

# TCCIA IRINGA

## FOLLOW-UP AND EVALUATION OF THE ENFORCEMENT OF THE WEIGHTS AND MEASURES ACT OF 1982 IN THE PILOTED REGIONS OF IRINGA AND NJOMBE



**FINAL REPORT**

***SUBMITTED BY IMED***

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### LIST OF ABBREVIATIONS

BEST-AC	Business Environment Strengthening for Tanzania – Advocacy Component
DAI-PESA	DAI-Private Enterprise Support Activities
Ha	Hectares
IGC	International Growth Centre
IMED	Institute of Management and Entrepreneurship Development
kgs	Kilograms
LGA	Local Government Authority
MDAs	Ministries, Departments and Agencies
MIT	Ministry of Industry and Trade
MML	Match Makers Limited
NFRA	National Food Reserve Agency
RAS	Regional Administrative Secretary
RPC	Regional Police Commissioner
SACCOS	Savings and Credit Cooperative Societies
PMO-RALG	Prime Minister’s Office Regional Administration and Local Government
SUMATRA	Surface and Marine Transport Regulatory Authority
TANROADS	Tanzania National Roads Agency
TCCIA	Tanzania Chamber of Commerce, Industry and Agriculture
TZS	Tanzanian Shillings
VEOs	Village Executive Officers
WEOs	Ward Executive Officers
WMA	Weights and Measures Agency
W&M	Weights and Measures

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## **O. EXECUTIVE SUMMARY**

### **0.1 Introduction**

The Tanzania Chamber of Commerce Industry and Agriculture (TCCIA) Iringa, with the support of Business Environment Strengthening for Tanzania- Advocacy Component (BEST-AC), engaged the Institute of Management and Entrepreneurship Development (IMED) to conduct a follow-up study on the enforcement of the Weights and Measures Act (W&M), 1982 and the Weights and Measures (Packaging of Goods) Regulations, 2008 in Iringa and Njombe regions. The study aimed to establish: the extent to which Agencies responsible for the W&M Act enforce it; the extent to which farmers and business people (traders, transporters, middlemen, etc.) comply with the W&M Act; the impact of non-compliance with the Act; and the challenges of complying with the revisions made in the W&M Act, 2008. The study was conducted through a literature review, focus group discussions and interviews with 133 stakeholders in Idodi (Iringa), Uwemba (Njombe), Ludewa (Ludewa), Matamba (Makete) and Saadani (Mufindi) districts.

### **0.2 Findings**

Between 2005 and 2007, TCCIA (Iringa), in collaboration with the Weights and Measures Agency (WMA), Regional and Local Authorities organised a sensitisation workshop in 10 trade centres for 500 smallholder farmers and traders, and 784 district level Officers and Ward Executive Officers (WEOs). Since then a number of efforts have been made to enforce the W&M Act, 1982, including several directives issued by the Ministry of Industry and Trade (MIT), Iringa Regional Commissioner, Prime Minister's Office, Regional Administration and Local Government (PMO-RALG) and the Ministry of Agriculture, Food Security and Cooperatives to ban the use of non-standard bags (*lumbesa*). Although the project implemented by TCCIA succeeded in increasing awareness of the Act, follow-up studies indicate that WMA still has a huge capacity gap in terms of finance, technical equipment and manpower to enforce the Act, there is still weak linkage and coordination between WMA and other relevant actors to enforce the Act and smallholder farmers' limited awareness of the appropriate weight and measures to use, making enforcement of the Act difficult. Not much effort is being made to sustain awareness of the campaign, especially in remote areas, and there are not many well functioning Market Centres where farmers can sell their produce using standard measures, which compels them to sell their produce to traders and engage in unfair contract farming practices, whereby they agree with traders to produce crops at prices and units of measurement set in advance.

Out of 133 participants in focus group discussions, only 20% were aware of the existence of the W&M Act. This ratio is almost the same as the proportion of those who attended the workshops on awareness of W&M conducted by TCCIA (Iringa) in 2005-2007. While only about 23% of participants were using kilograms (kgs), over 78% were using plastic buckets and over 80% were still using *lumbesa* (bags) to sell their crops. Surprisingly, none of the respondents was sure of the weight of a plastic bucket.

Almost 90% of farmers sell their produce to traders, while some (45.1%) sell their produce at the farm gate and 24.1% engage in contract farming, even though over 74% of the respondents acknowledged that the warehouse in the villages had functioning weighing scales. It was further found that none of the respondents kept a record of the cost of cultivating their crops and only 1% knew how many crops were produced per acre. The majority of respondents therefore could not negotiate a good price for their produce, especially when they embarked on contract farming.

The qualitative results from the personal interviews indicate that the majority of respondents used non-standard W&M for their crops, despite sensitisation by TCCIA in 2005-2007. The majority of farmers sell their produce to traders at a relatively low price due to the limited market for agricultural produce and their weak bargaining power. The use of non-standard measures is triggered by a number of factors, including the lack of the required weighing scales, the crop cess charged per bag rather than by weight, the unavailability of standard packaging materials and farmers' perception that the weighing scales are not to be trusted. There are a few business models, such as a warehouse receipts system, but the results and impact are still at the nascent stage. Farmers' organisational models are also emerging but they have neither reached the level of facilitating farming as a business, nor have they commanded a credible position in the supply chain. Few farmers are informed about the price before the sales decision or can choose between the different sales places according to the price.

Most farmers sell their produce to traders' agents, local brokers or the traders themselves. Some of them attempt to transport their crops to the closest town or to weekly markets. However, limited financial capacity, limited storage capacity, requiring crops to be moved rapidly to their final destination, and limited transport capacity, requiring the hiring of transport, have significantly affected the bargaining power of farmers. Since most farmers are cash poor, lacking either savings or access to credit, "distress" sales made immediately after harvest are their only means of getting cash for meeting urgent needs. Informal loans made through contract farming must be paid back and the first crop sale is often the sole source for repayment. None of the trade centres has adequate crop storage infrastructure and the household-level storage facilities are rudimentary and prone to excessive losses. This also contributes to farmers' early sale of grain crops.

### **0.3 Impact of Non-Compliance with W&M Act, 1982**

Data on the dominant crops (paddy and maize) are used to assess the impact of non-compliance with the W&M Act. Paddy and rice form the largest proportion of the crops grown in Iringa and Njombe regions. From a sample of 43 bags of rice paddy weighed by WMA (out of the 482 bags seized) it was established that the actual weight of each bag was, on average, 42 kgs higher than the standard. This is 56% of the value of one bag of rice paddy. The data generated during the interviews revealed that the average weight of 1 sack of maize when plastic buckets are used is 36 kgs, or 40% higher than the standard weight of 90 kgs.

The study shows that Iringa and Njombe regions lose almost TZS 2.5 billion of crop cess when maize and rice paddy are in lumbesa only. If all crops are considered, the impact is much higher. The farmers' income lost through the same practice in Iringa and Njombe is over TZS 14.7 billion. Using the same statistics, and based on similar assumptions, the amount of crop cess lost in a lumbesa of maize and rice paddy in the country is estimated to be TZS 14.8 billion and farmers' income lost is over TZS 174 billion. On top of this, using non-standard measures has an impact on the health of porters, the majority of whom suffer from muscular pains, headaches, tingling and numbness in the arms and legs and even mobility problems. Non-standard measures contribute to the overloading of vehicles, which causes serious damage to the road network and contributes to the problem of maintaining road safety. Furthermore, heavy vehicle operators that do not overload are placed at a disadvantage, as they cannot compete fairly with unscrupulous operators that deliberately overload their vehicles.

#### **0.4 Key conclusions**

Although this was a follow-up study on the impact of raising awareness of the projects implemented by TCCIA, it has come up with several findings that have policy implications if the issue of lumbesa is to be stopped. Overall, it is clear that the use of non-standard measures is contributed to by several factors, ranging from limited awareness of the W&M Act, inadequate capacity to enforce it and limited access to alternative markets by farmers facing poverty. This means that the W&M problem cannot be dealt with without taking into account other factors contributing to malpractices in agricultural marketing.

Generally, the problem of W&M originates from the gaps in the crop value chain from production to processing, the problem of transport and finance and marketing activities. Specifically, the following observations were made;

- i) Small-scale crop production in the regions studied predominantly depends on rain, which causes uncertain yields, resulting in dramatic fluctuations in price and the lack of a market, especially when large amounts of crops are harvested.
- ii) Since most farmers cannot process their crops, they are compelled to sell them at the price and in amounts largely dictated by traders, agents and brokers who sell to millers.
- iii) Most crop trading is generally imperfect, with transactions being done informally at the farm gate. Even with the W&M Act that tries to protect farmers, informal agreements are still common.
- iv) All the places visited had limited grain storage capacity in terms of the quantity and quality of warehouse facilities and farmers' ability to access existing facilities. Prices spike in times of shortage and plummet during the harvest season when the market is flooded with crops.
- v) High transport costs associated with poor feeder roads in remote areas increase traders' costs and encourage them to opt for lumbesa.
- vi) The reluctance of farmers to use market centres in which to sell their crops emerges from their lack of understanding of the losses they make when they sell

their crops to traders, and of the limited sources of income when they need money.

- vii) Limited access to credit by farmers motivates them to embark on contract farming and obtaining loans from traders. While this practice might help, the greatest challenge lies in the predetermined terms and conditions, which are unsuitable for farmers.
- viii) The NFRA, the key implementing institution in terms of national grain storage, is not spread over all the places visited. Despite the requirement to maintain three months' worth of grain in reserve, NFRA has been financially constrained in its purchases.
- ix) Although in some places farmers form their own associations, most of these are weak and cannot sustain good practices for selling crops due to the limited participation of individual farmers.

Despite the awareness-raising campaign by TCCIA Iringa on W&M practices, some challenges still directly affect enforcement of the W&M Act, which are as follows;

- i) The capacity of WMA at both the regional and national level in terms of human resources, vehicles and finance is still weak and other stakeholders' perception that W&M issues are solely the concern of WMA adds to the problem.
- ii) Inadequate infrastructure and facilities to facilitate compliance with the W&M Act, poorly developed market centres and the lack of weighing scales in most villages make the problem more serious.
- iii) Limited awareness of the standard weight for each crop means that farmers are deceived by traders and brokers that weigh their produce using non-standard measures.
- iv) The lack of sustainability of awareness-raising campaigns has contributed to increasingly limited awareness of W&M issues.
- v) The lack of by-laws at district level, despite previous resolutions that every District Council should make by-laws, limits the power of Councils to take up the power delegated by the WMA.
- vi) The crop cess charged by the LGAs per sack motivates traders to pack their produce in lumbesa as a strategy for reducing the amount of cess paid.
- vii) Lack of participation by LGAs in enforcing the Act adds to the problem.
- viii) The urgent needs of farmers and their high degree of poverty encourage them to sell their crops to traders rather than market centres and established warehouses.
- ix) The Government, especially at national and regional level, has been circulating circulars banning lumbesa. While this move is positive, it has been ineffective in addressing the problem, due to the lack of funding and commitment at LGA level.

### **0.5 Policy Recommendations**

A thorough assessment of the situation indicates that the W&M issue is diverse and requires the united efforts of various stakeholders at national, regional and LGA level.



The policy recommendations made therefore affect all key stakeholders and stipulate the role they could play. The key recommendations are as follows;

- i) Strengthen the scope of the awareness-raising campaign and ensure its sustainability at both national and local level:** To successfully promote W&M, all key actors in the value chain who can play a complementary role should be included. The campaign must be sustainable to remind farmers, transporters and traders of the impact of lumbesa, the losses emerging from lumbesa and other effects. The programme should include interpreting and disseminating the W&M Act (in Swahili) to all key stakeholders, including LGAs, farmers, traders, voluntary organisations and the community at large. This must be spearheaded by MIT and WMA in collaboration with LGAs.
- ii) Speed up amendments to W&M Act:** The W&M Bill, 2013 must be fast-tracked to ensure that legislation governing the proposed fines and penalties is passed by the Government. Since the Bill is at the final stage, it is the role of WMA and the MIT to follow this up closely to make sure that it is soon passed by Parliament and signed by the President. Other stakeholders, including TCCIA and private sector organisations should support the move through advocacy and creating awareness. Once the Bill is passed, it must be enforced immediately so as to stop current W&M practices.
- iii) Strengthen the capacity of WMA:** Given the increasing role of WMA, its capacity must be enhanced. This ranges from developing adequate infrastructure and office facilities and training more technical staff to supplying WMA with vehicles and other equipment needed. In order to achieve this, the Government through the MIT should conduct an institutional assessment of WMA and support it by mobilising resources through the national budget and development partners to implement its strategic plan.
- iv) Delegate some WMA functions to LGAs:** WMA works with LGAs to enforce the W&M, Act. Through by-laws passed by LGAs, it is feasible for Trade Officers, Agricultural Officers and Extension Officers to have a role alongside WMA. These officers could train farmers and traders on W&M compliance and provide advisory services on standard measures of crops stipulated in the W&M Act, 1982. The regional administration should work with LGAs to mobilise resources for the development of by-laws. This could be carried out if all District Councils are given deadlines and facilitated by the Regional Office and PMO-RALG to access resources to make by-laws.
- v) Develop adequate infrastructure at the designated market centres:** In almost all places there are designated market centres, but they lack basic facilities such as storage buildings, crop milling machines, weighing scales and staff to run them. It is the role of LGAs to promote the market centres and ensure that they function effectively. This could be done through a private/public partnership, whereby investors would be allowed to work jointly with LGAs to establish market centres in selected areas.

- vi) Introduce and support the development of a warehouse receipts system:** Warehouse receipts could enable small-scale farmers to access credit through an inventory of their crops. The experience of Iringa shows that this system can work effectively if the grain storage building is widely available to all stakeholders and the market is willing to adopt uniform crop standards and volumes so that the paper trading of stored crops is a realistic option. Where attempts have been made, warehouse receipts are used almost exclusively as inventory credit through local SACCOS and banks rather than as a negotiable instrument in their own right. Although the existing inventory credit scheme is regarded as a warehouse receipts system, it does not really meet that system's requirements. Nevertheless, it allows some farmers to apply the spot market value of their inventory as collateral for a loan of up to 60 percent of the value of the inventory.
- vii) Promote the NFRA to enhance competition of the crops:** NFRA has played a crucial role in stabilising the market and addressing the challenge of non-standard measures in places where it exists. In order to have a greater impact, NFRA needs to expand the scope of the crops reserved. NFRA should also cover more market centres and buy larger volumes of grain. The prices offered by NFRA should be competitive enough to beat those offered by traders and make the crop market more competitive.
- viii) Strengthen Farmers' Associations:** In the places visited it was noted that Farmers' Associations do not exist and in areas where they do, they are extremely weak. Where cooperative societies have almost collapsed, Farmers' Associations could play an important role in enhancing the negotiating power of farmers. Farmers' Associations are effective in stabilising the market for farmers as they connect farmers at the village, district, regional and, ultimately, national level. They serve as vehicles for disseminating market information, providing extension services and advice, and offering increasing advocacy on behalf of members. LGAs should work with farmers to set up Farmers' Association through their Trade Offices.
- ix) Use the crop cess to discourage the use of non-standard measures:** All District Councils charge crop cess per sack of crops, which encourages the over-packaging of crops since traders attempt to reduce the number of sacks/bags transported to reduce the crop cess. LGAs therefore must introduce a system whereby crops are taxed on the basis of their weight and not the number of bags. By-laws could give LGA Officers the power to sample some sacks and weigh them before charging the crop cess. If a vehicle is carrying lumbesa, the owner should be fined. This strategy is likely to bring immediate results, as in the case of Makete.
- x) Promote the integrated approach to enforcing the W&M Act:** As shown in Figure 5.1, enforcing the W&M Act requires the efforts of various stakeholders. While there could be more stakeholders, the model proposes the role of PMO-RALG, MIT, WMA,

the Regional Administration, LGAs, the police force, other Government Agencies (TANROADS & SUMATRA), farmers, traders and transporters.

