of household members that participate in gardening*

| GENDER | AGE GROUP | | | | TOTAL | AVERAGE |
|--------------|------------|------------|------------|------------|-------------|------------|
| | 0-14 | 15-35 | 36-59 | 60+ | | |
| Female | 6% | 13% | 18% | 6% | 43% | 0.8 |
| Male | 5% | 21% | 22% | 9% | 57% | 1.0 |
| Total | 11% | 34% | 40% | 15% | 100% | 1.8 |

Source: Kayamandi Household Garden Survey, 2014

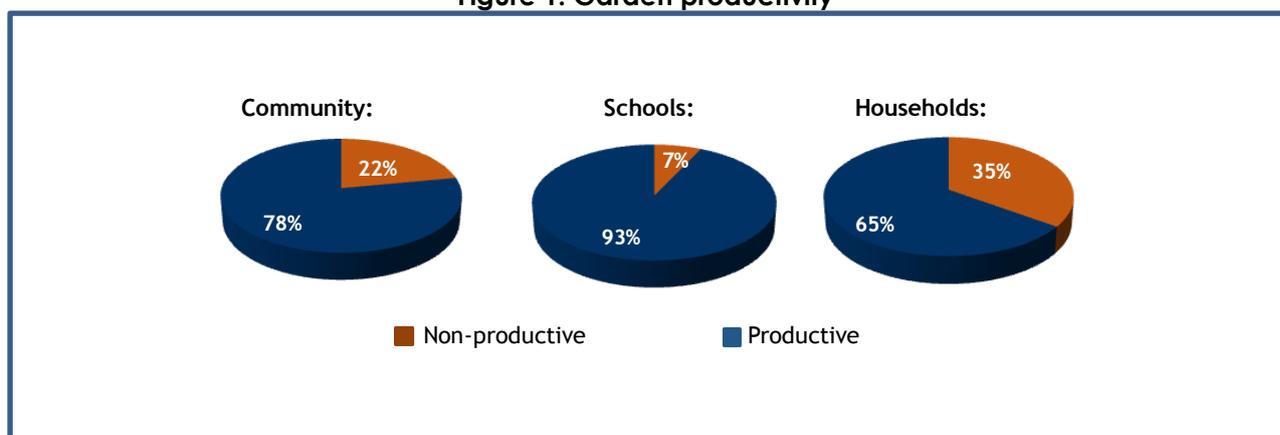
* Productive gardens only

Evidently, in productive household food security projects, an average of 1.8 persons per household help out or are actively engaged in the project. The largest share of members (74%) that participate in the projects are in the economic active age group from 15 to 59 years of age. At household level, the programme however offers youth enticement into farming. More males (57%) than females (43%) help out in household food production.

3.3 FOOD GARDEN PRODUCTIVITY AND UTILISATION

The programme improves food production and contributes to provincial food security by promoting agricultural production among vulnerable households and emerging farmers. Food garden productivity over the last year reveals that household gardens have the lowest share of being productive (65%), albeit that a relatively large share are productive. Thirteen of the fourteen school gardens are productive, and approximately 78% of community gardens are productive. See below.

Figure 1: Garden productivity



The likelihood of continuity of the non-productive food gardens is as follows:

| | Community: | Household: |
|-----------------------------------|------------|------------|
| • Stopped production indefinitely | 38% | 29% |
| • Considering to continue: | 62% | 71% |

There is considerable movement into and out of agriculture: this suggests that many households treat agriculture as a residual activity from which they seek benefit when it suits them, but abandon when it is inconvenient. This especially arises when more remunerative opportunities surface and over December when beneficiaries go back to the Eastern Cape.

A low share of beneficiaries perceive gardens as self-sustainable without requiring additional support:

| | |
|------------------------------------|-----|
| • Schools garden beneficiaries: | 21% |
| • Household gardens beneficiaries: | 16% |
| • Community garden beneficiaries: | 30% |

Nonetheless, the programme enables poor to utilise food production as an element of their livelihood strategies (household food security). The programme also has a positive impact on community development, in that the programme provides opportunities for community members to interact, work cooperatively and influence the practice of growing produce for the household and/or community members.

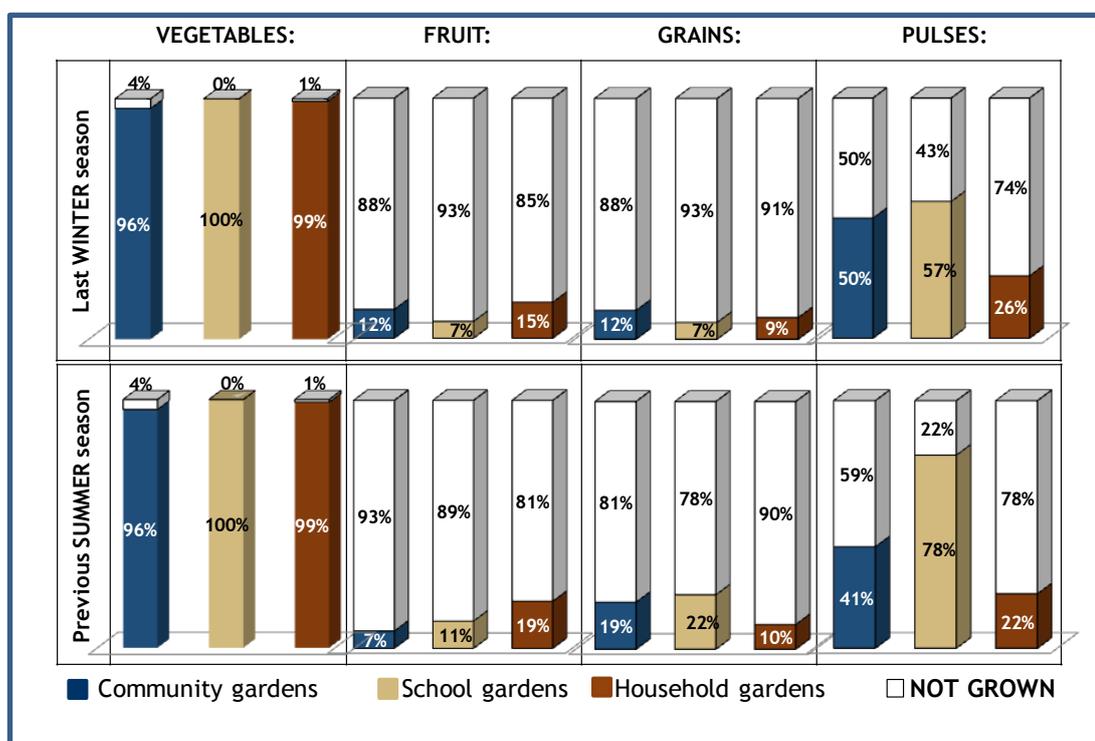
The programme enabled 5% of community projects and 2% of household projects to show potential for progressing to smallholder/commercial and smallholder, level of food production, respectively.

Garden beneficiaries are however not productive throughout the year. The following average active garden production months throughout the year are noted:

- Community gardens: productive for 8.6 months per annum
- Household gardens: productive for 5.5 months per annum

The share of type of produce of food gardens is shown below.

Figure 2: Share of type of produce per season of productive food gardens (per type)



The average monthly share of food consumed from that produced is shown in the below table. Nearly a quarter of all food consumed comes from that self-produced.

Table 5: The average monthly share of food consumed from that self-produced

| | October | November | December | January | February | March | April | May | June | July | August | September | AVERAGE |
|-----------|---------|----------|----------|---------|----------|-------|-------|-----|------|------|--------|-----------|------------|
| Community | 25% | 23% | 24% | 23% | 22% | 22% | 23% | 23% | 23% | 22% | 24% | 25% | 23% |
| Household | 21% | 22% | 24% | 23% | 19% | 17% | 16% | 16% | 21% | 26% | 27% | 28% | 22% |

Source: Kayamandi Household and Community Garden Surveys, 2014

3.4 CHANGE IN FOOD SECURITY

The project participants have been asked to describe their ability to meet beneficiary's food needs before and after assistance as a direct result of the assistance. Their responses are shown below.

