THE 4-K CLUBS TOT MANUAL

A Guide for 4-K Clubs Implementation

Ministry of Agriculture, Livestock, Fisheries and Cooperatives

THE 4-K CLUBS KENYA

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THE 4-K CLUBS
KENYA

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FOREWORD

The rebranding and revitalization of 4-K Clubs in Kenyan primary schools provides an avenue for children of school-age to be introduced to agriculture early enough to develop the desired positive attitude towards the sector as a source of livelihood. The country's network of approximately 31,218 public and private primary schools provides an an important platform through which food and nutrition security can be boosted by reviving agriculture practice through the 4-K Clubs. The roll out and implementation of the 4-K Clubs will provide an opportunity to instill good citizenship values in pupils, promoting patriotism in their communities and the nation as a whole.

The Youth in Agriculture Unit developed a 4-K Clubs Manual that stipulates the establishment and management of the clubs in schools. The Manual captures the thematic areas under which the rebranded 4-K Clubs should be run namely: Agricultural Projects; Agri-nutrition; Environmental Conservation; Science, Technology, Engineering and Mathematics (STEM); and Civic Engagement and Citizenship. The Presidential Award Scheme is elaborated as a means to encourage the children to undertake projects and activities at the 4-K Clubs. The Positive Youth Development (PYD) is provided as an approach to be used to enhance holistic youth development.

This ToT Manual has been developed to provide an in-depth guide to the Patrons on delivering on the thematic areas as outlined in the 4-K Clubs Manual. This is intended to provide competences for effective establishment and management of the 4-K Clubs across the country. Successful use of this ToT Manual should spur creativity and innovativeness to assist 4-K Clubs Members carry out club activities in a fun environment. By so doing, the children will be attracted and retained in the agricultural sector beyond the schools and subsequently fulfil the objective of the 4-K Clubs.

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The contributions by staff from various Departments, Ministries and Institutions (see list of contributors) is appreciated. The comprehensive content from the personnel made it possible to cover the 4-K Clubs thematic areas satisfactorily. In this regard, appreciation is also extended to the Heads of the respective Departments, Ministries and Institutions for allowing their staff to participate and make contributions towards the compilation of this manual.

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LIST OF ACRONYMS

ASTGS	Agricultural Sector Transformation and Growth Strategy
CBC	Competence Based Curriculum
CSR	Corporate Social Responsibility
CVD	cardiovascular diseases
GDP	Gross Domestic Product
GPS	Global Positioning System
ICT	Information Communication Technology
IEC	Information Education Communication
IGA	Income Generating Activities
KALRO	Kenya Agricultural and Livestock Research Organization
KDHS	Kenya Demographic and Health Survey
KMD	Kenya Meteorological Department
KRCS	Kenya Red Cross Society
M&E	Monitoring and Evaluation
MOALF&C	Ministry of Agriculture, Livestock, Fisheries and Cooperatives
MoE	Ministry of Education
NCDs	Noncommunicable Diseases
NCIC	National Cohesion and Integration Commission
PAS	Presidential Award Scheme
PEM	Protein Energy Malnutrition
PYD	Positive Youth Development
TOT	Trainers of Trainers
USA	United States of America
Y-MAP	Youth in Modern Agriculture Project
VSO	Voluntary Service Overseas

ABOUT THIS TOT MANUAL

This TOT Manual has been developed for purposes of training 4-K Club Patrons and school management on ways of establishing, managing and sustaining vibrant and effective 4-K Clubs in the schools. It explains the structures of 4-K Clubs at various levels and outlines important aspects of the rebranded 4-K Club Programme such as the Presidential Award and Positive Youth Development Model.

The manual gives also guides the patrons on how 4-K Clubs activities and projects in all the 4-K Clubs Programme thematic areas can be initiated and implemented. Patrons are presented with practical ideas for projects that club members can be involved in. The suggestions of project activities presented in this TOT Manual can be done by the club as a group activity or as individual activities. The suggested project activities in this manual should not in any way limit what projects and activities 4-K Clubs should undertake. Nevertheless, the projects and activities suggested in this manual will inspire Patrons and club members towards developing creative and sustainable projects and activities based on their unique social environments.

1. 4-K CLUBS PROGRAMME

1.1 BACKGROUND

The 4-K Club programme in Kenya was founded in 1962 after a local leaders' visit to the USA where they were exposed to various agricultural programmes including the 4-H. The 4-H concept originated from the United States of America (USA) and has the largest youth development organization with a rich history and an expansive network in urban neighbourhoods, suburban schoolyards and rural farming communities. The 4-H members stand out among their peers in building revolutionary opportunities and implementing community-wide change at an early age. The Kenyan leaders decided to adopt the 4-H concept and principles which were customized to the 4-K Club for ownership and identity.

During the 1970's up to the 1980's, a lot of success was registered from the 4-K Club initiative. Children were taught how to grow crops and raise some small livestock. Members of the clubs were then able to learn and transfer new farming technologies to their communities. Popular farming activities included keeping rabbits, chickens, goats and growing horticultural crops. However, the 4-K Clubs initiative started to decline in the early 1990's and by 2019, there were only 2,300 4-K Clubs in the country with total pupil membership of 69,000.