## 1. CONTEXT AND THE ISSUE

### 1.1 Background to the study

TCCIA-Iringa has been advocating for the enforcement of the Weights and Measures (W&M) Act No. 20 of 1982 and the Weights and Measures (Packaging of Goods) Regulations, 2008 to address the challenge of selling agricultural produce without the use of certified scales. The Act is operationalised through five regulations specifying, *inter alia*, the care and custody of standards, the verification of weights and the type of weighing instruments. Due to weak enforcement of the Act and lack of awareness on the part of farmers, the use of unauthorised measures is widespread in Iringa and Njombe, which are among the biggest grain-producing regions in Tanzania. As the use of non-standard measures by primary traders deprives smallholder farmers of earnings, TCCIA-Iringa, with the support of BEST-AC, implemented two advocacy projects to address the issue of unfair W&M practices in Iringa region. In phase I (2005), TCCIA in collaboration with the Weights and Measures Agency (WMA), Regional and Local Authorities organised a sensitisation workshop in 10 trade centres for 500 smallholder farmers and traders scattered over the 6 administrative Districts of the present Iringa and Njombe regions, where relevant sections of the W&M Act No. 20 of 1982 were presented. In phase II (2007), BEST-AC funded another sensitisation workshop for district-level Officers and Ward Executive Officers (WEOs). Both phases of the project involved 784 participants from Iringa and Njombe. The result of the two initial phases of the project was a report that provided recommendations for improving the enforcement of the law that was adopted by the WMA and the Ministry of Trade and Industry (MIT).

Some of the key recommendations to address the W&M challenges are as follows; i) The WMA in Iringa should be strengthened in terms of manpower, financial resources and equipment; ii) The W&M Act No. 20 of 1982 should be reviewed and Amendments made to correspond to the socio-economic changes that have taken place since 1982; iii) Each District Council should construct adequate crop-trading premises in designated areas with relevant equipment and manpower; iv) District Councils should put in place by-laws that would complement the W&M Act No. 20 of 1982; v) Crop dealers should not be permitted to purchase crops from the farms and houses of smallholder farmers; and vi) The WMA should delegate some of its responsibilities to the Extension Officers, Trade Officers and Community Development Officers employed by District Councils, taking into account the institutional weakness at the Regional Office of the Agency. It was expected that the recommendations made at the workshops would sensitise smallholder farmers in the Southern Highlands to start packaging their produce in standard bags and that traders would comply with the standards set by the W&M Act. A number of LGAs came up with resolutions for the way forward for enforcing standard W&M. These resolutions include preparing by-laws, deciding to acquire weighing scales and plans to employ W&M officers at district level. It was hoped that such initiatives would, in turn, help facilitate awareness and the increased use of standard measures. They would also increase transparency, improve decision making, reduce health risks associated with overweight bags and give farmers more bargaining power.

Despite the initiatives taken by TCCIA and the claim that the W&M practices would improve, a number of observations have been made by the Chamber and other stakeholders, showing non-compliance with the W&M Act and/or minimal enforcement of the Act in Iringa and Njombe regions. For instance, bulk bags that do not match the standardised scale are still common measures of the volume and weight of crops and the most common measure that is still used for agricultural produce by small producers is the *debe*, a 20-litre plastic bucket used mostly for refined cooking oil. Virtually all transactions at farm level are still conducted without the intervention of the WMA and its Assizers.

To put an end to these ongoing practices, large traders' collection centres should carry out their transactions in accordance with W&M regulations. According to the W&M Act, goods must be weighed on scales that should be regularly calibrated by the WMA to ensure that consignments are bought according to their weight. However, WMA's capacity to enforce the regulations is limited, despite its mandate to ensure that the W&M Act is complied with, awareness is created, regular visits are made and those who violate the law are fined. As pointed out in a study by Match Makers Limited (MML) (2008), weak enforcement of the Act is due to a number of factors, including weak institutional linkage between the WMA and other actors, and the inadequate capacity of WMA. In addition, it is acknowledged that the Act itself has a number of weaknesses. For example, it does not specify the quantity in which some farm produce must be packaged and the net weight is not taken into account by the Act.

Most crops produced by small farmer in the Southern Highlands, such as maize, onions, tomatoes and rice, suffer from the scourge of the over-packaging of lumbesa, a practice that is favoured by middlemen or agents, who are able to coerce constrained farmers into selling their produce on terms that favour the buyers. As a result, small-scale producers, perhaps in reaction to unfair trading practices, are guilty of possibly illegal and certainly unfair practices. For example, agricultural produce bought mostly in buckets at the farm is sometimes "padded out" with stones and twigs in an attempt to maximize profits. On other occasions, such as in the sale of tomatoes, rotten or sub-standard products are placed in the middle of the bucket to avoid detection by the buyer. In the long run, such practices merely increase the level of distrust between farmers and middlemen, thereby damaging trade relations. Further, the over-packing of agricultural produce inevitably results in a proportion of the consignment being damaged, which has an overall effect on the selling price at the market. In such unfair practices, small producers are likely to lose out at the expense of middlemen, who have a greater understanding and control of market forces. Therefore, a proper application of W&M practices is critical to ensure that there is clarity concerning the measures used, that producers, traders and consumers are protected, that the government collects the revenue it is entitled to and that a proper statistical analysis of production levels is done.

Although a number of concerns about implementation of the proposed actions were raised at the workshops organised by TCCI Iringa, no in-depth assessment has been

carried out to date to ascertain what changes have been made and establish what existing challenges require further action. In view of this, TCCIA Iringa initiated Phase III of the project to assess whether the recommendations made after the completion of phase II of the W&M Project in 2007 had been implemented. With the support of BEST-AC, the TCCIA engaged the Institute of Management and Entrepreneurship Development (IMED) to undertake a study and develop a policy proposal that will facilitate the effective enforcement of the W&M Act. The study was undertaken by an IMED consultant and this document presents its findings and policy recommendations.

## **1.2 Objectives of the Assignment**

The main objective of the assignment was to conduct a follow-up study on the implementation and enforcement of the proposed amendments to the W&M Act made by the TCCIA in 2007 so as to propose measures that could be used to ensure the Act is enforced. Specifically, the study aimed to;

- Establish the extent to which Agencies responsible for the W&M Act enforce it
- Establish the extent to which farmers and business people (traders, transporters, middlemen, etc.) comply with the revisions in the W&M Act
- Establish the impact of non-compliance with the W&M Act across the value chains studied
- Determine and/or extrapolate the impact of non-compliance with the W&M Act on the economy
- Establish the challenges of complying with the revisions in the W&M Act

## **1.3 Scope of Work and Methodology**

The scope of this assignment entailed conducting a study, facilitating a stakeholders' validation workshop, and preparing a policy brief (position paper), a two-page factsheet with testimonials and a case study to be presented to decision and policy makers. To achieve the required deliverables, the assignment was undertaken using a combination of approaches and methodologies. The approach used to undertake the assignment is as follows;

- i) Inception meeting:** The assignment started with an inception meeting with TCCIA-Iringa to gain a better understanding of the problem and its context and to find out about the aspirations and experiences of the client, on-going initiatives, and the lessons learnt. The meeting was also used to ensure a common understanding of the issues and to explain the methods to be used and the results to be expected. It provided the consultant(s) with an opportunity to meet the client and collect all the important documents and information relevant to the assignment. The client and consultant worked together during this meeting to plan for data collection and field visits.
- ii) Desk review:** After the inception meeting, the consultant reviewed the relevant literature collected from available secondary materials (documents). The documents reviewed include related policies, reports of phase I and II of the project, the W&M Act, the Legal Metrology Bill, 2013, previous studies on W&M practices in Tanzania and several cases regarding violation of the W&M Act in Iringa and Njombe.

- iii) **Primary data collection:** The consultants conducted interviews and focus group discussions with farmers, trade centre personnel, TCCIA executives, WMA officers, LGA and MDA officials and the police. The study covered 5 districts in Iringa and Njombe, namely Idodi (Iringa), Uwemba (Njombe), Ludewa (Ludewa), Matamba (Makete), and Saadani (Mufindi) The focus of both interviews and group discussion was on establishing how to engage with and influence the government to reinforce the law.
- iv) **Data Compilation, analysis and synthesis:** After the data collection exercise the consultants compiled and analysed the responses from the interviews and focus group discussion to respond to the study objectives. The qualitative information was analysed using themes established from the study priorities. The analysis therefore drew lessons from the experiences of different stakeholders, which were combined with the literature review on related best practices.
- v) **Facilitating stakeholders' validation meeting:** The report was presented at a one-day stakeholders' workshop, which brought together players around the table to brainstorm and discuss the findings and propose areas for action.

#### **1.4 Organisation of the Report**

The report is organised in Chapters. The following Chapter presents the information generated from the literature review and other documents on W&M practices. Chapter three presents the major findings of the study from observations and the data generated from fieldwork. Chapter four summarises the findings and presents the impact of non-compliance with the W&M Act, 1982. Chapter five presents the key conclusions and policy recommendations.

## **2. PRIOR EFFORTS TO IMPROVE WEIGHT AND MEASURES PRACTICES**

### **2.1 Introduction**

The problem of non-standard W&M of agricultural produce started in the early eighties when the Government of Tanzania adopted trade liberalisation policies. Prior to this, agricultural produce was traded through cooperatives and the National Milling Corporation (NMC). The packaging of agricultural produce in lumbesa gained prominence with the introduction of crop cess by LGAs. Traders opted to package their produce in large bags in order to minimise the crop cess and lower transport costs. Over the last three decades the practice of non-standard measures has existed, despite various efforts by different stakeholders. Various studies (e.g. DAI-PESA, 2004, MML, 2008) report that the use of non-standard W&M is one of the causes of farmers' continued poverty. Even though several attempts have been made by both the private and public sector, the use of non-standard W&M is still prevalent to date. This part of the reports traces previous efforts that have made to address the issue and highlights current practices. It focuses on both general efforts and specific initiatives in Iringa and Njombe regions.

### **2.2 The Weight and Measure Act, 1982 and its Enforcement**

The use of W&M was first introduced in the country before the First World War, during the German era. While the Germans introduced the metric system of measurement, the British introduced the imperial system. Then again, by Act of Parliament No.46 of 1968 Tanzania along with the rest of East African Community member states, adopted the metric system. The Government of Tanzania enacted the Weight and Measures Act no 20 in 1982 to revise and consolidate the law relating to W&M and to provide for the introduction of the International System of Units and related matters. The main purpose of the Act is to protect consumers, traders and manufacturers from unfair practices through ensuring that 'measuring systems result in fair trade transactions'. It endeavours to ensure the best use of resources and fair trade interactions between investors, producers, transporters and consumers, with an emphasis on consumer protection.

The W&M Act was initially enforced by a Bureau operated under the Superintendent of Police up to 1960 when its enforcement was shifted to the Ministry of Commerce and Industry. In 1964 it was placed under the then Ministry of Commerce and Cooperatives before being moved to the Ministry of Commerce and Industry again in 1967. It was subsequently moved to the Ministry of Trade in 1976. Since 1984, it has remained under the Ministry of Industry and Trade.



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### **Mandate of Weight and Measures Agency(WMA)**

The Weights and Measures Agency (WMA) is an Executive Agency, responsible for fair trade transactions through certification of weights and measures. It is the sole agency in Tanzania for enforcing the Weights and Measures Act No.20 of 1982. Pursuant to the Executive Agencies Act Number 30 of 1997, the WMA replaced the former Directorate of Weights and Measures under the Ministry of Industry and Trade. WMA ensures that all traders in weights and measures comply with the requirements of the Weights and Measures Act in order to protect consumers against malpractices. Thus the Mandate of WMA is to verify and re-verify all weights, measures, weighing or measuring instruments used or intended to be used for trade in Tanzania Mainland. The roles of WMA as stipulated under the Weights and Measures Act (Cap 340), the East African Community Standardization, Quality, Assurance, Metrology and Testing Act (SQMT Act 2000) and the Executive Agencies Act (Cap 245) are to:

- Protect consumers in trade, health, safety and environment in relation to weights and measures;
  - Protect society from the consequences of false measurements in public and private transactions, safety, health and environment sectors;
  - Approve or ensure approval by other designated institutions measuring equipment to be used for a public or private transaction in the work environment and the health and safety sectors
  - Control the use of measuring equipment in public and private transactions;
  - Control the use of measuring equipment In the work environment and the health and safety sectors;
  - Control pre-packaging of products;
  - Liaise with regional and international organisations with similar objectives;
  - Give effect to the decisions and recommendations of Council and Committee with regard to legal metrology;
  - Provide information on legal metrology in general and
  - Ensure that legal metrology measurement standards are traceable to national and international and International-measurement standards.
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Section 26 (1) of the W&M Act, 1982 states that no person shall sell or offer', expose, keep on trade premises, carry or in any manner advertise for sale any goods of the kind and sold in the manner, if any, specified in the first column of the Eleventh Schedule other than the W&M specified in relation to such goods in the second column of that Schedule. According to Eleventh Schedule of the W&M, 1982, the standard measures for agricultural produce are stipulated in Table 2.1.