Table 6: Ability to meet beneficiaries' food needs pre and post assistance

| TYPE | TIMING OF ASSISTANCE | ABILITY TO MEET FOOD NEEDS | | | TOTAL |
|-------------------|----------------------|----------------------------|--------------------------------|---------------------|-------------|
| | | Never met | Sometimes not met (unforeseen) | Always met (stable) | |
| Community gardens | Before assistance | 3% | 64% | 33% | 100% |
| | After assistance | 0% | 20% | 79% | 100% |
| Household gardens | Before assistance | 11% | 52% | 37% | 100% |
| | After assistance | 4% | 20% | 76% | 100% |

Source: Kayamandi Community Garden Survey, 2014

The degree of meeting participant/beneficiary household members' food needs mostly seem to have improved post assistance. With one-thirds of community beneficiaries food needs being met before assistance and 79% being meet post assistance. Approximately 37% of households always meeting their food needs prior to assistance, whereas three-quarters (76%) always met their food needs post assistance. However, since a third or more of beneficiaries were able to meet their food needs prior to assistance, the degree to which the neediest are being targeted is questioned.

The beneficiaries rating of current food consumption (how much food is eaten) is shown below.

Table 7: Percentage distribution of current food consumption

| TYPE | FOOD CONSUMPTION | RATING | | | | TOTAL |
|------------------|------------------------------------|--------------|-------------------|---------------|---------------|-------|
| | | NEVER enough | Mostly NOT enough | Mostly enough | ALWAYS enough | |
| Community garden | Amount (quantity) of food eaten | 0% | 31% | 38% | 31% | 100% |
| | Food affordability | 5% | 28% | 36% | 31% | 100% |
| | Food variety (different types) | 3% | 31% | 36% | 31% | 100% |
| | Eating of healthy/nutritional food | 3% | 28% | 33% | 36% | 100% |
| Household garden | Amount (quantity) of food eaten | 2% | 13% | 44% | 41% | 100% |
| | Food affordability | 3% | 15% | 46% | 37% | 100% |
| | Food variety (different types) | 1% | 17% | 45% | 36% | 100% |
| | Eating of healthy/nutritional food | 2% | 15% | 42% | 40% | 100% |

Source: Kayamandi Community and Household Garden Surveys, 2014

Approximately two-thirds of community beneficiaries reportedly mostly or always have enough: amount of food to eat, food affordability, food variety, and health/nutritional food. However, approximately a third mostly do not have enough of the aforementioned. Whereas, approximately 80% of household's reportedly mostly or always have enough: amount of food to eat, food affordability, food variety, and health/nutritional food.

The share of beneficiaries that claim improvements in food security after receiving programme assistance per the following food security aspects are noted:

| | Community | Household |
|-----------------------------------|-----------|-----------|
| • Amount of food eaten | 59% | 57% |
| • Different types of food eaten | 62% | 59% |
| • Nutritional value of food | 59% | 60% |
| • The health of household members | 59% | 54% |
| • Spend less on food, saving more | 67% | 57% |
| • Quality of agricultural produce | 59% | 58% |

The share of beneficiaries that agree with the following benefits of the programme, include:

| | Community | Household |
|--|-----------|-----------|
| • We have more food available to us | 70% | 76% |
| • Money used to buy food, can be used for something else | 67% | 74% |
| • We earn more money now, because we sell food | 54% | 31% |
| • Farming efficiency has improved | 66% | 81% |
| • Inspired other households to start food production | 74% | 83% |
| • The programme is benefitting the most needy | 82% | 94% |
| • The programme should be rolled-out to other members | 88% | 77% |

Furthermore, the food gardens provide a source of nutrition not only for the beneficiaries involved in gardening but also members in the surrounding communities. The programme evaluation revealed that poor households that engage in own-production are more food secure. Food insecurity is associated with the consumption of poor-quality diets, and lower macro- and micronutrient intakes. Nutrient inadequacies are responsible for numerous health problems as they

compromise the immune system. A nutritionally balanced diet can enable persons to live longer and healthier lives and enable persons to remain economically active. Access to fresh vegetables (and fruit) also results in healthier lives and reduces the risk of lifestyle diseases like diabetes and hypertension fuelled by poor nutrition.

4. FOOD SECURITY INDEX RATING RESULTS

Since issues of food security, hunger, food access, etc. are complex, a combination of the following indexes rather than a single rating system was used to determine the extent to which the food security programme makes a difference on household food security in the Western Cape:

- Household Dietary Diversity Score (HDDS) and Dietary Risk Index (DRI)
- Household Hunger Scale (HHS)
- Household Food Insecurity Access Score (HFIAS)
- Food security Coping Strategy Index (CSI)
- Household Food Self-Sufficiency Index (FSSI)
- Household Garden Productivity Index (HGPI)

4.1 HOUSEHOLD DIETARY DIVERSITY SCORE (HDDS) AND DIETARY RISK INDEX (DRI)

A diverse diet is essential for good health, development and productivity. Therefore the diversity of foods consumed is an important indicator of the impact of the WC DoA food security programme.

4.1.1 HDDS and DRI rating approach and framework

The dietary diversity score is a food deprivation scale based on a set of questions which establishes respondent households' consumption of foods belonging to several different food groups in the preceding 24 hours. Each group is counted only once and the positive responses are summed to generate the dietary diversity score. The HDDS is primarily a proxy measure of food security and not a direct reflection of individual nutritional intake (Swindale, A and Paula, B, 2006). Nevertheless, it provides a useful indication of dietary patterns. The following set of 12 food groups is used to calculate the HDDS:

- A: Grains: Mieliepap, Bread, Rice, Pasta, Wheat, Sorghum, etc.
- B: Roots/bulbs (Starchy carbohydrates): Potatoes, Cassava, Sweet potatoes (patats), tubers, etc.
- C: Pulses/legumes: Beans, Peas, Sugar beans, Lentils, Nuts etc.
- D: Vegetables: (non-starchy micro-nutrient rich): Carrots, Beetroots, Onions, etc.
- E: Fruit
- F: Milk and dairy products: Fresh milk, Cheese, Cream, Butter, Yoghurt, etc.
- G: Eggs
- H: Meat: Beef, Pork, Lamb/mutton, Goat, tripe, chicken walkie-talkies (heads and/or feet), etc.
- I: Fish: Fresh fish, Dried fish (bokoms), Prawns, Crab, Crayfish, Mussels/Oysters etc.
- J: Oil/fat: Food made with oil, Food made with fat, Food made with butter
- K: Sugars: Sugar, syrup, sweets, honey, etc.
- L: Other: Spices, sauces, coffee, tea, cooldrink, etc.

In terms of categorising the index to provide an indication of whether or not respondents have a diverse diet, it needs to be noted that the precise number of food groups one should strive to consume over any given period is not commonly mentioned in dietary guidelines. So instead, a dietary risk index was generated by counting the number of health-compromising foods (fatty foods, sugar, meat, dairy, other, processed foods) consumed and the number of health-promoting food groups (pulses, vegetables, and fruit) not consumed (of a total of 9). The Dietary Risk Index (of a total of 9) is calculated as follows:

- Sum of health compromising foods consumed= sum (J+K+H+F+L+M)
- Sum of health promoting food groups NOT consumed (if not consumed convert to consumed and vice versa)= sum(C+D+E)

The categorisation/scoring of this Dietary Risk Index (DRI) are as follows:

- Low dietary risk (1-3)

- Moderate dietary risk (4-6)
- High dietary risk (7-9)

4.1.2 HDDS and DRI evaluation results

The below table provides the HDDS for the garden beneficiaries as well as for comparison data.

Table 8: Household Dietary Diversity Score (DDS) Mean Ratios

| SAMPLE | MEAN/# GROUPS | MEAN RATIO |
|--|----------------|-------------|
| Household beneficiaries: productive | 8.86/12 | 0.74 |
| Household beneficiaries: non-productive | 7.87/12 | 0.66 |
| Household beneficiaries: total | 8.53/12 | 0.71 |
| Non-beneficiary households: total | 8.23/12 | 0.69 |
| Community gardens: productive | 9.94/12 | 0.83 |
| Community gardens: non-productive | 10.0/12 | 0.83 |
| Community gardens: total | 9.95/12 | 0.83 |
| GDARD Siyazondla | 6.16/12 | 0.51 |
| WC SANHANES | 4.6/9 | 0.51 |
| NATIONAL SANHANES | 4.2/9 | 0.47 |
| WC AFSUN | 6.3/12 | 0.53 |

Source: Kayamandi Garden Surveys, 2014; SANHANES, 2013; AFSUN WC, 2008; Gauteng Siyazondla, 2012.