**Table 2.1: Quantity in Which Agricultural Produce shall be Pre-packed**

<b>S/N</b>	<b>Crop</b>	<b>Maximum quantity when packed in containers other than rigid containers of glass, plastic or metal</b>
1	Barley	80kg
2	Beans, dengou, gram and peas	90kg
3	Cashew nuts	80kg
4	Rice paddy	75kg
5	Sunflower seed	40kg
7	Wheat grain	90kg

8	Maize grain	90kg
9	Millet, Wimbi, Simsim, Sorghum and groundnuts	90kg
10	Rice	100kg
11	Wheat bran	45kg
12	Onions*	70kg
13	Sweet Potatoes/potatoes *	70kg
14	Farm produce not specified in the Act*	100kg

*\*Although the weights and measures of the produce were not specified in the W&M, Act 1982, they are specified after amendments to W&M (Packaging of Goods) Regulations, 2008. These regulations stipulate that "where the farm produce and its manner of packaging is not specified in the Act, it shall be pre-packed in containers other than rigid containers of glass, plastic or metal whose weight shall not exceed one hundred kilograms.*

### **2.3 Efforts to Enforce the Weight and Measures Act**

Since 2002, several efforts have been made by the Government, donor community and the private sector to ensure effective enforcement of the W&M Act, 1982. The review of the extant literature indicates that the studies conducted by DAI-PESA and MML in 2004 and 2008, respectively, documented the efforts made until 2008. The documents gathered from WMA Iringa indicate the most recent efforts made to address the problem in the Southern Highlands. Overall, the main effort has been to consolidate the efforts of various actors to enforce the W&M Act. In particular, the following are some of the efforts that have been made;

- Revision of W&M Act, 2002 and preparation of the W&M (Packaging of Goods) Regulations, 2008 to incorporate agricultural produce whose measures were not specified in the Act.
- In 2003, DAI-PESA implemented a project that was aimed at addressing the concerns of smallholder farmers regarding the use of non-standard W&M that affected their returns from farming.
- DAI-PESA undertook a study in 2004 on W&M practices in Tanzania, using Iringa as a case study. The study found that nearly all the crops produced by small farmers, such as maize, onions, tomatoes and rice, suffer from the scourge of the over-packaging of lumbesa, a practice that is favoured by middlemen or agents, who are able to coerce constrained farmers into selling their produce on terms that favour the buyer. It recommended lobbying for the proper enforcement of W&M legislation by raising the awareness of producers and strengthening the WMA to conduct a Public Awareness Programme on the W&M legislation that was appropriate and the role and services of WMA.
- In 2004, DAI-PESA and TCCIA Head Office worked together to disseminate the findings by DAI-PESA to relevant public, private and civil organisations (farmers, traders, regulatory bodies, processors, donors, etc.). This resulted in the establishment of the working group to bring about W&M reforms
- The Draft Agricultural Marketing Policy, 2005, recognised the need to address W&M in order to promote the trade in agricultural produce in the country.
- In 2006, TCCIA Iringa inaugurated the advocacy project to raise the awareness of traders, farmers, transporters and other stakeholders in Iringa and Njombe

regions. Following this, PMO-RALG and the Ministry of Agriculture, Food Security and Cooperatives banned lumbesa.

- Between 2004 and 2007, several directives were issued by the MIT, the Iringa Regional Commissioner, PMO-RALG and the Ministry of Agriculture, Food Security and Cooperatives to ban lumbesa. As a result of a lot of noise about non-standard measures, in 2007 the police force issued a directive to all Regional Commissioners to oversee the use of standard W&M when selling agricultural produce.
- In 2007-2008, TCCIA-Iringa implemented phase II of the project to raise awareness of Government Executives at district and ward level.
- Since 2007, WMA Iringa has been working closely with the police to man checkpoints, detain defaulters and collect fines. The major role of the police is to provide security, not to enforce the W&M Act.
- In 2008, MML conducted a study to assess the enforcement of the W&M Act, 1982 in Iringa region after implementation of the TCCIA projects. The study found that;
  - WMA had a huge capacity gap in terms of finance, technical equipment, and manpower to enforce the Act
  - There was a weak institutional arrangement between WMA and other relevant actors, such as LGAs, the private sector, civil society organisations and implementers of various programmes
  - The low level of political support from national, regional and district authorities contributed to the lack of enforcement of the Act.
  - The weak capacity of actors, particularly the private sector, meant that they did not advocate for enhanced, fair and equitable business practices
  - The Act did not specify measures for some agricultural produce.
- From 2008 to date, a number of efforts have been made to facilitate enforcement of the Act. Some of the efforts are as follows;
  - WMA has been penalising the drivers and owners of vehicles carrying lumbesa
  - On 13<sup>th</sup> October 2009, the Iringa Regional Administrative Secretary (RAS) issued a circular to District Executive Directors, City Council Directors and Municipal Directors to direct them to: make farmers aware of the impact of lumbesa; stop the selling of crops at farm gates; ensure that market centres are established; and ensure that traders and owners of milling machines use standard W&M. The letter was also circulated to District Commissioners and the WMA Regional Manager.
  - On 15<sup>th</sup> August, 2011, the RAS (Iringa) issued another directive to District Commissioners, District Executive Directors, City Council Directors and Municipal Directors to direct them to ban the buying and transportation of agricultural produce in lumbesa. The letter requested all key stakeholders in the Districts to cooperate with and support WMA in enforcing the W&M Act, 1982. It highlighted some of the key challenges of lumbesa, including

loss of government revenue, exploitation of farmers and the impact on the health of carriers.

- On 19<sup>th</sup> May 2013, the Iringa Regional Commissioner issued a circular to District Commissioners to strictly ban the buying of agricultural produce in lumbesa. The letter was copied to the Regional Police Commissioner (RPC), District Executive Directors and WMA Regional Manager to request all relevant stakeholders to support WMA in implementing the Act.
- The Regional WMA office prepared a flier providing details of the role of WMA and the standard W&M for all major crops produced in Iringa and Njombe. The flier was shared with farmers, traders, transporters and law enforcers to create awareness of the authorised measures.
- WMA has recently prepared the Legal Metrology Act, 2013 to increase the penalty for those who break the law. Section 45 of the Act provides for the general penalty. It states that *any person who contravenes the provisions of the Act or regulations made under the Act for which no specific penalty is provided shall be guilty of an offence and be subject to a fine not exceeding one million shillings or to imprisonment not exceeding three years or both fine and imprisonment.* In the second case, the fine is stated to be two hundred million shillings or imprisonment not exceeding seven years or both. Although the Act is yet to be passed by Parliament, it is expected to improve the situation, as the current Act merely stipulates a fine of ten thousand shillings or imprisonment for a term not exceeding three years or both for the first offence. The penalty for the second offence is twenty thousand shillings or imprisonment not exceeding three years or both.

From the above observations, it is apparent that several efforts to enforce the W&M Act, 1982 have already been made. The efforts entail studies to measure the impact of malpractices, awareness campaigns, penalising defaulters and several circulars issued by the Government. Some questions still unanswered are: Why have most efforts been ineffective? What challenges remain in addressing W&M problems? Who are the key actors and what roles do they play? The literature review and consultations with various stakeholders revealed a number of gaps and challenges affecting enforcement of the W&M Act.

#### **2.4 Gaps and Challenges affecting Enforcement of Weight and Measures Act**

Although several attempts have been made to create awareness of the W&M Act, 1982, several challenges are extracted from the studies and documents reviewed as well as from the interviews conducted. The challenges of each district are presented in the specific district reports included in this document. The general challenges noted from all the sources are similar to the observations made by TCCIA-Iringa when the project was conceived. These challenges are centred on the following major issues;

- i) The weak capacity of WMA, mainly in terms of resources to enforce the Act and create awareness of the standard measures
- ii) Limited awareness of smallholder farmers of what W&M to use for their produce

- iii) Some provisions of the W&M Act, 1982 (e.g. section 45(1) which stipulates the penalty) are outdated and no longer have the desired impact of controlling malpractices.
- iv) Traders' preference for using non-standard W&M for the purpose of minimising transport costs and crop loss.
- v) Limited efforts to sustain the awareness-raising campaign, especially in remote areas where farmers lack adequate information about the right W&M to use.
- vi) Inadequate coordination of efforts between the key actors responsible for enforcing the Act.
- vii) The lack of well functioning Market Centres where farmers can sell their produce using standard W&M.
- viii) Unfair contract farming practices whereby farmers make agreements with traders to produce crops at prices and units of measurement set in advance.

### 3. FINDINGS FROM THE FIELDWORK

#### 3.1 Introduction

The team of consultants visited the five districts to collect data and information on W&M practices in those areas. The team had an opportunity to conduct several personal interviews and focus group discussions in all the districts. The findings generated from the fieldwork are organised as follows. First, the general findings from WMA offices, Iringa Regional Office and Regional Police office are presented. Second, key observations and data collected from the focus group discussions and interviews held at district level are presented. Third, major issues emerging from all the districts are synthesised and merged with findings from the literature and documents reviewed.

#### 3.2 General Issues Affecting Enforcement of the W&M Act

The interviews held with actors responsible for enforcing the W&M Act revealed a number of findings that inform this report. In particular, the interviews held with WMA, RPC and RAS revealed similar challenges to the ones found in the literature. The major observations made by WMA, RPC and RAS indicate that one of the key challenges of enforcing the W&M Act is the weak capacity of WMA in terms of staffing and vehicles to undertake the task. It was also apparent that the security of WMA officers was at stake and there has been little cooperation between the various actors, who were inclined to focus on their own role. Although the TCCIA project succeeded in raising awareness, the level of awareness of farmers of the W&M Act was still low. Even those who were aware refused to cooperate because they did not trust the weighing scales. Some farmers opted for contract farming due to limited resources when they are cultivating crops and so they accept the prices predetermined by traders. While the police force was willing to provide security for WMA, LGA and other law enforcers, it would only do so when a case is reported. The RPC advised the team to conduct further research to find out the magnitude of the problem and establish what motivates farmers to opt for lumbesa. Nevertheless, as noted in later sections of this report, farmers do not use standard W&M largely because of lack of awareness of the Act and due to their weak bargaining power.

#### **Observations from WMA, RPC and RAS**

**WMA Regional Office:** WMA recognises the projects implemented by TCCIA-Iringa in 2005-2007 with the support of BEST-AC increased farmers' awareness of the issue of lumbesa. According to the WMA Regional Manager, although a small number of farmers and transporters are aware of the W&M Act, the TCCIA project increased the level of awareness to some extent. Despite this, enforcing the Act has been a great challenge. Some of the major challenges are;

- The agricultural produce market is a buyer's market (buyers have the upper hand in terms of market power). Lacking finance and the means of reaching alternative markets, smallholder farmers are compelled to comply with the contract terms set by traders, including prices being set at the time of preparing farms and planting. The challenge exists throughout the distribution chain since brokers control the wholesale market as well. Even if efforts are made in Iringa and Njombe, brokers in Dar es Salaam and other big cities still prefer lumbesa and they dictate the terms. This situation locks farmers in a vicious cycle of poverty
- When TCCIA implemented the project it was agreed that LGAs should set up Market Centres with adequate weighing scales and draw up by-laws to ban the sale of produce in lumbesa.

Few of the centres are functional and those with scales are not functioning or serviced on time. In many places farmers still sell their produce on the black market. LGAs have not set up market centres because they do not have the funds to do so. It must also be noted that formal markets require some level of managerial capacity. Some form of partnership between a farmers' organisation (e.g. MVIWATA) and the LGA would be the most appropriate arrangement.

- Delegation of WMA roles to LGAs is not explicitly stipulated in the W&M Act, 1982 to empower LGAs to charge a penalty when someone commits an offence. However, there is an opportunity for LGAs to use general by-laws to charge defaulters.
- The security of WMA officers is at risk as in many cases they are threatened by traders when they attempt to enforce the law. In August, 2012, WMA initiated a strong campaign to stop lumbesa. Unfortunately, the traders organised themselves in groups to fight the staff of WMA. WMA decided to stop the campaign in order to organise itself better.
- Since traders are aware of the fines they may be required to pay, in most cases, they ask farmers to add 1-2 buckets of produce to the lumbesa to cover the cost of the fine. This leads to more exploitation of farmers as they have no other option.
- The major challenge of the WMA regional office is inadequate facilities and limited manpower to enforce the law. The office has only one vehicle that serves two regions (Iringa and Njombe). Given the size of the regions WMA officers are scheduled to move to each district every six months. At the time of the interview the office had only six professional staff to serve the two regions. For instance, the vehicle and staff worked in Iringa District in July 2013 and were scheduled to come back in December 2013. With this limited capacity, enforcing the law is almost impossible.
- Farmers' mindset and lack of trust in the reliability of the approved weighing scales cause some farmers to prefer lumbesa, mainly because they feel that the weighing scales are less reliable than the buckets and bags they use. Some farmers resist changing from the older practice simply because they lack adequate information on the benefits.
- Other actors such as the police force, extension officers, agriculture officers and trade officers feel that implementing the W&M Act is the role of WMA and so they play a limited role in enforcing it. Although WMA has the mandate to ensure effective enforcement of the Act, it cannot operate in isolation.
- Exploitation of farmers causes them to commit malpractices by adding stones, water and other stuff to their crops to increase their volume. This practice distorts the quality and image of the produce produced in rural areas.

**Regional Police Office:** The interviews held with the Staff Officer and Regional Police Commissioner revealed a number of issues;

- The role of the police force is to provide security and ensure that the law is complied with. However, in the case of WMA, the police force works to support it when their service is required. The only institution that has expertise to assess compliance with W&M standards is WMA and the police come when security is needed.
- They expressed their willingness to offer security to WMA and even farmers and traders when it is needed as this is the role of the police
- No farmers or traders have reported any issue regarding exploitation by each other, making it difficult for the police to take action.
- Research is needed to find out what motivates farmers to prefer lumbesa. There is a need to establish if farmers are aware that they are being defrauded and to measure the magnitude of the problem.

**Regional Administrative Secretary (RAS-Iringa):** The region has been supporting WMA to enforce

the Act by issuing circulars and raising awareness through LGAs. However, a number of challenges still exist that require immediate action;

- Traders buy agricultural produce at the farm at a very exploitative price seeing that the negotiating power of farmers is weak.
- Since transporting agricultural produce is expensive and traders are charged per bag, they are tempted to over pack lumbesa to save transport costs (see Figure 3.1).
- Ineffective use and/or non-existence of market centres contributes to the black market and the use of lumbesa for measuring the weight of agricultural produce.
- It had been agreed that the LGAs should make by-laws to ban lumbesa. Unfortunately, RAS was unaware of any by-laws being made by LGAs on that. The main issues raised by LGAs are the lack of a budget for designing by-laws and the focus of most staff on production and value-addition initiatives.
- Trade Officers should be empowered to train farmers in W&M issues and support enforcement of the W&M Act.

**Figure 3.1: A Picture of Vehicle Carrying Lumbesa in Njombe**



### **3.3 Findings from the Districts Studied**

The study covered five districts. Although most issues that emerged in all districts are quite similar, some are specific to each district and so the findings of each district are presented separately. They are organised as follows. First, brief profiles of all the districts are presented. Second, the statistical results of the questions covered in interviews are presented together to form the basis for analysis and interpretation. Third, findings from the interviews held with various respondents in each district are presented. Fourth, the major issues that emerged in all the districts are synthesised.

#### **3.3.1 Profiles of the Districts**



The profiles of the districts indicate that all of them are suitable for agriculture and they produce a variety of crops. All the districts in Iringa and Njombe have great potential to contribute to the growth of the economy of Tanzania if agriculture is promoted in the regions. The major economic activity in all districts is small-scale farming dominated by smallholder farmers. This suggests that developing the market for agricultural produce in the area of study is essential if the sector is to grow. The use of proper W&M is an important component of market development and the growth of the sector as a whole.

### 3.3.1.1 Njombe Urban District (Njombe Town)

Njombe Urban District (Njombe Town) is one of the four districts of Njombe region. It is located in the Southern Highlands covering an area of approximately 321, 200 ha. The District has 54, 038 ha that can be used for agriculture. It is divided into two divisions and seven wards with a total of 44 villages and 232 sub-villages. According to the 2012 population census, the district has a population of 130,223 people, of whom 69,111 are females, with an average household size of 4.1. While the major food crops produced in Njombe are maize, Irish potatoes, millet and wheat, the dominant cash crops include traditional and organic tea, coffee, and commercial flowers. For the purpose of this study, the crops selected were maize and potatoes, as they were the crops that had the most potential in the villages and market centres visited. The statistical data showing production trends of these crops between 2005 and 2010 are shown in Table 3.1.