The HDDS mean ratio for productive household beneficiaries is 0.74 and for productive community project beneficiaries is 0.83, while comparator data for HDDS mean ratio reveals lower scores. The targeted communities thus report above-average dietary diversity. This suggests that either the communities served by the programme are of a higher socio-economic status compared to households targeted by the comparison studies, beneficiaries may have inflated their scores, or since households that are/have been involved in food production (whether or not they are supported by the WC DoA Food Security Programme) have been targeted, as opposed to the general low-income population.

A difference is also noted between household participants who are no longer producing food (0.66) and those who are still productive (0.74). Thus, productive participants have a slightly higher average dietary diversity score than non-beneficiaries, and have even more diverse diets than non-productive participants. This can be interpreted in two ways – that participation in the programme is increasing dietary diversity, or that participants may cease production to prioritise more immediate ways of earning livelihoods as a result of increasing poverty and food insecurity.

However, while the dietary diversity scores generally appear high and vegetable consumption is good, the composition of these scores reflects eating habits that are actually problematic: high consumption of grains, sugars, and fatty foods alongside dairy and meat as well as largely non-nutritive other foods like tea, coffee, or cold drinks suggest an energy-dense diet promoting the development of non-communicable diseases like hypertension, obesity, diabetes and osteoporosis.

4.1.3 Household DRI correlation factors

The Dietary Risk Index, was further used to determine which factors have a correlation on high and low dietary risk. The analysis of household garden beneficiaries entailed exploring correlations between dependant variables (dietary risk index classifications) and the independent variables (factors obtained from the primary data) in order to verify their positive or negative relationship for productive household garden beneficiaries. The following are some aspects noted that offer somewhat of a positive correlation with the determination of whether a productive household shows a slightly lower/higher prevalence of high dietary risk:

- The greater the household's income, the higher the prevalence of having high dietary risk
- The prevalence of high dietary risk is lower for
 - Female headed households
 - Reason for part-taking due to food production being primary food source

- Households that obtained additional support other than through the programme alone
- Households with access to good quality water and soil

4.2 HOUSEHOLD HUNGER SCALE (HHS)

The HHS is a household food deprivation scale developed and validated in several cross-cultural settings (Ballard, et al, 2011). The HHS measures food quantity, not dietary quality.

4.2.1 HHS rating approach and framework

The HHS measures food access with a 30-day (4 week) recall period for the following 3 questions:

- Q1: No food of any kind in the house
- Q2: Go to sleep hungry because not enough food
- Q3: Go a whole day and night without eating

Based on the frequency-of-occurrence for each question, the following scoring, is provided:

- Never: 0
- Rarely (1-2 times in the past 30 days): 1
- Sometimes (3-10 times in the past 30 days): 1
- Often (more than 10 times in the past 30 days): 2

The HHS is derived by summing the response scores to three questions measuring household hunger, with a minimum possible score of 0 and a maximum possible score of 6. A score of 0 or 1 reflects no or little household hunger, a score of 2 or 3 reflects moderate hunger, while a score of 4, 5 or 6 reflects severe household hunger (FANTA, 2011).

4.2.2 HHS evaluation results

The below table and figure show the HHS severity for the survey respondents and comparison groups.

Table 9: Severity and prevalence of Household Hunger in the last month

| Respondents | Little to no hunger | Moderate hunger | Severe hunger | Count |
|--|---------------------|-----------------|---------------|------------|
| Productive household beneficiaries | 97% | 3% | 0% | 374 |
| Non-productive household beneficiaries | 92% | 6% | 2% | 187 |
| Total household beneficiaries | 95% | 4% | 1% | 561 |
| Productive non-beneficiaries | 97% | 3% | 0% | 58 |
| Non-productive non-beneficiaries | 83% | 17% | 0% | 6 |
| Total non-beneficiaries | 95% | 5% | 0% | 64 |
| Productive community beneficiaries | 82% | 15% | 3% | 34 |
| Non-productive community beneficiaries | 83% | 17% | 0% | 6 |
| Total community beneficiaries | 82% | 15% | 3% | 40 |
| HSRC Sekhukhune, Limpopo (2006) | 31% | 46% | 22% | 491 |
| WSI GDARD Siyazondla 2012 | 77% | 20% | 3% | 360 |

In the sample groups surveyed, the experience of hunger was reported by only a very small percentage of respondents – 97% of productive household beneficiaries reported little to no household experience of hunger in the preceding month as compared with 92% for non-productive beneficiaries and 95% for non-beneficiaries. Community garden beneficiaries experienced slightly higher share of hunger, albeit still low with approximately 82% of productive community garden beneficiaries and 83% of non-productive community garden beneficiaries experiencing little to no hunger. These findings indicate overwhelmingly that hunger appears not to be a common experience for the vast majority of households supported neither in the community of non-beneficiaries nor among beneficiaries themselves.

The comparison between household beneficiary and non-productive household beneficiary scores may suggest that the programme is indeed having some beneficial impact in slightly reducing the severity of hunger for household garden beneficiaries. However, it is not clear which way causality flows and it may also be the case that households stop producing food because they are experiencing hunger and need to turn to more immediate strategies to earn a livelihood. The fact that non-beneficiary households reported less hunger than the non-productive beneficiaries tends to support the latter interpretation. Community Project beneficiaries reported slightly higher levels of moderate hunger, and non-productive community beneficiaries reported no severe hunger.

However, the fact that hunger was reported by so few respondents in comparison with data collected from two similar populations (Gauteng 2012; Sekukhuneland 2006) suggests that hunger may either have been under-reported, possibly due to stigmatisation of hunger, the sample population have comparatively higher socio-economic status, or else the programme is indeed assisting with reducing the incidence of hunger. This raises the question of whom the programme should be targeted at – the very poorest of the poor may need food assistance, but may not be the most appropriate participants in an agricultural development programme which requires some capital and skills resources as well as a certain sense of security which permits participants to do the required work and wait for the 2-4 months needed for crops to mature.

Note in this regard that the most common experience of hunger appears to have been the lack of available food in the household. This shows that, even though a beneficiary may have a productive garden, there may still not be any available food in the household as crops may not be ready for harvest and that agricultural interventions alone cannot address the immediacy of hunger in poor households.

Overall, these findings show that, in the vast majority of cases, beneficiary and non-beneficiary households alike, experience hunger rarely, if ever. However, this does not imply that they are food secure, nor that they are achieving balanced nutrition. The data also shows that there appears to be a small minority of households, which are experiencing acute hunger often. For such households, agricultural interventions are not the most appropriate, as they do not have the leisure to wait for crops to mature. For these households, more immediate interventions such as food aid or income grants could be more appropriate. In short, the Department of Agriculture and agricultural initiatives, is not a panacea for food security.

4.3 HOUSEHOLD FOOD INSECURITY ACCESS SCORE (HFIAS)

The household food insecurity access scale is a direct, internationally validated scoring of a household's ability to obtain sufficient food, i.e. a measure of the degree of food insecurity (access) in households (Coates, J et al, 2007).

4.3.1 HFIAS rating approach and framework

The HFIAS measures food access with a 30-day (4 week) recall period for the following 9 questions:

- Q1: Worry not enough food to eat
- Q2: Not able to eat foods chosen
- Q3: Eat limited variety of foods
- Q4: Eat foods did not want to
- Q5: Eat smaller meals needed
- Q6: Eat fewer meals a day
- Q7: No food of any kind in the house
- Q8: Go to sleep hungry because not enough food
- Q9: Go a whole day and night without eating

Based on the frequency-of-occurrence for each question, the following scoring, is provided:

- Never: 0
- Rarely (1-2 times in the past 30 days): 1
- Sometimes (3-10 times in the past 30 days): 2
- Often (more than 10 times in the past 30 days): 3

Based on the frequency-of-occurrence for each of the 9 questions, the HFIAS is calculated as follows:

- HFIAS (of a total of 27) = sum (Q1+Q2+Q3+Q4+Q5+Q6+Q7+Q8+Q9)

The score is used to calculate the HFIA prevalence – this measure categorises responses into four degrees of food insecurity:

- **Food secure:** if (Q1=0/1) & (Q2 through Q9=0)
- **Mildly food insecure:** if (Q1=2/3orQ2=1/2/3orQ3=1orQ4=1) & (Q5-9=0)
- **Moderately food insecure:** if (Q3=2orQ3=3orQ4=2/3orQ5=1/2orQ6=1/2) & (Q7-9=0)
- **Severely food insecure:** if (Q5=3orQ6=3orQ7=1/2/3orQ8=1/2/3orQ9=1/2/3)

4.3.2 HFIAS evaluation results

The data for HFIAS is compared with two other relevant sources: the AFSUN Cape Town data (2008) and the SANHANES data for SA and the WC (2013), see below table.

Table 10: Prevalence of HFIAS and CCHIP - count and share

| Respondents | Food secure | Mildly insecure | Moderately insecure | Severely insecure | Total |
|--|-------------|-----------------|---------------------|-------------------|-------------|
| Productive HH beneficiaries | 79% | 7% | 7% | 7% | 100% |
| Non-productive HH beneficiaries | 64% | 7% | 14% | 14% | 100% |
| Household beneficiaries: total | 74% | 7% | 9% | 9% | 100% |
| Productive non-beneficiaries | 60% | 12% | 16% | 12% | 100% |
| Non-productive non-beneficiaries | 50% | 17% | 17% | 17% | 100% |
| Non-beneficiaries: total | 59% | 13% | 16% | 13% | 100% |
| Productive community beneficiaries | 48% | 9% | 13% | 30% | 100% |
| Non-productive community beneficiaries | 29% | 14% | 14% | 43% | 100% |
| Community beneficiaries: total | 45% | 10% | 13% | 33% | 100% |
| WC AFSUN N=1060 | 15% | 5% | 12% | 68% | 100% |
| WC SANHANES (CCHIP) | 58% | 13% | 13% | 16% | 100% |
| SA SANHANES (CCHIP) | 46% | 14% | 14% | 26% | 100% |

Non-productive household beneficiaries (64%) appear slightly more food secure than non-beneficiaries (59%), while the productive household beneficiary population is clearly the most food secure (79%). The SANHANES WC comparator reflects almost exactly the same level of food insecurity (59%) as the non-beneficiary population (58%), although the former reports a slightly higher proportion of severely food insecure respondents (16% as opposed to 13%). Productive community project respondents reported food security levels (48%), clearly lower than the SANHANES WC sample (58%) and reported the second highest levels of severe food insecurity (30%), the highest being reported by non-productive community respondents (43%).

What the findings show is that productive household beneficiaries are far more food secure than both their surrounding communities and the poorest urban communities in Cape Town. However, one cannot infer causality based on this data alone: as one may interpret it as meaning that the programme is improving the food security of its active participants, but it may well be that only those who are already more food secure have the resources (such as pension or disability grants, other businesses as sources of income) that allow them to engage in agricultural activities which usually only generate benefits several months after planting begins, while those less food secure may stop cultivation in order to pursue more immediate ways of generating an income.

In this regard, respondents were also asked to retrospectively evaluate their ability to meet their household food needs pre- and post intervention. The responses are summarised in the table below.

Table 11: Retrospective self-evaluation of food security status: pre- and post-intervention

| Respondents | Intervention | Not met food needs | Sometimes met food needs | Always met food needs | TOTAL |
|------------------------------------|-----------------|--------------------|--------------------------|-----------------------|-------|
| Productive household beneficiaries | Pre assistance | 11% | 49% | 40% | 100% |
| | Post assistance | 4% | 13% | 83% | 100% |

| Respondents | Intervention | Not met food needs | Sometimes met food needs | Always met food needs | TOTAL |
|--|-----------------|--------------------|--------------------------|-----------------------|-------|
| Non-productive household beneficiaries | Pre assistance | 13% | 57% | 30% | 100% |
| | Post assistance | 5% | 34% | 61% | 100% |
| Productive community beneficiaries | Pre assistance | 3% | 62% | 35% | 100% |
| | Post assistance | 0% | 15% | 85% | 100% |
| Non-productive Community beneficiaries | Pre assistance | 0% | 83% | 17% | 100% |
| | Post assistance | 0% | 50% | 50% | 100% |

With regards to household beneficiaries, these findings seem to support the interpretation that the programme is significantly improving food security among both productive household beneficiaries (83% able to meet needs post as opposed to 40% pre-intervention), and among non-productive household beneficiaries (61% post as compared with 30% pre-intervention). These figures are consistent with the current levels of food security reported by household beneficiaries (79% productive beneficiaries are food secure; 64% of non-productive beneficiaries are food secure).

With regards to community beneficiaries, these findings seem to support the interpretation that the programme is significantly improving food security among both productive community beneficiaries (85% able to meet needs post as opposed to 35% pre-intervention), and among non-productive community beneficiaries (50% post as compared with 17% pre-intervention). These figures are consistent with the current levels of food security reported by household beneficiaries (48% productive community beneficiaries are food secure; 29% of non-productive community beneficiaries are food secure).

However, these responses still need to be considered with caution. Firstly, beneficiaries may feel that they stand to benefit from continued assistance if they provide positive feedback and may thus over-state the benefits derived from the programme. Secondly, retrospective evaluation of food security status is highly subjective and subject to a host of biases and distortions.

What these findings suggest is that while the programme appears to be significantly improving food security for some, it is not targeting the most deprived and food insecure, but actually reaches beneficiaries with average levels of food insecurity (which are problematic in their own right). Even among productive household beneficiaries and productive community beneficiaries, there appears to be a significant proportion who remain food insecure (21% of productive household beneficiaries and 52% of productive community beneficiaries), revealing the inadequacy of a purely agricultural intervention in alleviating food insecurity which is a result of complex systemic and socio-economic factors. In addition, household beneficiaries who have stopped food production seem to reflect similar levels of food security as the non-beneficiary comparator group. Therefore, it appears as if any improvements to food security may be short-lived once participants stop food production. In addition, agriculture is a seasonal activity, and careful agro-ecological planning is required to ensure adequate food production throughout the year.

For the most deprived households however, who are struggling on a day-to-day basis to meet their food and other household needs, agricultural interventions may not be effective as they require several resources which the poorest of the poor typically do not have: time to wait for crops to ripen, secure land with good soils or pasture, and sufficient knowledge to produce and market food. Hence, for the poorest of the poor, other interventions are probably more appropriate such as food stamps, food parcels in return for work, basic income grants, etc.

4.3.3 HFIAS correlation factors for household beneficiaries

The HFIAS, was further used to determine which factors have a correlation on food security and insecurity. Household correlation factors for greater food security, include:

- Households headed by youth (20 to 35 years)
- Formal full-time employment and household income
- Regulated form of tenure
- Health of household members

4.4 FOOD SECURITY COPING STRATEGY INDEX (CSI)

When people experience food insecurity and do not have enough money to purchase food, they respond with a variety of coping strategies which allow them to feed household members. The use of coping strategies is a conscious assessment of alternative actions in response to food shocks.

4.4.1 CSI rating approach and framework

The coping strategies index is calculated by assigning different degrees of severity to the coping strategies, multiplying these by the frequency of occurrence and summing the resulting score for each strategy (Maxwell, et al, 2008). Twenty different coping strategies have been assessed. These are grouped according to four types of consumption strategies when household face insufficient food access.