**Table 3.1 Agricultural Crops Considered in Njombe (2005-2010)**

Crop	Data	2005/2006	2006/2007	2007/2008*	2008/2009	2009/2010
<b>Maize</b>	Area ('000'ha)	-	-	14.79	21.47	19.35
	Production ('000'tons)	-	-	28.09	36.56	22.00
	Yield (tons/ha)	-	-	1.90	1.70	1.14
<b>Potatoes</b>	Area ('000'ha)	-	-	-	15.29	19.85
	Production ('000'tons)	-	-	-	50.75	79.96
	Yield (tons/ha)	-	-	-	3.32	4.03

**Source: UTR, 2008**

### 3.3.1.2 Ludewa District

Ludewa District is one of the districts in Njombe region. The district has a total area of 405, 030 ha of arable land, of which approximately 54,200ha are under crop cultivation. It has a population of 133,218 people, of whom 69,776 are females, with an average household size of 4.4. Major food crops cultivated in Ludewa are maize, wheat, finger millet, Irish potatoes, round potatoes and cassava. The cash crops are coffee, cashew nuts, pyrethrum and sunflower. The crops selected for this study are maize and wheat.

**Table 3.2 Agricultural Produce Considered in Ludewa (2005-2010)**

Crop	Data	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010
<b>Maize</b>	Area ('000'ha)	19.73	20.73	17.94	24.29	21.88
	Production ('000'tons)	66.31	45.55	33.58	45.01	29.39
	Yield (tons/ha)	3.36	2.20	1.87	1.85	1.34
<b>Wheat</b>	Area ('000'ha)	0.61	1.81	2.95	5.28	6.86
	Production ('000'tons)	0.58	2.85	2.05	4.52	3.43
	Yield (tons/ha)	0.94	1.58	0.70	0.86	0.50

**Source: UTR, 2008**

### 3.3.1.3 Makete District

Makete District is one of the districts in Njombe region. It has a population of 97,266 people, of whom 51,966 are females, with an average household size of 3.7. Agriculture and agricultural-related activities are the main source of livelihood for 92 percent of the district's inhabitants. The major food crops produced in Ludewa are maize, paddy, wheat, Irish potatoes and beans. The cash crops are coffee, pyrethrum and fruit. The crops selected for this study are maize and potatoes.

**Table 3.3 Agricultural Produce Considered in Makete (2005-2010)**

Crop	Data	2005/2006	2006/2007	2007/2008*	2008/2009	2009/2010
<b>Maize</b>	Area ('000'ha)	11.79	11.90	18.83	11.46	12.22
	Production ('000'tons)	26.63	31.60	23.82	15.30	35.01
	Yield (tons/ha)	2.26	2.66	1.26	1.34	2.87
<b>Potatoes</b>	Area ('000'ha)	6.49	8.53	6.25	16.58	2.49
	Production ('000'tons)	57.22	67.65	27.31	36.94	9.63
	Yield (tons/ha)	8.82	7.93	4.37	2.23	3.87

**Source: UTR, 2008**

### 3.3.1.4 Mufindi District

Mufindi district is one of the districts in Iringa region. It is located 80 kilometres south of Iringa Municipal council. According to the 2012 statistics, the district has a population of 265,829 people, of whom 139,933 are females, with an average household size of 4.2. The District has 6,166,000 ha of arable land of which, 1,332,000 ha are under cultivation. The major food crops produced in Mufindi are maize, wheat, round potatoes and temperate fruit. The cash crops are tea, coffee and pyrethrum. The study used the data for maize and wheat.

**Table 3.4 Agricultural Produce Considered in Mufindi (2005-2010)**

District	Data	2005/2006	2006/2007	2007/2008*	2008/2009	2009/2010
<b>Maize</b>	Area ('000'ha)	62.41	66.40	52.61	73.57	76.86
	Production ('000'tons)	82.14	72.19	84.85	121.68	108.03
	Yield (tons/ha)	1.32	1.09	1.61	1.65	1.41
<b>Wheat</b>	Area ('000'ha)	2.99	2.99	8.96	11.55	4.36
	Production ('000'tons)	2.47	3.11	8.38	7.91	3.75

Yield (tons/ha)	0.83	1.04	0.93	0.69	0.86
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### 3.3.1.4 Iringa Rural District

Iringa District Council is one of the districts in Iringa Region. The district has approximately 20576 square kilometres of which only 9858 square kilometres are habitable. It is characterised by scattered hills receiving an annual rainfall of 500-2700mm. According to the 2012 statistics, the district has a population of 254,032 people, of whom 130,789 are females, with an average household size of 4.2. Ninety-five percent (95%) of the district is predominantly rural and so agriculture is the mainstay of the district's economy. The major types of food crop cultivated are maize, rice, tomatoes, sunflower, beans, fruit and potatoes. Major cash crops are cotton, tobacco and simsim. Maize and rice paddy are considered in this study.

**Table 3.5 Agricultural Produce Considered in Iringa (2005-2010)**

District	Data	2005/2006	2006/2007	2007/2008*	2008/2009	2009/2010
<b>Maize</b>	Area ('000'ha)	70.79	68.87	44.20	64.05	66.88
	Production ('000'tons)	115.55	138.65	61.55	78.72	44.47
	Yield (tons/ha)	1.63	2.01	1.39	1.23	0.66
<b>Rice paddy</b>	Area ('000'ha)	9.96	7.52	4.95	13.08	12.82
	Production ('000'tons)	34.04	40.37	15.25	47.63	0.56
	Yield (tons/ha)	3.25	4.26	3.08	3.72	0.04

**Source: UTR, 2008**

### 3.3.2 Findings from Focus Group Discussions and Interviews

The findings from focus group discussions and from interviews conducted indicate that while some responses are similar, there are also variations between different districts. Although the qualitative data are presented separately, there are some quantitative data that were pulled together to facilitate interpretation. The findings on issues that the districts had in common are shown in Table: 3.6. The results show that out of the 133 respondents who participated in focus group discussions, only 20% were aware of the existence of the W&M Act. The proportion of those who were aware of the Act is almost the same as the proportion of those who attended the sensitization workshop on awareness of W&M conducted by TCCIA-Iringa in 2005-2007. While 20% of the respondents were aware of the proper weights for selling crops, about 23% used kilograms for selling their produce. Over 78% of the respondents indicated that they used plastics buckets to measure the weight of their produce, while over 80% used bags to sell their crops. Surprisingly, none of the respondents knew the weight of 1 plastic bucket. These results are consistent with the assumption made at the beginning of the project that most farmers still use unofficial W&M to sell their produce.

**Table 3.6: Statistical Results on Responses from Focus Group Discussions**

S/N	Statement	Yes		No		Total
		Count	%	Count	%	
1	Aware of existence of W&M Act	27	20.3	106	79.7	133
2	Attended the sensitization workshop on W&M Act	26	19.5	107	80.5	133
3	Know the right (legal)weight for selling crops	27	20.3	106	79.7	133
4	Use kilograms for selling crops	30	22.6	103	77.4	133
5	Use plastic buckets for selling crops	104	78.2	29	21.8	133
6	Use bags for selling crops	107	80.5	26	19.5	133
8	There is a local market (at ward level) for selling crops	87	65.4	46	34.6	133
9	Sell their crops in the local market	34	39.1	53	60.9	87
10	Sell crops to traders/middlemen	119	89.5	14	10.5	133
11	Engage in contract farming	32	24.1	101	75.9	133
12	Sell crops at farm gate	60	45.1	73	54.9	133
13	There is a warehouse/crop bank for storing produce	34	25.6	99	74.4	133
14	The warehouse has functioning weighing scale	34	100.0	0	0.0	34
15	Know the weight of 1 plastic bucket	0	0.0	133	100.0	133
16	<b>Know the cost of producing 1 ha of crops</b>	<b>1</b>	<b>0.8</b>	<b>132</b>	<b>99.2</b>	<b>133</b>
17	Participants who keep their farm cost records	0	0.0	133	100.0	133

**Source: UTR, 2008**

The results further show that almost 90% of farmers sell their produce to traders, supporting the view that the market for agricultural produce is dominated by traders and middlemen. Some farmers (45.1%) sell their produce at the farm gate and 24.1% engage in contract farming despite the fact that over 74% of the respondents acknowledged that the warehouses in the villages had functioning weighing scales. It was further found that none of the respondents kept a record of the cost of cultivating their crops and only 1% knew the cost of producing an acre of crops. Given this, the respondents could not negotiate a good price for their produce, especially when they embarked on contract farming.

Although common issues emerged from the focus group discussion, the qualitative results from personal interviews and focus group discussion indicate some variations that reflect the geographical location of the places visited in each district, the type of crops produced, the infrastructure, access to markets and the existence of market centres, etc. To get the real picture of each district the results are presented separately before synthesising the major issues and their implications.

### **3.3.2.1 Ludewa District**

The findings from Ludewa indicate that approximately 95% of farmers in the district sell their maize to the National Food Reserve Agency (NFRA) located in the centre of the district. NFRA buys maize in kilograms using the standard weighing scales. The issue of

lumbesa has been addressed to a large extent because of the presence of NFRA and the sensitisation campaigns against it. Improved infrastructure between Ludewa and Njombe allows farmers to transport their produce to a more reliable market in Njombe and Makambako. Interestingly, sensitisation against contract farming is done at village level. However, a few farmers still embark on contract farming with traders and middlemen informally. Although contract farming is exploitative, farmers still accept it because of financial constraints, especially when they are preparing their farms. During the focus group discussion it was noted that a few farmers still sell their maize to traders and middlemen despite the presence of NFRA. While traders prefer to use plastic buckets to weigh their produce, farmers in Ludewa had the same feeling. Basically, they claimed they were used to buckets and felt they should be used when transactions are done at home. When asked about the weight of a plastic bucket, various responses were given, ranging from 18-22 kilograms. In terms of the price of maize per plastic bucket, farmers had different opinions, ranging from TZS 4,200-6,000/= depending on the financial constraints of the farmer and the season. Since farmers sell their produce using plastic buckets and not sacks/bags, they claimed there was no problem between buyers and farmers. Lumbesa is created by traders in an attempt to minimise the costs of transporting, packaging, loading and unloading the produce as well as reducing crop loss.

Most farmers prefer selling their produce directly to traders rather than to NFRA because they can get money instantly for school fees, and to meet health expenses and the cost of harvesting and transporting crops. Over 50% of the 26 respondents who participated in the focus group discussion still doubt the reliability of the weighing scales at NFRA. The majority of them felt that NFRA employees engage in dubious practices like reducing the number of kilograms and using non-standard scales, etc. When asked about the possibility of each farmer verifying the weight declared by NFRA, they claimed that they did not know how to read the weighing scales. Others raised the concern that NFRA deducts 0.5-1.5 kgs from each bag of maize if the maize is unsuitable or full or moisture, or stones or other stuff have been put in the bags of maize by farmers. *Last year, NFRA came very late (in August) when some farmers had already sold their produce to traders,* claimed the respondents. The price offered by NFRA (TZS 500/= per kilogram) was considered unfavourable by farmers. They also complained about delays in payment and the use of closed bank cheques by NFRA. However, when computed by the consultant, it was found that farmers lose at least TZS 63,000/= per bag of maize if they sell directly to traders compared to selling to NFRA.

The Ward Executive Officer, Councillor and Ward Agricultural Officer participated in personal interviews. Overall, they were of the opinion that NFRA has been very helpful in terms of assuring farmers of the availability of the market. The Agency has brought competitiveness to the district and farmers have been able to receive a higher price per kilogram. All the respondents acknowledged that, despite a lot of sensitisation, several farmers still sell their produce to traders due to poverty and lack of awareness of the losses they incur. Four traders who participated in the focus group discussion claimed that they buy maize from farmers facing hard times. They also raised the issue

of delays in payment by NFRA due to the use of a bank based in Makambako. The respondents felt there was a need to facilitate farmers in accessing agricultural inputs to minimise contract farming, which is triggered by financial constraints when farmers are cultivating their farms.

**Table 3.7 Comparison of Selling Produce to NFRA vs. Traders**

<b>Traders vs. NFRA in Ludewa</b>		
	<b>NFRA</b>	<b>Trader</b>
I Plastic bucket weighs 18 kgs	9,000	4,200
I bag = 7 plastics buckets = 126 kgs	63,000	29,400
10 Bags = 1260 kgs	630,000	294,000
Loss to Farmer		336,000/=

During the focus group discussion, in the presence of the respondents, the consultant computed the possible loss to a farmer when selling produce to traders rather than NFRA, based on the assumptions made by them. As shown in Table 3.7, it was noted that by selling to traders, a farmer can get TZS 233/ kg instead of 500/kg when selling to NFRA. If, for example, a farmer sells 10 bags to traders he/she is likely to incur a loss of TZS 336,000/=, which is quite substantial given the cost of cultivating the crops. Surprisingly, all respondents in the focus group discussion were shocked and agreed to stop selling their produce to traders. This indicates that lack of awareness of the losses incurred by farmers when they sell their produce to traders accounts for the current practice.

When asked about the farmers' concerns, NFRA supervisors in Ludewa claimed that NFRA aims to maintain a national optimal level of food reserves to address local food shortages and respond to emergency food requirements. The NFRA mission is to guarantee national food security by procuring and reserving strategic food stocks in an efficient and cost-effective manner. NFRA in Ludewa buys maize from farmers using weighing scales at TZS 500 per kg. Before buying, NFRA ensures that the moisture content is at an acceptable level. If the maize contains dust, NFRA deducts 2 kgs from each 105 kgs bought to compensate for the loss that is likely to occur. Payment is processed through closed bank cheques to ensure security of farmers' money. WMA normally checks the weighing scales used by NFRA to ensure they are working properly. NFRA packs the maize in 90kg bags, the standard measure specified by the W&M Act, 1982. The main challenge of farmers is their lack of confidence in NFRA and sometimes the practice of adding dust and stones to maize to increase the weight. Farmers also have the tendency of selling maize with some moisture content to give greater weight.

From the information obtained and observations made in Ludewa a number of key issues regarding W&M practices in the district are made. These are as follows;

- i) Availability of NFRA as an alternative market mitigates the effects of lumbesa and so the problem of lumbesa on the farmers' side is almost resolved. This implies that if farmers had alternative markets in which to sell their agricultural crops, the lumbesa effect would be minimal.

- ii) Households' poverty level contributes to the weak bargaining power of farmers. Despite the presence of NFRA, some farmers are still selling their crops to traders because of the high cost of living, especially when preparing the farm.
- iii) There is still a need to sensitize farmers more on the use of standard scales and the losses they incur when they sell their produce to traders. NFRA should raise its credibility by educating farmers on how weighing scales work and ensure them of the reliability of the scales used.
- iv) Weighing scales need to be available at ward or village level to protect farmers from selling their produce using plastic buckets. If weighing scales are made available and farmers are educated, both farmers and traders are likely to use them.
- v) The role of local authorities at ward and village level in educating and sensitising farmers on issues relating to W&M and the marketing of agricultural produce is crucial. In Ludewa, the authorities at the local level have been active in sensitising farmers on the lumbesa issue and it has worked.