The strategies measuring food access with a 30-day (4 week) recall period, include:

- **Dietary change measures:**
 - Eat less preferred/expensive foods
 - Eat less variety of food
- **Measures to increase household food supply/availability:**
 - Borrow food from friend/relative
 - Purchase food on credit
 - Depend on aid from outside
 - Use part of savings to buy food
 - Send children to work for food
 - Sell assets to buy food
 - Reduce health/education expenses
 - Skip a loan payment
 - Gather wild food, hunt, harvest crops
 - Consume seed stock for next season
- **Measures to decrease number of people to feed:**
 - Send children to eat elsewhere
 - Send household members to beg
- **Measures to ration, or manage the shortfall:**
 - Limit portion size at mealtimes
 - Restrict consumption by adults
 - Feed working members at expense
 - Ration money and buy prepared food
 - Reduce no. of meals eaten in a day
 - Skip entire days without eating

Based on the frequency and severity-of-occurrence, the CSI score is calculated as follows:

- CSI score (of a total of 16) = Frequency (of a total of 4) X Severity (of a total of 4)
- CSI index score (of a total of 200)= sum of individual CSI scores per 20 strategies:
 - 5 Strategies X maximum frequency (4) X Severity (4) =80
 - 5 Strategies X maximum frequency (4) X Severity (3) =60
 - 5 Strategies X maximum frequency (4) X Severity (2) =40
 - 5 Strategies X maximum frequency (4) X Severity (1) =20
 - Sum of above=200

4.4.2 CSI evaluation results

The CSI score results are tabled below.

Table 12: Coping strategy index quintiles (maximum score of 88)

| CSI score | 0-19 | 20-39 | 40-59 | 60-79 | 80+ | Total |
|--|------------|------------|-----------|-----------|-----------|-------------|
| Productive household beneficiaries | 78% | 15% | 4% | 2% | 0% | 100% |
| Non-productive household beneficiaries | 81% | 10% | 5% | 3% | 1% | 100% |
| Household beneficiaries: total | 79% | 13% | 5% | 2% | 0% | 100% |

| CSI score | 0-19 | 20-39 | 40-59 | 60-79 | 80+ | Total |
|--|------------|------------|-----------|-----------|-----------|-------------|
| Productive non-beneficiaries | 76% | 12% | 10% | 2% | 0% | 100% |
| Non-productive non-beneficiaries | 83% | 17% | 0% | 0% | 0% | 100% |
| Non-beneficiaries: total | 77% | 13% | 9% | 2% | 0% | 100% |
| Productive community beneficiaries | 59% | 24% | 6% | 6% | 6% | 100% |
| Non-productive Community beneficiaries | 50% | 33% | 17% | 0% | 0% | 100% |
| Community beneficiaries: total | 58% | 25% | 8% | 5% | 5% | 100% |

The results indicate that the use of coping strategies was similar across the productive and non-productive beneficiaries as well as the non-beneficiaries. The vast majority of beneficiary households fall into the lowest quintile, suggesting that more than 75% of these respondent groups appear relatively food secure. However, non-beneficiaries appear to have a slightly higher proportion of respondents in the third, fourth and fifth quintile than productive participants (11% as opposed to 7%). These differences are small, which may also be a result of the large number of coping strategies queried. The exception are the CSI scores reported by community project beneficiaries - these reflect a larger number of respondents falling into quintiles 2 (25%), 3 (8%) and 5 (5%).

For further comparisons, it is useful to consider a smaller number of coping strategies. The five most common strategies employed by household beneficiaries are:

- Eat less preferred and less expensive foods: 51% of beneficiaries
- Eat less variety of food: 46%
- Limit portion size at mealtimes: 37%
- Use savings to buy food: 28%
- Borrow food from friends or relatives: 20%

All other coping strategies are mentioned by less than 20% of all household respondents and occur only rarely. This finding confirms and explains the findings of the HDDS and the HFIAP: although few households appear severely insecure or experience hunger, those who do experience food insecurity typically compromise dietary quality and quantity of intake. This is problematic in terms of the resulting dietary patterns and health and nutritional outcomes. As a secondary measure, some households may draw on other assets (savings, social capital, seed stock) to cope. These are not sustainable strategies as they erode the households' ability to adapt to shocks and stresses (such as a job loss, major illness, or family bereavement) or engage in other productive activities.

In order to evaluate the severity of coping strategies in the beneficiary communities as compared with other populations studied, the full spectrum of coping strategies was reduced to the standard CSI – five coping strategies found to be almost universal. These five include: eating less-preferred foods, borrowing food/money from friends and relatives, limiting portions at mealtime, limiting adult intake, and reducing the number of meals per day. The following average standard CSI scores were reported for the different sample groups, and two comparator populations:

- WC DoA productive household beneficiaries (N=374): 3.1
- WC DoA non-productive household beneficiaries (N=187): 4.3
- WC non-beneficiary households: 4.3
- WC DoA Community beneficiaries: 3.6
- Bophelong in Gauteng (N=295): 5.3
- Timane in Eastern Cape (N=60): 11.3

This shows that the average CSI of productive household beneficiaries is clearly lower (3.1) than for community respondents (3.6) and non-productive household beneficiaries (4.3) and for the urban comparator groups (WC non-beneficiaries 4.3; Bophelong 5.3), and far lower than the rural comparator group (Timane 11.3).

This supports findings from HHS, HFIAP and DDS that productive household beneficiaries of the WC DoA food security programme appear more food secure than their local community counterparts and other impoverished reference populations. The higher reference score of the local non-

beneficiary community also confirms that the communities targeted generally appear less food insecure and deprived than poor communities in other parts of the province and the country.

This evaluation shows that although the WC populations use standard coping strategies less often than comparator groups from urban Gauteng and the rural Eastern Cape, a small but significant proportion of beneficiary respondents appear to be using these coping strategies frequently, indicating moderate to severe food insecurity. Generally, productive WC DoA household beneficiaries consistently reported lower utilisation of coping strategies than non-beneficiaries and non-productive household beneficiaries, suggesting that the programme is making a measurable, positive impact on food security, enabling beneficiary households to avoid a reduction in the frequency and perceived quality of foods eaten and to preserve household assets.

4.4.3 Household CSI correlation factors

The CSI, was further used to determine which factors have a correlation on being classified as quintile 1 coping (least use of coping strategies) and quintile 5 (highest use of coping strategies). Household correlation factors for using the least coping strategies include:

- Full-time formally employed household members
- Households that received additional assistance
- Household with access to very good water and soil quality
- Household that took part in the programme as a leisure activity have a higher prevalence for using more coping strategies.

4.5 FOOD SELF-SUFFICIENCY INDEX (FSSI)

The Food Self-sufficiency index provides an impression of the degree to which households are able to produce enough food to meet their own needs. In other words it measures the share of food consumed from that which is self-produced.

4.5.1 FSSI rating approach and framework

To derive an impression of the degree to which beneficiary households are able to produce enough food to meet their own needs, beneficiaries were asked:

- To report the percentage of their food needs they were able to produce each month according to each of the following categories:
 - Garden produce: vegetables, fruit, grains, and pulses
 - Animal production: red and white meat
 - Animal production: eggs
 - Animal production: milk
- To report average monthly sales from food produced and average monthly total food bill

From the above data two indicators were used to determine food self-sufficiency, namely:

- A: Average annual share of food groups consumed from own production
- B: Average share of income from food sales as share of total food bill

The food self-sufficiency index (FSSI) is comprised of:

- $FSSI = \text{sum}(A + B)$

In other words it was recognised that in order to be fully self-sufficient in household food needs, households could either produce all the households food needs, or else it could also sell all or some of the food produced in order to be able to purchase, amongst others, food for the household.

With regards to share of food groups consumed from own production, even though households reported the share of household's food needs per food groupings, these need to be weighted according to dietary recommended guidelines for nutritional food consumption outcomes. The precise share of food groups a household should typically strive to consume over any given period is not commonly available nor is there a precise standard. Based on examining food plates, as well

as discussions with local food nutrition experts, the following food group weightings have been utilised to provide an indicative guide of the different types of food that make up a healthy diet:

- Fruit, vegetables, grains, potatoes, beans, peas: 60%
- Milk and dairy: 18%
- Meat, fish, chicken: 14%
- Fat and sugars: 6%
- Eggs: 2%

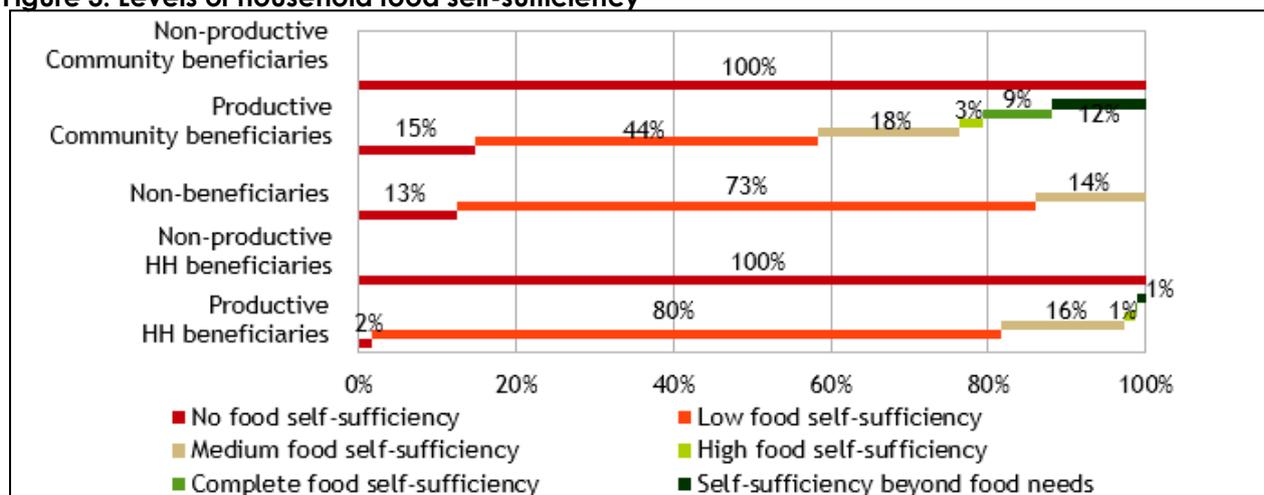
Together the share of food groups consumed from own production (A) and the share of income from food sales as a share of the total household food bill (B) is taken as a proxy for self-sufficiency. Households were scored according to their degree of self-sufficiency as follows:

- No food self-sufficiency: 0%
- Low food self-sufficiency: 0-35%
- Medium food self-sufficiency: 35%-70%
- High food self-sufficiency: 70%-95%
- Complete food self-sufficiency: 95%-120%
- Surplus food self-sufficiency (beyond household food needs): 120% +

4.5.2 FSSI evaluation results

While the use of a weighted aggregate score makes it very unlikely for any of the households to score very high, which is as expected, as limited to no households produce all their households' food requirements, although some households could sell sufficient produce to enable purchasing complete food needs. The below figures show the levels of household food self-sufficiency.

Figure 3: Levels of household food self-sufficiency



The findings reveal that 98% of active (productive) household beneficiaries are achieving some level of self-sufficiency with 16% achieving medium self-sufficiency, this compares favourably with productive non-beneficiaries. Non-productive participants, by definition, are generally not achieving any degree of self-sufficiency. Since productive beneficiaries and productive non-beneficiaries are reporting similar levels of self-sufficiency, this suggests that the food security programme is effectively enabling household beneficiaries to achieve low and somewhat medium self-sufficiency levels, but is not necessarily improving their ability to reach higher levels of self-sufficiency.

However, the programme is clearly enabling community beneficiaries to reach higher levels of self-sufficiency with nearly a quarter of the productive community projects reaching higher than medium self-sufficiency. Furthermore, 12% of productive community projects are self-sufficient beyond their food needs and produce surplus. This may reflect community projects aimed at small-scale commercial production. This correlates with the survey result findings in that more community gardens sell surplus produce and some are run more as businesses than purely meeting food needs. This may also be due to increased levels of productivity because of larger parcels of land and collaborative cultivation.

Agricultural production is inherently cyclical and seasonal, and levels of household self-sufficiency vary accordingly. The average levels of self-sufficiency generally being higher for grains, vegetables and fruit (between 16% and 27%) than for eggs (between 12% and 19%), meat (5% and 10%) and dairy (between 0% and 3%). All categories except for meat reflect a peak productivity in August and September – the end of winter and beginning of spring which usually coincides with rising temperatures and sufficient rainfall to promote crop productivity. Higher meat self-sufficiency levels during December may reflect increased slaughtering to celebrate the festive season.

These findings suggest that improvements in water management and protection of crops from temperature and wind could improve productivity over the winter season. Such improvements could entail agro-ecological approaches such as mulching, swales, perennial hedges as well as technological approaches like rainwater harvesting tanks, shade tunnels, improved irrigation, etc.

The fact that respondents are by and large depend on the market to source the bulk of their food requirements means that they are spending a significant proportion of what income they do earn on household food provisioning. Note the following share of spending more than 30% of income on food:

- Community beneficiaries: 53%
- Productive beneficiary households: 60%
- Non-productive beneficiary households: 71%
- Non-beneficiaries: 74%

What the data shows, however, is that households are extremely vulnerable to food price increases due to fuel price hikes, droughts etc. and that households' ability to invest income into improving household assets, or spending on education or health care is limited. Nevertheless, the fact that active programme beneficiaries report slightly lower levels of expenditure on food suggests that the programme is enabling them to save some money, which could be invested in other ways to improve households' economic status and trajectory. Alternative ways of reducing household food expenditure (e.g. buying co-operatives) could help households further reduce this expenditure, freeing up disposable income for other uses.

4.5.3 Household FSSI correlation factors

The following household factors correlate with higher prevalence of greater food self-sufficiency:

- Female headed households
- Greater number of hours spend on food production
- Less ill household members
- Reason for part-taking in the programme for food production fulfilling the primary food source and/or for generating additional income
- Income and employment have a negative relation to food-self-sufficiency

4.6 HOUSEHOLD FOOD GARDEN PRODUCTIVITY INDEX (HGPI)

Household food garden productivity entails production of any food (vegetables/crops, fruit, grains, etc) during the last year per household garden per garden size.

4.6.1 HGPI rating approach and framework

Food gardens have either been rated as being unproductive or productive.

Unproductive food gardens have been classified as follows:

- Unproductive: Stopped completely or low desire to continue
- Unproductive consider to continue: High or very high desire to continue production

For productive gardens, the following was used to derive an impression of the degree of productivity:

- A: Annual Rand value of food produced (based on market value of produce per type in kilograms)
- B: Number of individual households involved
- C: Garden size in m²

The Household Food Garden Productivity Index (HGPI) is comprised of:

- HGPI = sum (A / B / C)

The levels of productivity, for productive gardens, are further classified according to:

- Low productivity: Less than R50/hh/annum/m²
- Medium productivity: R50-R150/hh/annum/m²
- High productivity: More than R150/hh/annum/m²

4.6.2 HGPI evaluation results

The distribution of classification for the household garden productivity index is tabled hereunder.

Evidently, respondents involved in gardening only, reveal that a larger share of household garden beneficiaries are non-productive (34%), than compared with community garden beneficiaries (18%) and non-beneficiary households (0%). Half of all non-productive community gardens have been classified as considering continuing with gardening, whereas only a third of non-productive household garden beneficiaries are considering continuing. Nonetheless, these community and household beneficiaries should be targeted for additional support to assist in reviving their gardens.

Table 13: Distribution of HGPI classification

| RESPONDENTS | Unproductive | Unproductive consider to continue | Low Productivity | Medium Productivity | High productivity | COUNT |
|--|--------------|-----------------------------------|------------------|---------------------|-------------------|------------|
| Productive household beneficiaries | | | 72% | 18% | 10% | 329 |
| Non-productive household beneficiaries | 65% | 35% | | | | 171 |
| Total household beneficiaries | 22% | 12% | 48% | 12% | 7% | 500 |
| Productive non-beneficiaries | | | 74% | 19% | 7% | 54 |
| Non-productive non-beneficiaries | n.a | n.a | | | | 0 |
| Total non-beneficiaries | 0% | 0% | 74% | 19% | 7% | 54 |
| Productive community Projects | | | 92% | 8% | 0% | 26 |
| Non-productive community Projects | 50% | 50% | | | | 6 |
| Total community Projects | 9% | 9% | 75% | 6% | 0% | 32 |

With regards to productive gardens, note that the overwhelming majority of community gardens are classified as having low productivity (92%), whereas 72% of beneficiary and 74% of non-beneficiary household gardens are classified with a low productivity. None of the community gardens have been classified as having high productivity. Productive household beneficiaries and non-beneficiaries have similar patterns of productivity classification. However, household garden beneficiaries have slightly more gardens classified with a high level of productivity. This seems to indicate that the programme could be improving beneficiary productivity levels.