### **3.3.2.2 Njombe Urban District**

Findings from the focus group discussions and interviews held at Uwemba Trade Centre Njombe Urban District reveal that lumbesa is more prevalent here than in other districts in Njombe. Farmers feel they are being exploited by middlemen largely because they have no other market for their produce. Surprisingly, none of the 27 respondents who participated in focus group discussion weigh their produce using standard scales. Nevertheless, they were aware that they were selling their produce in over-packed sacks (lumbesa), which worsened their economic condition. It was apparent that farmers aggravated the situation by allowing middlemen to go to their farms and cram the potatoes into over-packed sacks using local labour. When asked about why they do this, the farmers claimed they have no money to pay labourers to harvest their produce and meet the transport costs. It was further noted that the filling of sacks differed from one farmer to another and from one middleman to another. The estimated weight of an over-packed sack of potatoes ranged from 140-160kg, compared with the standard weight of 70 kgs.

All the respondents agreed that the price for their produce was largely set by the traders and middlemen. As a result, the price given to farmers was not uniform, as it depended on the negotiating power of each farmer. While potatoes were sold in over-packed sacks, maize was sold in plastic buckets. The respondents expressed the need for education and awareness to enable them to negotiate a better price and use proper W&M. It was also noted that there was a need to establish and/or strengthen farmers' cooperative societies/associations. In Ignangra village, for example, farmers have formed an association that enables them to sell their produce jointly and transport it together to Dar es Salaam. In addition, the respondents felt the market centres should be strengthened and supported by the government by supplying them or farmers' associations with weighing scales. The respondents suggested that the government through PMO-RALG should issue a circular to unscrupulous businessmen who continue to humiliate poor farmers. It is *unjust to cheat farmers, who have been*



*struggling to get out of poverty through farming, noted one respondent. The Kilimo Kwanza programme cannot succeed while lumbesa is still being used, noted another respondent. As noted in Figure 3.2, lumbesa is also a risk to porters' health.*

**Figure 3.2: A Picture Taken in Njombe During Fieldwork**



Face-to-face interviews with the Njombe Town Council Director, Trade Officer and Livestock and Cooperatives Officer revealed that, although the council has taken various initiatives to enforce the Act, they are yet to be successful. Some of the efforts made are: (i) The Council's office made copies of the W&A Act and sent them to WEOs and VEOs to assist in enforcing the Act; (ii) the Council has been participating in lumbesa campaigns by erecting barriers across the road to deal with the problem; (iii) WEOs have been advised to allocate areas for agricultural produce markets, though their efforts have basically failed because of non-compliance by farmers.

In terms of the challenges of enforcing the W&M Act, the respondents observed that the lack of alternative markets where farmers could sell their produce using weighing scales aggravates the problem. Before the 1980s, there were cooperatives where standard weighing scales were used when buying agricultural produce. Since the collapse of the cooperatives and the liberalisation of trade, farmers have limited access to markets, making them victims of trading malpractices. The challenge of enforcing the W&A Act is that, even if farmers are educated about the need to use the scales and avoid lumbesa, they still have no choice but sell to middlemen as long as there are no other viable markets. The respondents also felt that, while the issue of lumbesa is being addressed in Iringa and Njombe, it has not been taken seriously in other regions. One of the respondents claimed that *"when we erect barriers against lumbesa, complaints are made and people ask, why is it prohibited only in Njombe and Iringa but not in other regions?"* As a result, traders threaten to buy produce from Mbeya and other regions and so the farmers are worried about that. *Although the district has constantly been advising the WEOs to allocate areas for a crops market and*



*most wards have market centres, farmers still sell to traders and middlemen at the farm gate,* noted the respondents. When asked about the possible costs of lumbesa incurred by farmers and the government, the respondents raised a number of issues, the major ones being: loss of produce cess, where nearly half the amount that should be collected is lost; impact on the health of the young porters who carry up to 140 kgs of lumbesa; farmers' loss of income and hence poverty; and the destruction of roads and the associated costs incurred by the Municipal Council.

The respondents suggested that in order to address the problem there is a need to create a market centre for agricultural crops in Njombe and ensure that traders buy the crops there. The respondents felt that traders should be forbidden from buying crops at farm gates and market centres without certified weighing scales. Strengthening markets for agricultural produce in every ward or village would empower farmers to negotiate a better price. Importantly, the respondents felt the lumbesa intervention should be on the national agenda and not just a regional issue. This implies that the WMA should track lumbesa going to Dar es Salaam and other markets where there is a large number of business people and middlemen. Indeed, nearly all agricultural produce is transported to Dar es Salaam in lumbesa. The respondents noted that although the WMA has limited resources, it cannot fail to track lumbesa in Dar es Salaam markets. In addition, the respondents observed that there is a need to further sensitise farmers and LGAs about the W&M Act and its enforcement. WMA should also delegate some functions to LGAs, particularly trade or agriculture officers and extension officers.

### **3.3.2.3 Iringa Rural District Council**

The focus group discussion and interviews held at Idodi Trade Centre, Iringa Rural District, revealed findings similar to other districts, with a few exceptions. The focus group discussion with 34 respondents indicated that the majority of farmers had strong feelings that they were being exploited by middlemen simply because they did not have an alternative market at which to sell their produce. Surprisingly, only 3 (8%) respondents were aware of the W&M Act. Despite the presence of the crop bank at the Trade Centre most farmers sell their produce at the farm gate and on their farms through contract farming. It was also shocking to note that 31 (91%) farmers who participated in the focus group discussion had embarked on contract farming and were unhappy with its terms. The main reason for this practice was cited to be the need for money to pay their children's school fees, to pay for health care and to purchase agricultural inputs. Some traders offer agro-inputs and the money to rent farms under an agreement that is made prior to the cultivation of crops. While this practice could be helpful, the problem is that farmers do not have the power to negotiate a better price. It was also noted over 90% of farmers measure their produce in plastic buckets, but were not sure how many buckets are needed to fill a bag of maize. While 10 (29%) felt that one bag is filled by 7 buckets, 18 (53%) felt that one bag requires 8 buckets, and the rest had no idea of the right measure.

The respondents highlighted several additional challenges that affect farmers and contribute to malpractice in the marketing of agricultural produce. The most common

challenges that were raised by almost all the respondents are; limited access to markets; limited access to quality seeds and late arrival of fertilizers; imports (rice) from abroad that limit the market for rice paddy; and the crop cess. It was also noted that, although the produce cess is theoretically paid by the traders, in reality, it is borne by the farmers. Some farmers who have attempted to transport their produce to town have to pay the crop cess while traders offer them minimal prices. The farmers complained about being charged twice for crop cess at Karenga gate (TZS 2,000) and in town (TZS 500) per bag of paddy. Crop cess was basically seen as one of the major factors causing farmers to sell their produce to traders and middlemen. In an attempt to save on transport costs and crop cess, traders over-pack their produce. Furthermore, the respondents noted that when they attempt to sell their produce directly to traders from Dar es Salaam, the brokers collude and refuse to buy their produce. This is because the market is largely dominated by the brokers.

The interview with the WEO and VEO revealed that the crop cess has been one of the major factors encouraging farmers to sell their produce to middlemen without using standard scales. Although the Idodi Market Centre has a maize milling machine and weighing scales, brokers refrain from buying crops from the centre deliberately to encourage farmers to sell their crops on the farm. The respondents suggested that traders should be given a special licence to buy crops directly from farmers that indicates the price per kilogram. It was also suggested that educating farmers and creating awareness of the impact of lumbesa on their incomes and productivity, as well as the health of porters, would help to reduce the problem. The District Revenue Accountant (representative of the District Executive Director) claimed that the district initiated a special operation between June and May 2013 to stop lumbesa. Although the campaign showed some positive results, the main challenge was that some farmers pretended to be traders. The assumption made by the district was that whoever sells crops was a trader, not a farmer. This caused some farmers attempting to access the market directly to stop doing so.

The interview with the Village Warehouse Manager at Pawaga indicated that the warehouse was owned by Kimande Savings and Credit Cooperative Society (SACCOS). The SACCOS members were able to access loans through the CRDB Bank. Even though the arrangement was instrumental in stabilising the price of rice paddy in Pawaga, CRDB stopped lending to the SACCOS because of the challenges of managing and insuring the warehouse. Although there were weighing scales at the warehouse and farmers could use them, most farmers still preferred to use plastic buckets. The main reason given was that since most farmers could not read the scales, they doubted their reliability. Despite the lack of credit facilities for farmers, it was observed that out of 174 SACCOS members, only 26 (15%) had a space in the warehouse, which was based on the first-in-first-served principle. The warehouse building had been constructed by the Village Cooperative Society and was run by the SACCOS. The cost of storing one bag of rice paddy per season (July-December) was TZS 670/=. In 2012, the price of one bag of rice paddy was TZS 40,000/= in June and July but increased to TZS 100,000/=. Therefore farmers who managed to store their produce

received more than twice the price of their produce at harvest time. This demonstrates how such an arrangement could stabilise prices.

Some of the key recommendations made by respondents at both Idodi and Pawaga are as follows:

- i) The local Trade Centres need to be strengthened to function more effectively.
- ii) There is a need for the continuous sensitisation of farmers to change their mindset and adopt the use of weighing scales. Farmers need to be educated to understand the losses they incur when they sell their produce without using standard scales.
- iii) WMA needs to be strengthened to enable it to reach all Market Centres to create awareness and service the weighing scales. In some Market Centres, more than a year goes by before they are visited by WMA.
- iv) There is a need for a warehouse facility in every Ward or even in every Village. If this facility was available, traders would automatically buy crops from the warehouse and be compelled to buy using the weighing scales.
- v) Agricultural and extension officers need to start mainstreaming W&M processes in their day-to-day activities. This may include creating awareness and collaborating with WMA in enforcing the W&M Act. Empowering LGAs to assist in enforcing the W&M Act could help to address the problem.
- vi) LGAs should mainstream the W&M Act in their by-laws and introduce some sections that require farmers and traders to comply with the W&M Act, 1982. The by-laws should be made in a way that will also enable VEOs and WEOs to have the power to support implementation of the W&M Act.
- vii) Politicians, particularly Members of Parliament, Councillors, and Ward and Village leaders should participate effectively in sensitising farmers to change their mindset.
- viii) Other key actors, such as TANROADS and SUMATRA, should also work closely with WMA to intervene in the cost of transporting loads on roads, which suggests that they should set a price that indicates the cost of transporting a kilogram of crops and enforce it.
- ix) There is a need to charge a uniform crop cess and let farmers know what proportion of the price of one bag of produce goes on crop cess. During the visit to Iringa it was noted that the crop cess at Madibira was TZS 1,000/=per bag of rice while in Iringa it was 2,000/=per bag.
- x) All key actors should be involved in sensitising farmers about the use of W&M, including WMA, District Councils, TCCIA, the Police, TANROADS, WEOs, VEOs and those involved in agriculture.

#### **3.3.2.4 Makete District**

The interviews and focus group discussion held at Matamba Ward in Makete with 26 respondents revealed some interesting results. The local government is active in supporting the enforcement of the W&M Act. Although a few farmers use weighing

scales, all traders are required to measure 7 plastic buckets per bag, which is considered to be almost the standard weight. The Ward Counsellor, WEO and VEOs are active in enforcing the accepted measures in their places. This shows that it is possible for the W&M Act to delegate some functions to Ward and Village officials. Judging from the example of Matamba Ward, local officials seem to be more effective than those at district level. Surprisingly, traders and farmers had a good relationship. It was noted that the traders present in the focus group discussion were ready to use standard scales if they could be availed to them. The Ward has created a communication system, by which Ward leaders are informed of any events regarding lumbesa. For instance, if lumbesa is packed in a village, farmers can directly phone Ward leaders so that they can weigh the crops bought by traders and middlemen.

The District Council Acting Director and the Council's Agriculture, Livestock and Cooperative Officer claimed that the issue of lumbesa was mainstreamed in the crop cess regulations. If a trader is caught with lumbesa, he or she pays twice (TZS 1000/=) the normal amount of TZS 500/=. This has addressed the problem of lumbesa to a large extent. However, several challenges regarding lumbesa were stated. First, traders feel they are allowed to use over-packed sacks in Njombe and Mbeya and so are threatening to stop buying farmers' produce. Second, the lack of alternative markets force farmers and traders to sell crops in lumbesa on the black market. For example, when the LGA initiated a serious operation against lumbesa, traders stopped going to Makete to buy potatoes. The farmers become angry and started blaming the government for stopping lumbesa. In addition, WMA officers rarely go to the district to ensure the W&M Act is enforced. Since the agricultural market is open and free farmers are exploited due to lack of information on prices.

The respondents highlighted similar losses from lumbesa, such as loss of crop cess and farmers' income, in addition to the impact on porters' health and the destruction of roads. Some proposed solutions to the issue of lumbesa are sensitisation campaigns should be aimed at all stakeholders (value chain actors and policy makers), WMA should delegate power to the Council, TCCIA should continue providing sensitisation on the issue more effectively and farmers' associations should be strengthened.

#### **3.3.2.4 Mufindi District**

The focus group discussion in Mufindi indicated that, concerning lumbesa, farmers experienced similar challenges to other districts in Iringa. In Saadani, farmers felt that they were being exploited by traders. All 20 respondents sold their produce to traders and none of them sold their crops to alternative markets. The main challenges faced by respondents in Saadani include the lack of market centres, limited sensitisation and poverty facing farmers. Almost all farmers sell their produce (maize) in bags made up of 7 plastic buckets, each bag selling for TZS 50,000. They do not use scales basically because there are none.

According to the WEO, there was no market centre at Saadani which could be the major reason why farmers are exploited by traders. When a trader arrives, the

information spreads and farmers start bringing their maize to the trader. Although the Ward has been active in educating farmers, the majority still use non-standard measures to sell their crops. *Unless a local market for agricultural products is developed, the problem of lumbesa will never be resolved*, said the WEO.

### **3.4 Synthesis of Key Findings from the Districts**

The major crops considered in this study are maize, potatoes, rice paddy and wheat, which are the major crops in the market centres visited. The quantitative findings from focus group discussions demonstrated that only a few respondents were aware of the W&M Act. The majority used non-standard W&M for their crops despite sensitisation by TCCIA in 2005-2007. The majority of farmers sell their produce to traders at a low price due to the limited market for agricultural produce and their weak bargaining power. A considerable proportion of farmers sell their produce at the farm gate and almost a quarter of respondents were involved in contract farming. The qualitative findings show that the use of non-standard measures has been triggered by a number of factors, including the lack of the required weighing scales, the crop cess charged per bag rather using weight, the unavailability of standard packaging materials and farmers' perception that the weighing scales are not to be trusted.

There are a few business models, such as a warehouse receipts system (e.g. in Pawaga and Idodi), but their results and impact are still at the nascent stage. Farmers' organisational models are also emerging, but they have neither reached a level of facilitating farming as a business, nor have they commanded a credible position in the supply chain. Business acumen is generally lacking and farming is more a tradition than a business. Few farmers have a clear marketing strategy (e.g. to become informed about the price before the sales decision or to choose between different sales places according to the price). Most of them look for a buyer, if possible locally, when they need to cover some expenses. They mostly sell to traders' agents, local brokers or the traders themselves. Some of them attempt to transport their crops to the closest town or to weekly markets. However, their limited financial capacity, limited storage capacity, requiring crops to be moved rapidly to their final destination, and limited transport capacity, requiring the hiring of transport, have significantly affected the purchasing power of farmers. Since most farmers are cash poor, lacking either savings or access to credit, "distress" sales made immediately after harvest are common so that they can obtain cash quickly to pay for immediate needs. Informal loans provided through contract farming must be repaid and the early sale of crops is one of the most common mechanisms for achieving this end. No trade centre has adequate infrastructure for the storage of crops and household-level storage facilities are rudimentary and prone to excessive loss of crops. This also contributes to farmers' early sale of grain crops. The actual price received by a producer of crops is less linked to the cost of production than to the household's requirement for cash and to overall supply and demand.

**Table 3.8: Synthesis of Qualitative Findings From the Five Districts**

District	Dominant Crops	Specific Observations
Ludewa	Maize	<ul style="list-style-type: none"> <li>• Most farmers sell crops to NFRA</li> <li>• Contract farming is prohibited</li> <li>• A few farmers still sell their produce to traders and agents</li> <li>• Farmers not concerned about the use of non-standard measures</li> <li>• Farmers sell their produce to traders because they get money instantly</li> <li>• Farmers do not know how to read the weighing scale</li> <li>• Concerned about delays in payment by NFRA</li> <li>• NFRA has however made the market for maize more competitive and stable</li> <li>• Farmers incur a substantial loss when they sell their produce to traders</li> <li>• Farmers were unaware of the losses incurred when they sell to traders</li> <li>• NFRA mitigates the impact of lumbesa</li> <li>• Need for scales at ward and village level</li> <li>• The role of LGA in controlling unfair trade was acknowledged</li> </ul>
Njombe Urban	Maize Potatoes	<ul style="list-style-type: none"> <li>• Lumbesa is more prevalent than in other districts of Njombe</li> <li>• Exploitation of farmers is largely caused by lack of alternative markets</li> <li>• None of the respondents use scales to weigh their produce</li> <li>• Most transactions are done at the farm gate</li> <li>• Lumbesa is a great risk to porters</li> <li>• Education and awareness are needed to educate farmers</li> <li>• Farmers' associations can help stabilise the market</li> <li>• Market centres should be supplied with weighing scales</li> <li>• The Government should issue a circular to stop lumbesa</li> <li>• The council has made some efforts to stop lumbesa though they are yet to succeed</li> <li>• Develop an alternative market for crops</li> <li>• Farmers still perceive traders as a good source or market in hard times</li> <li>• The government loses crop cess and roads are destroyed</li> <li>• Lumbesa intervention should be on the national agenda</li> <li>• WMA is too weak to enforce the Act</li> <li>• Sensitise farmers more on the issue of lumbesa</li> </ul>
Iringa Rural	Maize Rice paddy	<ul style="list-style-type: none"> <li>• Farmers strongly felt they were being exploited by traders</li> <li>• Limited alternative market contributed to farmers' exploitation</li> <li>• Contract farming was quite common</li> <li>• Contract farming was preferred due to urgent need for money</li> <li>• Some traders offer agro-inputs to farmers</li> <li>• Farmers weighed their produce mostly using plastic buckets</li> <li>• Crop cess and transport costs contribute to lumbesa</li> <li>• Urban markets are dominated by brokers and farmers cannot access them</li> <li>• Educate farmers and create awareness of the issue of lumbesa</li> <li>• Traders should be licensed to buy crops</li> <li>• Strengthen WMA</li> <li>• Establish a warehouse facility in each district</li> <li>• LGAs mainstream some of the W&amp;M Act in their by-laws</li> <li>• Agriculture and extension officers mainstream W&amp;M processes in their daily activities</li> <li>• Empower LGAs to assist in enforcing the Act</li> <li>• Politicians should participate in creating awareness of the Act</li> <li>• Other Actors (TANROAD &amp; SUMATRA) should work closely with WMA</li> <li>• Charge uniform crop cess in all districts</li> <li>• All stakeholders should work together to sensitize farmers</li> </ul>

Makete	Maize Potatoes	<ul style="list-style-type: none"> <li>• LGA is very active in enforcing W&amp;M Act</li> <li>• All traders are required to measure 7 plastic buckets per bag</li> <li>• Traders and farmers had a positive relationship</li> <li>• The Wards have an effective communication system on lumbesa issues</li> <li>• Lumbesa is mainstreamed in crop cess</li> <li>• Traders can pack in lumbesa in other districts but not in Makete</li> <li>• Traders threaten to buy crops from other districts</li> <li>• WMA Officers rarely go to the district</li> <li>• Farmers are being exploited largely due to the lack of market information</li> <li>• Effects of lumbesa are loss of crop cess, impact on porters' health, loss of farmers' income and destruction of roads</li> <li>• WMA should delegate power to the LGA</li> <li>• TCCIA and other stakeholders should sustain the lumbesa campaign</li> <li>• Farmers' associations should be strengthened</li> </ul>
Mufindi	Maize Wheat	<ul style="list-style-type: none"> <li>• Farmers are being exploited by traders</li> <li>• None of respondents sold crops to an alternative market</li> <li>• Lack of market centre and limited sensitisation of farmers contribute to the problem of lumbesa</li> <li>• There are no weighing scales at all</li> <li>• Farmers still sell the largest proportion of their crops to traders</li> </ul>

### 3.5 Findings from Stakeholder's Workshop

The draft report was presented at the stakeholder's workshop held in Njombe on 26<sup>th</sup> October, 2013 to validate the preliminary findings generated from the field. The workshop brought together 60 participants (Annex 2) including the Njombe Regional Commissioner, RAS from Iringa, Senior Regional Officers from Iringa and Njombe, RPCs from Iringa and Njombe, representatives of DEDs from Iringa and Njombe, farmers representing the market centres involved in the study as well as the WMA Regional Manager. The report was discussed and most recommendations were validated. Specifically, the following key recommendations were made by participants during the workshop.

- 
- *Each village and ward should be supplied with a well functioning weighing scale*
  - *Farmers should be trained and educated on Weight and Measures Act and their role in enforcement of the Act*
  - *The Ward and Village Extension Officers should work with the villages to design the system and mechanisms to enforce the Weight and Measures Act*
  - *WMA should appoint representatives at the regional and district levels to be trained on Weight and Measures Act, so as to support the Agency in enforcing the Act*
  - *The media should actively be involved in educating farmers and creating awareness of the Act*
  - *Cooperative Societies organise the stakeholders' meetings to create awareness of the Act and the market prices of the crops*
  - *The Government sets the indicative prices for major crops and inform farmers about them so as to minimise exploitation of farmers by traders*
  - *WMA translates the Act into Swahili and make the translated copies to farmers, traders, brokers, villages, wards and to other key stakeholders*
  - *Enforcement of compliance with the Weight and Measures Act should be at all levels starting from the villages to the national level. There is therefore a need to enforce the Act at markets*
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*like Kariakoo where non-compliance is common.*

- *The NFRA should not be perceived as an alternative market to farmers, it is responsible to reserve food for social welfare.*
  - *Establish the WMA office in Njombe region*
- 

Most stakeholders' recommendations are similar to the recommendations made in the preliminary report. The recommendations relate to creation of awareness, involvement of various actors in enforcing the Weight and Measures Act and supply of the weighing scales to the market centres. In addition, it was recommended that the media should be involved in creating awareness of the Act and engaged to publish market prices of crops. It was also recommended that the WMA regional office should be established in Njombe region. Since Njombe is a fully fledged region, it should have all necessary Departments and WMA is one of them. Of interest, the Regional Commissioner (Njombe) ordered all DEDs to organise stakeholders' meetings in their respective Districts to share the recommendations made in that meeting. However, during the workshop, it was noted that almost all participants were not informed of the standard measures of various crops. Therefore, WMA made copies of the fliers showing the standard measures for all crops and distributed them to the participants. This clearly shows that there is a need to create awareness of the Act not only to farmers and traders but also to the law enforcers.



## 4. IMPACT OF NON-COMPLIANCE WITH WEIGHTS AND MEASURES ACT

### 4.1 Introduction

The TCCIA project (2006-2008) had some expectations after creating awareness of the W&M Act, 1982 of a large number of stakeholders. The long-term expectation was that smallholder farmers' income would increase by 50% by adopting standard measures in all crop transactions<sup>1</sup>. Other expectations were that WMA would be strengthened, the W&M Act would be revised, adequate trading centres would be designed and developed, by-laws would be put in place banning lumbesa and some WMA functions delegated to District Councils. All village government offices were expected to acquire weighing scales for use in their respective market centres. The District Councils were also expected to promote the formalisation of Farmers' Groups/Associations.

Contrary to expectations, the study shows that the level of awareness of the W&M Act is still low and the capacity of WMA regional office in terms of manpower and equipment is weak. Despite the fact that a study by MML in 2008 indicated that respondents were more aware of the W&M Act, 1982, after the workshop conducted by TCCIA-Iringa, only 20% of the respondents who participated in the current study had attended the workshop. W&M practices show that the problem of lumbesa still persists in both Iringa and Njombe region. The weight of all the selected crops (see Table 4.1) indicates that they were sold in lumbesa and the measures commonly used were plastic buckets and sacks. None of the farmers used kilograms to weigh their produce. In view of this, it is crucial to establish the impact of non-compliance with the W&M Act on farmers' income, government revenue and other indicators.

**Table 4.1: Weights and Measures Practices for Selected Crops**

S/N	Crop	Standard Weight (Kgs)	Practice – Sept.2013 (kgs)	Measures Used
1	Rice paddy	75	117	Plastic Buckets &Sacks
2	Sunflower seed	40	-	Farm gate plastic buckets
3	Wheat grain	90	100	Plastic Buckets /sacks
4	Maize grain	90	126	Plastic Buckets /Sacks
5	Millet, Wimbi, Simsim, Sorghum and groundnuts	90	100	Plastic Buckets /Sacks
6	Rice	100	128	Plastic Buckets /Sacks
7	Wheat bran	45	75	Plastic Buckets /Sacks
8	Onions*	70	120	Plastic Buckets /Bags

<sup>1</sup>TC4CIA Project Document

9	Sweet Potatoes/potatoes *	70		
10	Farm produce not specified in the Act*	100	100	Plastic Buckets /Bags

#### 4.2 Extrapolation of the Impact of Non-Compliance with W&M Act

Assessment of the impact of enforcing the W&M Act, 1982 is based on the data generated from respondents and the WMA Regional Office. To simplify the calculations, the consultant dealt with the most predominant crops (rice paddy and maize) to extrapolate the impact of non-compliance with the W&M Act. The consultant used the data from 14 vehicles caught by the WMA during the operations carried out in May 2013 that showed a total of 482 bags of rice paddy in Iringa, as well as price data generated from the districts (for maize). As shown in Table 4.2, the sample of 43 bags from the 482 bags of rice paddy was weighed by WMA. The actual weight of the sampled bags was 5037 kgs compared with the standard weight of 1849 kgs (43 bags x 7 kgs), an excess of 2,135 kgs for all the sampled bags and an estimated excess of 23,118 kgs for the entire consignment of 482 bags. This leads to an estimated excess of almost 42 kgs per bag, equivalent to 56% of the value of one bag of rice paddy.

**Table 4.2: Vehicles of Rice Paddy Inspected by WMA-Iringa in May 2013 and Weights Recorded**

S/N	Number of Bags	Standard Weight per bag	Sample Bags	Actual Weight	Average Weight/Bag	Excess/Deficiency (3)	Excess (all bags)
1	30	75	3	410	137	185	1850
2	9	75	3	402	143	177	531
3	27	75	3	392	131	167	1503
4	36	75	3	371	124	146	1752
5	51	75	3	319	106	97	1649
6	38	75	3	342	114	117	1482
7	80	75	4	428	107	128	2560
8	30	75	3	393	131	168	1680
9	50	75	3	299	99	74	1233
10	17	75	3	360	120	135	765
11	15	75	3	386	128	161	805
12	40	75	3	375	125	470	6267
13	9	75	3	283	94	58	174
14	50	75	3	277	92	52	867
<b>Total</b>	<b>482</b>		<b>43</b>	<b>5037</b>	<b>117</b>	<b>2135</b>	<b>23,118</b>

Source: Weight and Measures (2013)

Although systematic data on the maize procured were not available, the estimated weight of one bag of maize was computed based on estimating how overweight each bag was. The field study shows that the average weight of 1 sack of maize when plastic buckets are used to measure the weight is 126 kgs compared with the standard

weight of 90 kgs, giving an additional weight of 36 kgs per bag, equal to 40% of the standard weight of one bag of maize.

The basic assumptions about the two most prominent crops are made from a number of sources shown in Table 4.3. These crops were selected since they form the largest proportion of the cereal crops grown in Iringa and Njombe regions. The area planted with cereals is about 281,452 ha, equivalent to 67% of the total planted area, followed by pulses covering 71,309 ha (17%), oil seed (40,974 ha, 1%), roots and tubers (18,920 ha, 5%), fruit and vegetables (6,036 ha, 1%) and annual cash crops (mainly tobacco) with a planted area of 1,105 ha (3%). Notably, the general data on regional production are drawn from the National Sample Census of Agriculture 2007/2008, the only data available. Although at that time the two regions were under the same administrative region (Iringa), the statistics presented were drawn from all the districts in Iringa and Njombe, meaning that the data represent both regions. Although there might have been some changes, it was assumed that they were not significant enough to distort the projected impact of lumbesa.

**Table 4.3: Assumptions about Maize and Rice Paddy in Iringa and Njombe**

<b>Assumption</b>	<b>Figure</b>	<b>Source</b>
Total production of cereals by smallholders in Iringa and Njombe	422,332 tons (maize – 90 %, paddy- 4.2% and wheat- 2.9%).	NBS, 2008
Estimated rice paddy production in Tanzania	900,000 tons with 90% being sourced from small-scale farmers with an average farm size of 1.3 ha.	SADGOT, 2012
Estimated maize production in Tanzania	3,339,530 tons per year	SADGOT, 2012
Price of 1 kilogram of maize	TZS 500/= per kilogram (NFRA) and 233/= to 396/= per kilogram computed from the estimated number of plastic buckets per bag <sup>2</sup> .	NFRA (2013), Farmers and Traders
Price of 1 kilogram of rice paddy	TZS 625/= per kilogram	Farmers and Traders
Crop cess	TZS 2,000/= per bag of maize and rice paddy	Iringa Rural District Council
Proportion of lumbesa	56% of the rice paddy transported by traders and 40% of the maize sold by farmers	WMA, 2013, and farmers and traders

Analysis of the crop cess and farmers' income lost for the most predominant cereals in Njombe and Iringa is shown in Table 4.4. The computations indicated in the Table are used to extrapolate the impact at national level. The key assumption is that smallholder farmers consume 50% of their produce and sell the remaining amount to traders, agents and brokers. Since farmers sell their produce largely using plastic buckets, the amount of excess weight (lumbesa) is computed from the weight of 7 plastic buckets comprising one bag. Therefore, additional kilograms transacted by farmers are extracted from the weight of sacks (counted in 7 plastic buckets) compared with the standard weights (90 kgs of maize and 75 kgs of rice paddy). The national statistics for

<sup>2</sup> The average price at the farm gate is 314/= computed from the figures drawn from the field

maize are given in metric tons (1000 kgs). The proportion of lumbesa at the traders' level is computed from the data provided by WMA. Traders were found to carry a higher proportion of lumbesa than at the farm gate since they repackage the crops in order to save on transport costs and crop cess. Since the crop cess is charged on the produce transported by traders, the estimated crop cess is calculated from the amount of produce transacted by traders. The income lost by farmers is computed on the basis of farm gate price<sup>3</sup>.