However, only approximately a third of productive household beneficiaries reported income from the sale of produce – on par with non-beneficiaries. This suggests that the programme does not necessarily influence the proportion of individual household members who generate income from food production. A far greater proportion of productive household beneficiaries (57%) reported earning salaries than compared with non-productive household beneficiaries (43%). Similarly, more productive household beneficiaries reported earning income from pensions than non-productive beneficiaries. Furthermore, when one considers average earnings, it is apparent that on average, productive beneficiaries earn slightly more from salaries than non-productive beneficiaries or non-beneficiaries.

This tends to confirm the interpretation that beneficiary households who earn income from other sources are more likely to be able to continue food production activities as they have a greater degree of financial stability and can afford to invest the effort and time to cultivate. Non-productive beneficiaries often simply cannot afford the time required to engage in food

production as their households are not earning enough from other sources to sustain this activity long enough to derive benefit. Non-productive beneficiaries appear more likely to earn incomes from grants (69% non-productive vs. 59% productive) and rental incomes (10% productive vs 5% non-productive). Very few household respondents reported income from their own businesses, reflecting a low degree of entrepreneurship in the households sampled.

In comparison however, households from productive community garden beneficiaries reveals that the most common source of income reported are income from selling produce, income from grants, and income from pension. Comparatively fewer community garden households earn salaries and wages (28%), compared to productive household garden beneficiaries (57%). Approximately 60% of productive community garden households sell produce compared to only 29% of productive household garden beneficiaries. This suggests that the programme influences the proportion of communities who generate income from food production. Comparatively, a greater share of productive community garden beneficiaries reported earning income from their own businesses (12%) compared to productive household gardens (5%), reflecting a greater degree of entrepreneurship in the community gardens sampled.

This emerges even more clearly when we consider the Rand per square metre scores reported by respondents according to the size of the parcel of land. The results show that productive beneficiaries tend to be more productive per square metre than respondents from the non-beneficiary control group. Productive community beneficiaries also tend to be more productive per square metre than household beneficiaries. This would suggest that the programme appears to be improving levels of productivity of beneficiaries. The analysis also reveals that smaller parcel sizes favour more effective management of land and thus greater productivity per square metre. Nonetheless, households are able to accrue valuable savings from food production regardless of parcel size. Agro-ecological methods and appropriate technology may enable beneficiaries to intensify productivity and reduce seasonal productivity fluctuations in small, backyard gardens.

4.6.3 HGPI correlation factors

The following aspects offer somewhat of a positive correlation with the determination of whether a household garden can be categorised as being unproductive or having a high productivity:

Location and size characteristics:

- The Districts with the highest share of productive food gardens is as follows:
 - Eden: 97% of household food gardens are productive
 - Cape Metro: 76%
 - Overberg: 72%
 - Cape Winelands: 56%
 - West Coast: 46%
 - Central Karoo: 34%
- The smaller the property sizes the greater the prevalence of high productivity. Note that approximately:
 - 0-25m² properties: 16% of gardens are highly productive
 - 26-50m² properties: 7% of gardens are highly productive
 - 51+ m² properties: 0% of gardens are highly productive

General household characteristics:

- Households headed by youth are the least likely to consider to continue with food production if their household gardens are unproductive
- Households with no household members that were of good health during the past year have a greater share of having low productive food gardens
- The prevalence of low productivity (as opposed to medium/high productivity) is higher for households for whom the main reason for taking part in food production assistance was for leisure.

Household employment and income:

- Households with household members (over the age of 15) that fall in the following employment categories show the following correlation with garden productivity:

- The presence of informally employed household members shows a greater overall prevalence for productivity
- Households that have retired members have a slightly higher share of being productive.
- Increased/decreased household income does not seem to be correlated with whether or not a food garden is productive or unproductive. However, for productive gardens only, the higher the household income, the higher the prevalence of having high productivity is noted.

5. KEY PROGRAMME RECOMMENDATIONS

Food parcels and short-term measures cannot sustainably solve the problem of hunger. Which is why successfully implementing the food security programme requires innovative ways of delivering many self-sustainable gardens, whilst covering a wide geographic area, and bringing about improvements based on the findings of the evaluation.

The evaluation has identified that the Department of Agriculture and agricultural initiatives, is not a panacea for food security. Nonetheless, given the complex set of impacts, the key recommendations, to ease some of the constraints and strengthen the impacts on household food security, through the food garden programme, include:

5.1 SOLVE WEAKNESSES/INEQUALITIES IN MANAGEMENT, LABOUR REIMBURSEMENT AND GAINS

There are some inequalities inherent in some of the community gardens. It is recommended that where possible, the playing fields need to be levelled through:

- **Community gardens managed (and benefit derived) through individual household:** identify and determine best amelioration action at no loss to actual garden production. Consider identifying potential additional households (to replace households no longer involved) to form part of shared garden responsibilities (shared: management, labour, benefit, etc).
- **Community gardens managed through individual household (benefit to community):** The Department needs to investigate the provision of stipends to community gardens managed through an individual household, where benefit is mostly for the community.
- **School gardens:** School gardener's salaries or use of EPWP labourers, needs to be standardised.

5.2 SUPPORT DEVELOPMENT OF FAMILY SMALLHOLDERS OR COMMERCIAL FARMING ENTERPRISES

Potential smallholders and/or champions from garden beneficiaries need to be identified and provided with additional smallholder/commercial support. A major solution to food insecurity, cash insecurity and job insecurity is the development of gardeners (both household and community) into smallholders or even commercial farmers. Worldwide food production is being left to fewer and fewer and youth don't find farming appealing. The development of smallholders should be seen as part of the solution for sustainable development and global food security. This requires that both current and potential opportunities for existing gardens to graduate to smallholder/commercial farms be recognised and supported.

5.3 IMPROVE BENEFICIARY TARGETING

The following is recommended to improve beneficiary targeting:

- **Poverty nodes and improved equity:** There is policy tension between focusing on poor people and poor areas. Since serious hunger is widespread and in similar proportions throughout, beneficiaries should not solely be targeted from poverty nodes.
- **Land ownership, and improved equity:** Households should not be restricted based on land tenure, as the poorest of the poor stay in informal settlements without tenure security.
- **Indigent beneficiaries and improved equity:** Municipal indigent registers are neither up-to-date nor standard, therefore beneficiary identification should also be based on assistance from active roleplayers on the ground.
- **Garden size considerations:** The size of garden space should not disqualify beneficiaries as container planting, vertical trellises, etc. can be considered.
- **Criteria for most likely successful:** It is relevant to take note of the factors which have a correlation with the most likely successful garden beneficiaries. However, the most likely to succeed, are not necessarily those which should be targeted, as the programme is, and should continue, to be aimed at improving the food security of the poorest of the poor. Households most likely to show a prevalence for greater success in gardening include:
 - Households with at least one household member formally employed full-time
 - Households headed by persons within the economically active population (36 to 59 years)
 - Households with pensioners

- Households with no household members that are of poor health during the past year
- Household's that take part in the programmes for food production forming the primary (only/most important) food source and/or for additional income generation
- Proof of commitment to gardening through any of the following: well-kept gardens, existing flowerbeds, existing food production, etc.
- Beneficiaries committed to gardening. This is measureable through evaluating performance and garden progress during the provision of multiple training sessions.

5.4 REVIEW GARDEN INPUT AND EQUIPMENT (SUITCASE)

The following is recommended for the garden input to be reviewed and rolled out more efficiently:

- **Reduce the value of the suitcase:** The value of the suitcase can be reduced so that more households can be supported, where after households with proven productivity post year one can be awarded with yearly top-up additions as encouragement for continued gardening. Considerations for top-ups could include:
 - A grey water filtering system
 - Window boxes with drip irrigation
 - Ecological sanitation system
- **Review content:** the content needs to be revised and should include options to ensure that it is flexible enough to be implemented throughout the province whilst taking into account climatic and spatial challenges and opportunities for innovation.
- **Alter acknowledgement of receipt letter to acknowledgement of loan letter:** In an attempt to curb immediate sale of food suitcase post receipt, it is suggested that the suitcase needs to be changed from being a hand-out to a hand up by changing the 'acknowledgment of receipt' to an acknowledgement of loan'.