Although there might be some variations between regions, the consultant assumed that the same proportion of lumbesa was likely to be found in other parts of the country. Using national output data for the two crops, it was possible to estimate the crop cess and the income lost by farmers at national level. The main purpose is to demonstrate that the problem of lumbesa goes beyond Iringa and Njombe, it is a national concern.

**Table 4.4: Crop Cess and Income Lost by Farmers through Lumbesa for Maize and Rice Paddy**

Dimensions	Maize (Tons/Kgs/TZS)	Rice Paddy (Tons/Kgs/TZS)	Total
Number of tons by smallholders in Iringa and Njombe	380,000	17,738	397,738
Proportion of lumbesa at the farm gate (40 %) in tons	152,000	7,095	159,095
Proportion of lumbesa at traders' level (56%) in tons	212,800	9,933	222,733
Estimated number of kilograms in lumbesa at farm gate	152,000,000	7,095,200	159,095,200
Estimated number of kilograms in lumbesa at traders' level	212,800,000	9,933,280	222,733,280
Number of standard bags in lumbesa at traders' level	2,364,444	132,444	2,496,888
Assumption: Only 50% of crops are sold at farm gate (kgs) -lumbesa	76,000,000	3,547,600	79,547,600
Assumption: Only 50% of crops are sold by traders (Bags) -lumbesa	1,182,222	66,222	1,248,444
<b>Crop cess lost in lumbesa (2000/= per standard bag)</b>	<b>2,364,444,444</b>	<b>132,443,733</b>	<b>2,496,888,178</b>
<b>Income lost by farmers in lumbesa in TZS (186/= per Kg)</b>	<b>14,136,000,000</b>	<b>659,853,600</b>	<b>14,795,853,600</b>
Number of tons at National Level	3,339,530	900,000	4,239,530
Proportion of lumbesa at the farm gate (40 %) in tons	1,335,812	360,000	1,695,812
Proportion of lumbesa at traders' level (56%) in tons	1,870,137	504,000	2,374,137
Estimated number of kilograms in lumbesa at farm gate	1,870,136,800	504,000,000	2,374,136,800
Estimated number of kilograms in lumbesa at traders'			

<sup>3</sup> For example, one village at Saadan (in Njombe) that cultivated 456 acres of maize lost over TZS 71 million due to malpractice in the weight and measures compliance (Annex 1).

level	1,335,812,000	360,000,000	1,695,812,000
Number of standard bags in lumbesa at traders' level	14,842,356	4,800,000	19,642,356
Only 50% of crops are sold at the farm gate (kgs)- lumbesa	935,068,400	252,000,000	1,187,068,400
Only 50% of crops are sold at the traders' level (Bags)- lumbesa	7,421,178	2,400,000	9,821,178
<b>Crop cess lost in lumbesa for the whole county (2000/= per standard bag)</b>	<b>14,842,355,556</b>	<b>4,800,000,000</b>	<b>19,642,355,556</b>
<b>Income lost by farmers in lumbesa for the whole country in TZS (186/= per Kg)</b>	<b>173,922,722,400</b>	<b>446,400,000</b>	<b>174,369,122,400</b>

The study shows that the regions of Iringa and Njombe lose almost TZS 2.5 billion of crop cess in lumbesa of maize and rice paddy. If all crops are considered, the impact could be even more significant. The income lost by farmers through the same practice in Iringa and Njombe is over TZS 14.7 billion. This requires immediate action given the poverty level of small-scale farmers in the Southern Highlands. Using the same statistics and based on similar assumptions, the amount of crop cess lost in *lumbesa* of maize and rice paddy in the country is estimated to be TZS 14.8 billion and the income lost by farmers is over TZS 174 billion.

Besides the figures computed, many other effects were identified from the interviews. As noted earlier, lumbesa has an impact on the health of porters. Interactions with porters indicate that the majority of them suffer from muscular pains, headaches, tingling and numbness in the arms and legs and even mobility problems. This adds to medical costs and leads to loss of life. Lumbesa contributes to the overloading of vehicles, which causes the destruction of roads. Heavy vehicles on roads not only cause considerable damage to the road network, but they also contribute to the serious problem of maintaining safety on the roads. Furthermore, heavy vehicle operators that do not overload are placed at a disadvantage as they cannot compete fairly with unscrupulous operators that deliberately overload their vehicles.

## 5. CONCLUSIONS AND POLICY RECOMMENDATIONS

### 5.1 Key conclusions

Even though this was a follow-up study on the impact of creating awareness of the projects implemented by TCCIA, it has come up with several findings that have policy implications if the use of lumbesa is to be stopped. Overall, it is clear from the findings that the use of non-standard measures is contributed to by several factors, ranging from limited awareness of the W&M Act, 1982, inadequate capacity to enforce it and limited access to alternative markets to poverty facing farmers. The main implication of the study findings is that, although the TCCIA project succeeded in creating awareness of the W&M problem and established strategies for addressing it, it did not take into account other key factors that may lead to lumbesa. Looking at the findings of this study, the problem of W&M cannot be dealt with without taking into account other factors contributing to malpractices in agricultural marketing. This section therefore synthesises the general issues triggering the use of non-standard measures before embarking specifically on enforcement of the W&M Act. The recommendations made aim to incorporate all key stakeholders in enforcing and/or supporting enforcement of the Act.

Generally, the problem of W&M originates from the gaps existing in the crop value chain from production to processing, transport, finance and marketing activities. Regarding the challenges of the value chain that trigger the use of non-standard measures, the following observations were made;

- i) Small-scale crop production in the regions studied predominantly depended on rain, resulting in uncertain yields, which can cause dramatic price fluctuations, especially when large amounts of crops are harvested and there is no market for them. Uncertain yields and price fluctuations discourage farmers from investing in improved agricultural practices and weaken their bargaining power. Because some farmers' produce is of a poor quality they are reluctant to sell their crops to formal markets, such as NFRA and warehouses.
- ii) Since most farmers cannot process their crops, they are compelled to sell them at prices and amounts largely dictated by traders, agents and brokers, who sell them to millers. This implies that even the bargaining power of traders and agents is influenced by millers and the final consumers, who have the power to influence the price and amount of crops bought.
- iii) Most crop trading is generally imperfect with transactions being done informally at the farm gate. Although the W&M Act tries to protect farmers, informal agreements are still common. This means that most transactions are of the "see it to believe it" variety, where both parties are present and witness the goods changing hands. When this uncertainty is coupled with the variable weight of crops, it is inevitable that traders' margins are increased at the expense of farmers.
- iv) All the places visited had limited grain storage capacity in terms of the quantity and quality of the warehouses and farmers' ability to access the ones that exist. Most farmers do not store their crops or they use traditional methods of storage in

their homes or small sheds that do not offer adequate protection from moisture or pests. They are sometimes faced with lower prices and increased loss due to poor storage conditions. Prices spike in times of shortage and plummet during the harvest season when the market is flooded with crops. Storage creates the opportunity to smooth out supply and match supply to demand, which is constant throughout the year. This can help stabilise prices and enable farmers to obtain credit based on their inventory.

- v) The high transport costs associated with poor feeder roads in remote areas have increased transaction costs and encourage traders to opt for lumbesa. It can generally be argued that one of the major constraints contributing to lumbesa is the high cost of transport.
- vi) The reluctance of farmers to use market centres in which to sell their crops emerges from their lack of understanding of the losses they make by selling their crops to traders because they need money that cannot be obtained in any other way. In some cases, there appeared to be a lack of trust by farmers in the weighing scales used in market centres.
- vii) Limited access to credit by farmers motivates them to embark on contract farming and obtain loans from traders. While this practice could help, the greatest challenge lies in the predetermined terms and conditions which are not suitable to farmers. Unfortunately, most banks consider smallholder farmers to be one of the risky markets.
- viii) The NFRA, the key institution implementing national grain storage, is not spread over all the places visited. Despite the requirement to have three months' worth of grain in reserve, NFRA has found this difficult because financial constraints have limited its purchasing power. In places where it was operating it was noted that NFRA starts buying crops rather late, resulting in delayed payments.
- ix) Although in some places farmers have formed associations, most are weak and cannot sustain good practices for selling crops due to the limited participation of individual farmers. Nevertheless, in all the places it was noted that the strengthening of farmers associations would address the W&M problem to some extent.

In terms of the impact of the campaign by TCCIA-Iringa to raise awareness of W&M practices in the Southern Highlands, the follow-up study immediately after the project achieved a level of success. While the impact was slightly felt during this study, a number of issues that directly affect compliance with the W&M Act were noted. In addition to the above issues, some of the direct challenges of complying with the Act are summarised below;

- i) The capacity of WMA at both regional and national level in terms of human resources, vehicles and finance is still weak. This weak capacity together with the perception of other stakeholders that W&M issues are solely the responsibility of WMA adds to the problem.
- ii) Inadequate infrastructure and facilities to facilitate compliance with the W&M Act, such as poorly developed market centres and the lack of weighing scales in most villages, make the problem more serious.

- iii) Limited awareness of the standard weight for each crop causes farmers to be deceived by traders and brokers as they weigh their produce using non-standard measures. Lack of sustainability of awareness campaigns has contributed to increasingly limited awareness of W&M issues.
- iv) The lack of by-laws at district level, despite previous resolutions to set by-laws in every District Council, limits the power of Councils to take up power delegated by the WMA.
- v) The crop cess charged by LGAs per sack tempts traders to pack their produce in lumbesa as a strategy for reducing the amount of cess paid. The recent campaigns in some districts to raise more revenue from crop cess have increased W&M malpractices.
- vi) The low level of participation of LGAs' agriculture, trade and extension officers greatly adds to the problem. Most local government officers are preoccupied with their own role and do not regard the W&M issue as being part of their job.
- vii) The urgent needs of farmers and their high degree of poverty encourage them to sell their crops to traders rather than market centres and established warehouses.
- viii) The Government, especially at national and regional level, has been consistently circulating circulars banning lumbesa. While this move is positive it has been ineffective in addressing the problem due to the lack of a budget and commitment at LGA level. As a result, the practice continues despite many circulars.

## 5.2 Policy Recommendations

A thorough assessment of the situation indicates that the W&M issue is diverse and requires the combined efforts of various stakeholders at national, regional and LGA level. The policy recommendations made therefore affect all key stakeholders and stipulate the role they could play. Based on the integrated model for the implementation of a policy framework to address the issue of lumbesa (Figure 5.1), the following recommendations are made;

- i) **Strengthen the scope of the awareness-raising campaign and ensure its sustainability at both national and local level:** The successful promotion of W&M should include all key actors in the value chain who can play a complementary role. The national WMA should use the experience of Iringa and Njombe projects to initiate a nationwide campaign against the use of non-standard measures. The campaign must be sustained to remind farmers, transporters and traders of the impact of lumbesa, the losses emerging from lumbesa and other effects. The programme should ensure that the W&M Act is interpreted and disseminated (in Swahili) to all key stakeholders, including LGAs, farmers, traders, voluntary organisations and the community at large. Unless the lumbesa practice is stopped in other markets like Dar es Salaam it cannot be fully addressed in Iringa and Njombe in isolation. Among the awareness-raising components should be sensitization on costing so that farmers know how much they lose when comparing costs.



**ii) Speed up amendments to W&M Act:** The W&M Bill, 2013 must be fast-tracked to ensure that legislation governing the proposed fines and penalties is passed by the government. Since the legislation is in its final stages, it is the role of WMA and MIT to follow this up to make sure that it is soon passed by Parliament and signed by the President. Other stakeholders, including TCCIA and private sector organisations, should support the move through advocacy and the creation of awareness. Once the bill is passed, it must be enforced immediately so as to stop current W&M practices.

**iii) Strengthen the capacity of WMA:** Given the increasing role of WMA, its capacity must be enhanced. This ranges from developing adequate infrastructure and office facilities and training more technical staff, to supplying WMA with vehicles and other equipment needed. In order to achieve this, the Government through the MIT should conduct an institutional assessment of WMA and support it by mobilising resources through the national budget and from development partners to implement its strategic plan. In addition, WMA must be proactive as an Executive Agency in mobilising resources through the budget, from development partners and via soft loans. At the moment, the immediate need is for another vehicle to enable WMA Officers to travel to different districts and market centres. In addition, it is important to establish a fully fledged WMA office in Njombe to execute the functions of WMA at the regional level. Since Njombe is a region that deserves to have all key Departments and the capacity of WMA is limited to meet the needs of region, the Ministry of Industry and Trade should set-up an office in Njombe.

**iv) Delegate some WMA functions to LGAs and the private sector:** Because of its limited capacity, WMA cannot reach all the market centres and villages where crops are produced. This calls for WMA to work with LGAs to enforce the W&M Act. Through the by-laws set by LGAs, it would be feasible for Trade Officers, Agricultural Officers and Extension Officers to take on some of the responsibilities of WMA. These officers could train farmers and traders in W&M compliance and provide advisory services on the standard measures of crops stipulated in the W&M Act, 1982. A good example is provided by Makete, where WEOs and VEOs are not only active in ensuring compliance with the Act, but they also participate in inspections of overloaded vehicles. For this to happen, the process of making by-laws by LGAs must be fast-tracked. PMO-RALG should work with LGAs to mobilise resources for this task. This could be done if all District Councils are given a deadline and facilitated by the Regional Office and PMO-RALG to access resources to make by-laws. WMA and LGAs could also explore the option of using private companies or NGOs to apprehend and fine those who break the law.

**v) Develop adequate infrastructure at the designated market centres:** In most places, there are designated market centres but they lack basic facilities such as a storage building, crop milling machines, weighing scales and staff to run them. It is the role of LGAs to promote the market centres and ensure that they function

effectively. This can be done through a private/public partnership whereby investors would be allowed to work with LGAs to establish market centres in selected areas. A good example is Pawaga (Iringa), where the storage facility created by the village is currently run by a private individual. One major action under this recommendation would be to develop community-based crop storage facilities in market centres, which would reduce post-harvest losses.