5.5 STREAMLINE, INTENSIFY AND ADVANCE TRAINING OFFERED, AND DEVELOP ADDITIONAL CAPACITY

The programme needs to be less focused on delivery of equipment and infrastructure, and have a greater focus on training provision, in order to ensure that beneficiaries obtain the basic skills to permanently grow productive subsistence gardens at low cost. Some considerations for restructuring the training provision to improve beneficiary success, include:

- **Develop DoA capacity:** Capacity improvements are required to improve systemic understanding of food security and move beyond agricultural interventions towards cross-sectoral and interdepartmental initiatives.
- **Training days and notice of training:** Sufficient notice of training needs to be provided. The day of training should preferably be scheduled for a Saturday as many beneficiaries are engaged in some form of income generating activities.
- **Group size:** At most, 10-15 beneficiaries per group are advised.
- **Increase training duration and multiple training sessions:** Multiple training sessions with dedicated topics per training session should be considered, so that beneficiaries can learn through repetition. As undertaken by Soil for Life, each training day could be divided into two, the first half focused on providing theoretical group training, and the second half providing 15-20 minutes practical one-on-one advice with each gardener at his/her house/garden.
- **Diversified training content:** More detailed content and training days need to be set aside for training on: soil preparation and trench bed, planting, making compost, seasonal planting, harvesting and seed saving, suitable cultivar companions and requirements for each cultivar, garden maintenance and weeding, mini-nursery, transplanting and protection, container gardening, food value-adding and preservation, etc.
- **Focused training on sustainability and innovation in production:** Beneficiaries need separate and specialised training on aspects that relate to sustainability in order to enable gardening with limited to no financial input requirements, such as: making hotboxes for compost and earthworm tea units, how to garden with waste materials, non-soil projects such as innovative window and vertical farming units, etc.
- **Health and wellbeing training:** Food availability and access alone cannot ensure that good nutrition decisions are made. Knowledge of nutritious options, cooking and preservation

methods, etc. should also be promoted and taught through the Department of Health, Department of Education, Department of Social Development, etc.

- **Take-home training manual:** Standardised training manuals, in various languages, with easy illustrations for the illiterate, would be very beneficial to beneficiaries.
- **Training evaluation with incentives and disincentives:** The current programme design provides equipment and infrastructure to beneficiaries post training attendance, but disregards critical outcomes that should result from effective training programmes which measures: reaction, learning, behaviour, and results. It is considered vital that training incentives and disincentives be considered based on performance not purely attendance. For instance, it can be made clear that the best performing gardener from the group, will get a free 6-layer chicken system. Or on the other hand, a non-performing gardener, whom after the training attendance, still has not shown sufficient garden performance will not be provided with the garden input and equipment (suitcase). For every successful year a gardener is in production, they could for instance be rewarded with essential production inputs such as seeds, seedlings, fertiliser, etc.

5.6 IMPLEMENT PERMANENT TRAINING/ADVICE/MENTORING WITHOUT CONTINUED RESOURCES

A clear exit strategy exists, although beneficiaries need permanent responsive training, advisory and scientific services at low or zero cost to beneficiaries, without continued departmental resources, for sustainability. Local and de-centralised capacity for mentoring through a 'train the trainer' programme is suggested. The 'train the trainers' are also utilised to assist with delivering training for which they are remunerated, and subsequently continuously upskilled. Additionally, this will assist to lessen the burden on extension officers, who have numerous producers (not only gardeners) to assist. Furthermore, the 'train the trainers' live in the communities in which beneficiaries exist, have their own gardens, and are thus always accessible for households in their local communities.

5.7 IMPLEMENT A FOOD PRODUCTION STRENGTHENING AND SELF-SUSTAINABILITY PROGRAMME

The evaluation results show that the food producers from the programme are mostly likely to depend on infinite support. In addition to the current garden recapitalisation programme, consider a programme aimed at strengthening and supporting improved self-sustainability of community and household food producers without continued government input/involvement. Key requirements in this regard to improve success and self-sustainability include:

- **Horizontal learning exchange:** Facilitate gardener-to-gardener learning to spread knowledge, skills and commitment and build local level community development.
- **Community based agri-input supply centres and nurseries:** To improve sustainability, some form of subsidised access to garden inputs are required. A key challenge of gardeners is access to inputs at a price they can afford. Non-profit, garden centres/nurseries that supply free advice/information, free demonstrations, subsidised gardening inputs such as trees, groundcovers, soil improvers (e.g. manure) seed/seedlings bank, windbreaks, safe pest control remedies, etc. is recommended.
- **Ease of access to capital:** A community group saving programme or micro-finance co-funding scheme should be considered for community gardens.
- **Production diversification:** Facilitate production diversification with nutrient dense crops and small-scale livestock and fish farming.
- **Encourage a multiplicity of income sources at project start-up:** Both off-garden and on-garden income sources need to be investigated as possible sources of income to support full-scale and full-time food production. Essentially, side line business opportunities to boost income, or supplementing farm income from part-time non-farm sources to enable greater capital input into the farm should be considered.
- **Rewards and incentives:** In addition to yearly garden competitions, also have other specific (promotional) actions to increase incentives/reward and ownership.
- **Food purchasing co-operatives:** Encourage and support alternative strategies to reduce food expenditure such as through food purchasing co-operatives.

- **Local short-food-chain markets:** Greater market access support or establishment of local trading systems should be considered.

5.8 IMPROVE STAKEHOLDER COLLABORATION

The following recommendations are made with regards to improved stakeholder collaboration:

- Greater partnership amongst Departmental stakeholders
- Improved local level collaboration and development of District (and Metro) level Food Security sub-committees
- Improved exchange and collaboration between existing civil society food security providers
- Develop a beneficiary support referral and tracking system

5.9 MONITOR AND EVALUATE PRODUCTIVITY AND FOOD SECURITY OF BENEFICIARIES

The following is suggested in this regard:

- Register household projects on smart pen
- Design a dynamic monitoring tool
- Develop a simplified beneficiary harvest recording sheet
- Capture data electronically and timeously
- Enlist the services of the National Rural Youth Service Corps for monitoring and assistance
- Update business plan and Standard Operational Procedures with outcome-based theory of change

5.10 UNDERTAKE FURTHER RESEARCH

The following research is recommended:

- Identification of the 'best packages' for home and community gardens to provide nutritious food all year round based on varying land sizes, climate, etc.
- The reasons for the lower rate of household backyard food gardens in the Western Cape
- Critical thresholds for self-sustainability and minimum garden size for sustained food consumption throughout the year
- Development of a take-home training manual
- A thorough audit of household gardens in the Province
- Invest in research and development of agro-ecological farming processes and technologies empowering micro-farmers to become more productive and make efficient use of constrained resources (land, water, seeds)

Agricultural initiatives, are not a panacea for food security, as the poorest of the poor need food security assistance, but are not necessarily the most appropriate participants for an agricultural driven programme, which requires participants to have some security, skills, resources, etc to enable them to do the required gardening and have the leisure to wait for crops to mature.

Nonetheless, the programme improves food security of its active participants, and provides beneficiaries with a hand-up, not a hand-out by providing beneficiaries with a daily task which enables households to be creative, realise their own self-worth and the feeling of being useful to household members and the community. The smallest-scale production makes an important contribution to household livelihoods from household savings on food expenditure per household. In the context of household's low average earnings, these savings can be significant, permitting greater expenditure for education, healthcare, or investment into productive household assets.

The programme also provides a source of fresh food (and the possibility for income generation) that provides a degree of security in a temporary environment. Food production also enables **ecological benefits** (such as the productive use and maintenance of land), **social benefits** (improvements to food security, poverty alleviation, community development, etc.), and **economic benefits** (savings on food expenditure, income creation, opening-up opportunities for small-scale household based enterprises, etc.).

ANNEXURE 1: COMPREHENSIVE EVALUATION REPORT

See separate Comprehensive Evaluation report, available for viewing at the Department of Agriculture.