**vi) Introduce and support the development of a warehouse receipts system:**

Throughout Africa warehouse receipt systems have been recommended and embraced by governments as a means of reducing the pressure on small-scale farmers to engage in early season sales. Warehouse receipts can assist small-scale farmers in accessing credit through an inventory of their crops. The experience of Iringa shows that this system can work effectively if the grain storage is widely available to all stakeholders and the market is willing to adopt uniform crop standards and volumes, so that the paper trading of stored crops is a realistic option. Warehouse receipts in Tanzania are governed by the Warehouse Receipts Act, 2005, which stipulates that these receipts function as a negotiable instrument. Where attempts have been made to implement a warehouse receipts system it has almost exclusively been implemented as inventory credit through local SACCOS and banks rather than as a negotiable instrument in their own right. Warehouses must be licensed by the Warehouse Licensing Board and managed by experienced companies. While existing inventory credit schemes regarded as warehouse receipts systems do not really meet the requirements of warehouse receipts, they allow some farmers to apply the spot market value of their inventory as collateral for a loan of up to 60 percent of the value of the inventory. This allows farmers to tap the value of their existing inventory to secure financing for inputs for the next growing season without having to sell their inventory immediately at harvest time, which has historically resulted in low seasonal prices for their crops. The concrete recommendation therefore is to promote the establishment of communal grain storage facilities and the provision of credit through trusted intermediary institutions as a first step in establishing a warehouse receipts system, which is quite advanced.

**vii) Promote the NFRA to enhance competition of the crops:** The most common finding from all districts is that farmers sell their crops to traders largely because of the lack of an alternative market. The experience of Ludewa indicates that NFRA has played a crucial role in stabilising the market and addressing the challenge of non-standard measures. In order to have a greater impact, NFRA needs to expand the scope of the crops reserved. In the places visited the Agency was buying maize, leaving out other types of grain. Therefore, while farmers had a reliable market for maize, they had no such market for other crops. NFRA should also expand the scope of its operations to cover more market centres and buy larger volumes of grain. The price offered by NFRA should be competitive

enough to beat that offered by traders and increase the competitiveness of crop markets.

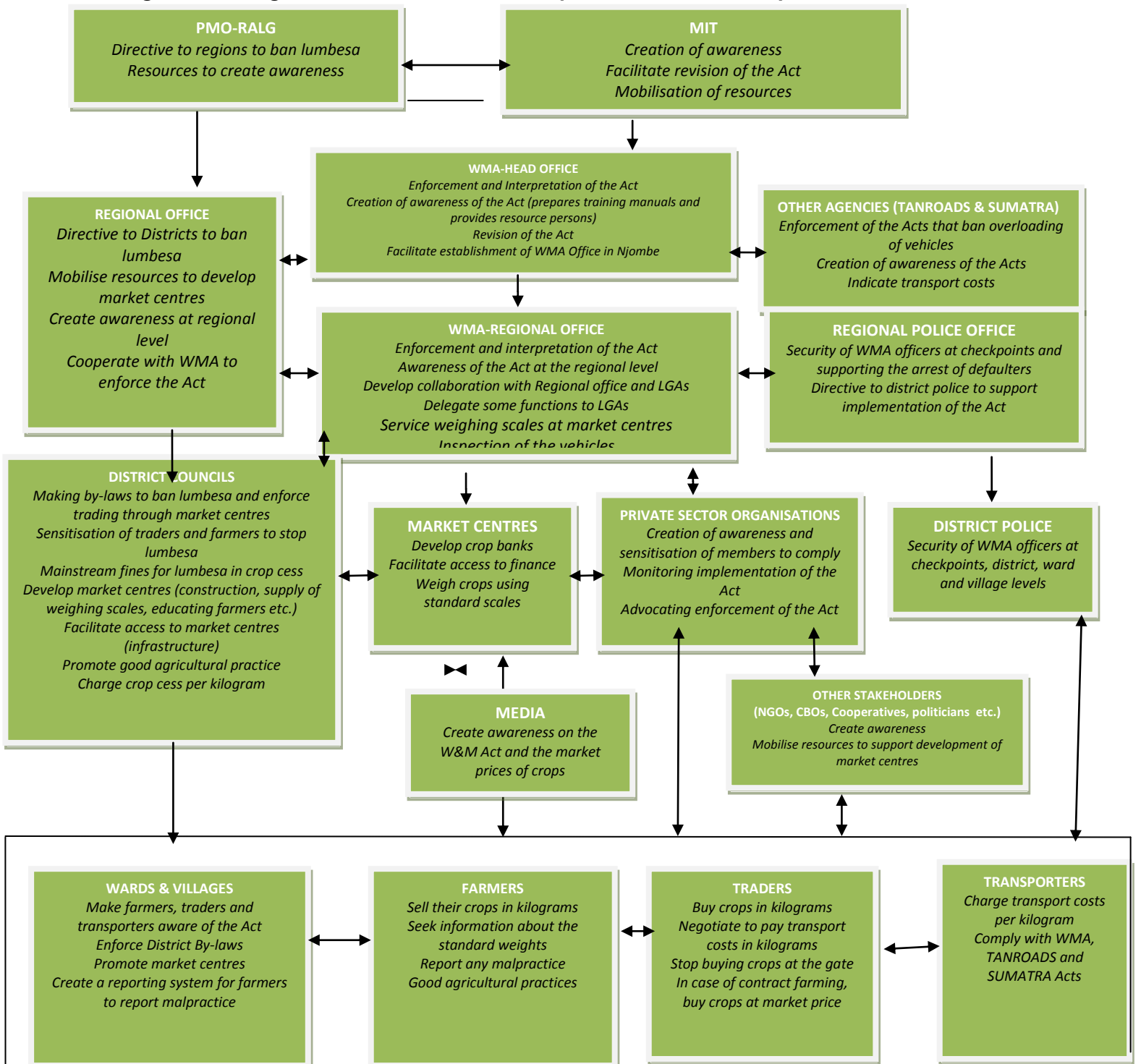
**viii) Strengthen Farmers' Associations:** In all the places visited it was noted that Farmers' Associations do not exist and where they do exist, they are extremely weak. In a situation where cooperative societies have almost collapsed, Farmers' Associations could play an important role in enhancing the negotiating power of farmers. These associations could increase dialogue between farmers and traders and ensure that farmers not only obtain a good price at the market, but also use proper W&M. Farmers' Associations are effective in stabilising the market for farmers as they connect farmers at the village, district, regional and, ultimately, national level. They serve as vehicles for disseminating market information, providing extension services and advice, and engaging in advocacy on behalf of their members. LGAs should work with farmers to set up Farmers' Associations through their Trade Offices. The main role of LGAs could be to mobilise farmers and provide technical assistance for the establishment of those associations.

**ix) Use the crop cess to discourage the use of non-standard measures:** All District Councils charge crop cess per sack of crops, which encourages the over-packaging of crops. Traders attempt to reduce the number of sacks/bags transported to reduce the crop cess. LGAs therefore must introduce a system whereby crops are taxed on the basis of their weight not the number of bags. While measuring each consignment of crops might be difficult in practice, LGA by-laws could state the weight each bag must have and charge extra crop cess and impose a fine or penalty if the transporter carries additional weight per bag. The by-laws could give LGA Officers the power to sample some sacks and weigh them before charging the crop cess, and if the vehicle is carrying lumbesa the driver could be fined. This strategy is likely to bring immediate results, as in the case of Makete.

**x) Promote an integrated approach to enforcing the W&M Act:** As shown in Figure 5.1, enforcement of the W&M, Act requires the efforts of various stakeholders. While there could be more stakeholders, the model proposes the role of each stakeholder. PMO-RALG has the role of giving directives to regional administrations and LGAs the role of banning lumbesa and mobilizing resources for it through the national budget or other sources. It should work with the MIT in mobilising resources to enforce the Act. The MIT through WMA would be responsible for interpreting and revising the Act, creating awareness and mobilising resources for enforcing the act. The District Councils would be expected to play an essential role in raising awareness, developing market centres, undertaking some roles of WMA and promoting good agricultural practices. Private sector organisations and other non-state actors could intervene in terms of advocating for change and mobilising resources for the development of market centres. The police force would be required to

collaborate with WMA and LGAs by providing security for WMA Officers at checkpoints. Other agencies with the mandate to ensure good practice in the transportation of crops (i.e. TANROADS and SUMATRA) should work closely with WMA to stop lumbesa. SUMATRA could facilitate this by making known the cost of transporting crops per kilogram to enable transporters and traders to negotiate this cost not only per kilogram but also per bag. Farmers, traders and transporters should conduct their business fairly to avoid exploiting each other. This requires continued efforts to promote fair trade among key actors in the agricultural sector.

**Figure 5.1 Integrated Framework for the Implementation of Policy Recommendations**



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**Annex 1: Computed Losses From Non-Compliance With W&M Act, 1982 at Sadani Ward**

**MKUTANO WA UFUATILIAJI WA UTEKELEZAJI WA SHERIA YA VIPIMO NA MIZANI Na.20 YA 1982**  
**YALIYOFANYIKA KATA YA SADANI WILAYAYA MUFINDI TAREHE 30/08/2013.**

Wadau waliulizwa na mwezesaji gharama za uzalishaji mahindi , Mavuno kwa ujazowa gunia, na debe au plastic lina ujazo gani ambapo Washiriki walibainisha kuwa:Mavuno ni Gunia 12 ya maplastiki 7 kila moja baada ya kupata Uamsho wa Sheria ya mizani

<b>Na</b>	<b>Maelezo</b>	<b>Bei</b>	<b>Idadi</b>	<b>Kiasi TZS.</b>	<b>Bei</b>	<b>Idadi</b>	<b>Kiasi TZS.</b>
1	Kusafisha shamba	30,000	1	30,000	30,000	1	30,000
2	Kulima (Kukatua)	40,000	1	40,000	40,000	1	40,000
3	Mbegu/kilo	8,000	10	80,000	8,000	10	80,000
4	Kusia/Kupanda Mbegu	20,000	1	20,000	20,000	1	20,000
5	Mbolea Kupandia Mfuko Kg 50	105,000	1	105,000	105,000	1	105,000
6	Palizi ya Kwanza	30,000	1	30,000	30,000	1	30,000
7	Dawa- kuua Wadudu Kilo	10,000	1	5,000	10,000	1	5,000
8	Mbolea - Kukuza Mfuko Kg 50-2	63,000	1	63,000	63,000	1	63,000
9	Palizi ya pili	30,000	1	30,000	30,000	1	30,000
10	Palizi ya Tatu	30,000	1	30,000	30,000	1	30,000
11	Kuweka Mbolea	20,000	2	40,000	20,000	2	40,000
12	Kuvuna	20,000	1	20,000	20,000	1	20,000
13	Usombaji	20,000	1	20,000	20,000	1	20,000
14	Kupukuchua	12,000	1	12,000	12,000	1	12,000
15	Dawa ya Kuhifadhia	10,600	1	10,600	10,600	1	10,600
16	Mifuko (Vifungashio) gunia.	800	13	10,400	800	13	10,400
17	kupakiana Kushusha-Ghalani	10,000	1	10,000	10,000	1	10,000
	<b>Jumla Gharama</b>			<b>556,000</b>			<b>556,000</b>
	<b>Mauzo:</b>	<b>KWA KIPIMO CHA UJAZO</b>		<b>KWA BEI ELEKEZI KWA KILO</b>			
18	Mauzo Gunia	50,000	12	600,000	50,000	15.12	756,000
<b>19</b>	<b>Faida Ghafi</b>			<b>44,000</b>			<b>200,000</b>
20	Toa: Posho ya Mwenyshamba	100,000	1	100,000	100,000	1	100,000
<b>21</b>				<b>-56,000</b>			<b>100,000</b>
22	Toa: Upakiaji na kushuha Gulioni	10,000	1	10,000	10,000	1	10,000
<b>23</b>	<b>Hasara kwa ekari moja</b>			<b>-66,000</b>			<b>90,000</b>
<b>24</b>	<b>Mapato ya mkulima wa ekari moja hupata hasara ya:</b>						
	Hasara kwa vipimo vya ujazo			66,000	x Ekari	456	30,096,000
	tofauti ya bei kwa Vipimo halali			90,000	x Ekari	456	41,040,000
	<b>Jumla ya Hasara</b>			<b>156,000</b>		<b>456</b>	<b>71,136,000</b>

**Maelezo:**

1. Plastiki moja la ujazo wa lita 20 za mafuta hujaa mahindi kilo 18. Ukizidisha plastiki 7/gunia x kwa gunia 12 ni sawa na kilo = 1512kg sawa na Gunia 15.12 za kilo 100.
2. Kijiji cha Tambalang'ombe Kata ya SADANI Wilaya ya Mufindi chenye idadi ya wakazi 1,763, kina Kaya 456 zenye uwezo wa kulima angalau ekari moja tu wanapata hasara ya kiasi cha

shilingi 71,136,000/=

3. Uwezo wa kuzalisha mahindi ni magunia ya kipimo cha ujazo 12Xekari 456= gunia 5472 @ Shs 50,000= Shs.273,600,000/=.
4. Toa: kwa kipimo cha mizani ni 15.12X ekari 456 = gunia 6,895@ kilo 100/guniaX Shs.500/kilo= Shs. 344,750,000/=.
5. Tofauti ya jumla ya Magunia 5472-6895= gunia 1,577 za kilo 100 kwa gunia sawa na shs.71,136,000/=.
6. Aidha Halmashauri hupoteza mapato ya kiasi cha Magunia 1,577 za kilo 100/gunia sawa na Shs 1,577,000/= za ushuru wa shs.1,000 kwa gunia kutoka kwenye 456 tu.

**Kabla ya Uamsho juu matumizi Vipimo kufikia kutumia madebe/plastiki yalikuwa yanaletwa maloba na wanunuzi/walanguzi: -**

1. Maloba yale hujaa kati ya debe/plastiki 9 mpaka 10. Hivyo kwa kiwango cha chini kabisa yaani debe  
9@ kilo 18 (kilo 162), mkulima wa mahindi pekee alipata hasara kama ifuatavyo;
  - a) Mavuno ya ekari moja kwa kipimo cha Ujazo hapo juu gunia 12Xplastiki 7gawanya plastiki 9= gunia 9.33 X Shs. 50,000/gunia la ujazo= Shs. 466,500/= (bei ya sasa).
  - b) Mavuno ya ekari moja kwa kipimo cha kilo hapo juu gunia 15.12 X Shs. 50,000/gunia la kilo 100= Shs.756,000/= (bei ya sasa)
  - c) Jumla ya hasara ya mkulima mmoja mmoja aliyopata kwa ekari moja kabla ya uamsho huu ni gunia15.12- gunia 9.33= gunia 5.79 kwa bei elekezi ya Shs.500/kiloX 100= Sh.289,500/=
  - d) Ina maana kuwa katika kijiji hicho cha kaya 456 kingekuwa kinaendelea kupata hasara KAMA IFUATAVYO:  
Jumla ya kaya ni 456@ gunia 15.12=gunia 6,895 @Shs 50,000/gunia la kilo 100= Shs 344,750,000/=  
Toa:  
Kaya 456 @gunia 9.33 kabla= gunia 4,254 @ Shs 50,000/= (gunia la kilo 162)= Shs. 212,700,000/=  
Tofauti au Hasara ni gunia 2641 @ kilo 100 X Shs. 50,000/= Shs. 132,050,000/=  
Halmashauri ilipoteza mapato ya magunia 2,641 @ Shs. 1,000= sawa na **Shs.2,641,000/=** kwa kijiji kimoja tu. Je kiasi gani kinapotea kwa vijiji vyote vinavyozalisha zao la mahindi?