The guiding principle of the 4-Kprogramme is to empower the youth with Agricultural and life skills which will contribute towards better nutrition, health and higher standards of living.. In the wake of the Competence Based Curriculum (CBC), it is envisaged that the 4-K Clubs will provide a holistic approach of Positive Youth Development (PYD) at home, school and the community by building on the strength of the youth as active agents for community development.

The continued low enrolment in agriculture as a career among the youth poses a threat to the sector's sustainability for enhanced economic and social development this country needs. The major contributing factor for the continued decline in the uptake of agriculture among the youth is the negative attitude towards the sector. Agriculture has been turned to a career of last resort among the youth. It is therefore important to instill the practice of agriculture from an early age through the revival of the 4-K Clubs in primary schools. The 4-K Clubs will provide an opportunity to impart good citizenry values that will promote patriotism of the pupils to their communities and the nation at large.

1.2 THE REBRANDED 4-K CLUBS

The rebranded 4-K Clubs has integrated new features in order to reposition the brand, attract new audiences, enhance visibility and promote ownership of the programme among all stakeholders to ensure sustainability of the programme at all levels.

1.3 THE NEW 4-K CLUB EMBLEM

The 4-K Club emblem has been redesigned to inspire pride and create a sense of belonging among all the stakeholders

Old emblem ***New emblem***

Figure 1: The 4-K Club Emblem

4K: Kuungana, Kufanya, Kusaidia, Kenya

Clover leaf: *Identifies the logo with 4-K Clubs*

Shield: *Symbolizes the Republic of Kenya, the core focus in the mandate of the club*

4-K Motto: *To Learn by doing "Kujifunza kwa Kufanya"*

4-K Pledge: *Ninaahidi Kuungana, Kufanya na Kusaidia Kenya*

1.4 POSITIVE YOUTH DEVELOPMENT

The Positive Youth Development (PYD) model will be adopted and used to train the club members, the patrons and other stakeholders. PYD builds on Learner's 5 C's which are Competence, Confidence, Connection, Contribution and Character. The PYD model is further explained in the subsequent chapter.

1.5 THEMATIC AREAS OF THE REBRANDED 4-K CLUBS

The rebranded 4-K Clubs Programme has the following key thematic areas:

1.5.1 Agricultural Projects

This thematic area encompasses production and management of crop, livestock, and aquaculture enterprises for food and nutrition security. These enterprises can be undertaken by 4-K Clubs and individual club members. The choice of the projects will depend on available resources, skills, prevailing weather patterns and individual interests.

1.5.2 Agri-Nutrition

The emphasis of this thematic area in the 4-K Clubs is to enhance healthy living and the production of nutritive foods in safe environments. 4-K Club members will be involved in projects and activities that enhance their understanding of healthy eating.

1.5.3 Environmental Conservation

Environmental conservation is an important component while implementing 4-K Club projects. Within this thematic area, the 4-K Club members and stakeholders are called upon to protect the environment and preserve natural resources. Implementation of activities that are responsive to climate change is critical for sustainable development.

1.5.4 Science, Technology, Engineering and Mathematics

The 4-K Clubs will provide an opportunity for members to explore Science, Technology, Engineering, and Mathematics (STEM) in a fun and practical context. It is envisaged that STEM projects will challenge students to make the critical connection between everyday problems and solutions that can be provided by research, science and innovation.

1.5.5 Civic Engagement and Citizenship

The 4-K Clubs civic engagement and citizenship thematic area is focused on developing young people as responsible citizens with a mandate to contribute positively to nation building and in providing solutions to the world's challenges such as climate change, corruption, ethnic divisions, poverty, inequality, food insecurity and terrorism. Civic Engagement and Citizenship seeks to equip 4-K Clubs members with the necessary skills and attitudes to make positive contributions to their communities.

1.6 THE 4-K CLUBS PRESIDENTIAL AWARD SCHEME

The 4-K Clubs Presidential Award Scheme (4-K PAS) has been introduced in the rebranded and revitalized 4-K Clubs. Clubs will participate in competitions at different levels from the school level, ward, sub county, county and national level. Guidelines are being developed to aid in the planning and execution of the award scheme. They will be useful to all the stakeholders involved in the award process.

The ultimate winner at the national level will be awarded by the 4-K Clubs Patron, H.E. the President of the Republic of Kenya.

1.6.1 Objectives of the 4-K PAS

i. To provide a platform to identify, recognize, celebrate and reward excelling 4-K Clubs

ii. To provide a platform for pupils to showcase their talents, innovations and technologies that can be disseminated for use by others

iii. To provide an opportunity for mentoring, coaching and handholding upcoming innovators

iv. To provide an occasion for the pupils to have fun, interact and network

1.6.2 Award Ceremony

Award ceremonies will be organized at different levels by the County and Sub-county Committees. The role of the committees in the 4-K PAS will include:

- Coordinate 4-K PAS at their respective levels
- Appoint judges, identify venues and invite Chief guests
- Publicity of the award events and resource mobilization

Before the Award Ceremony, the county/sub county committees will have appointed judges, picked a venue and invited the guest of honour to award winners.

Every registered member should have a membership card and be properly attired in 4-K Club regalia that identifies them with their hierarchy and rank.

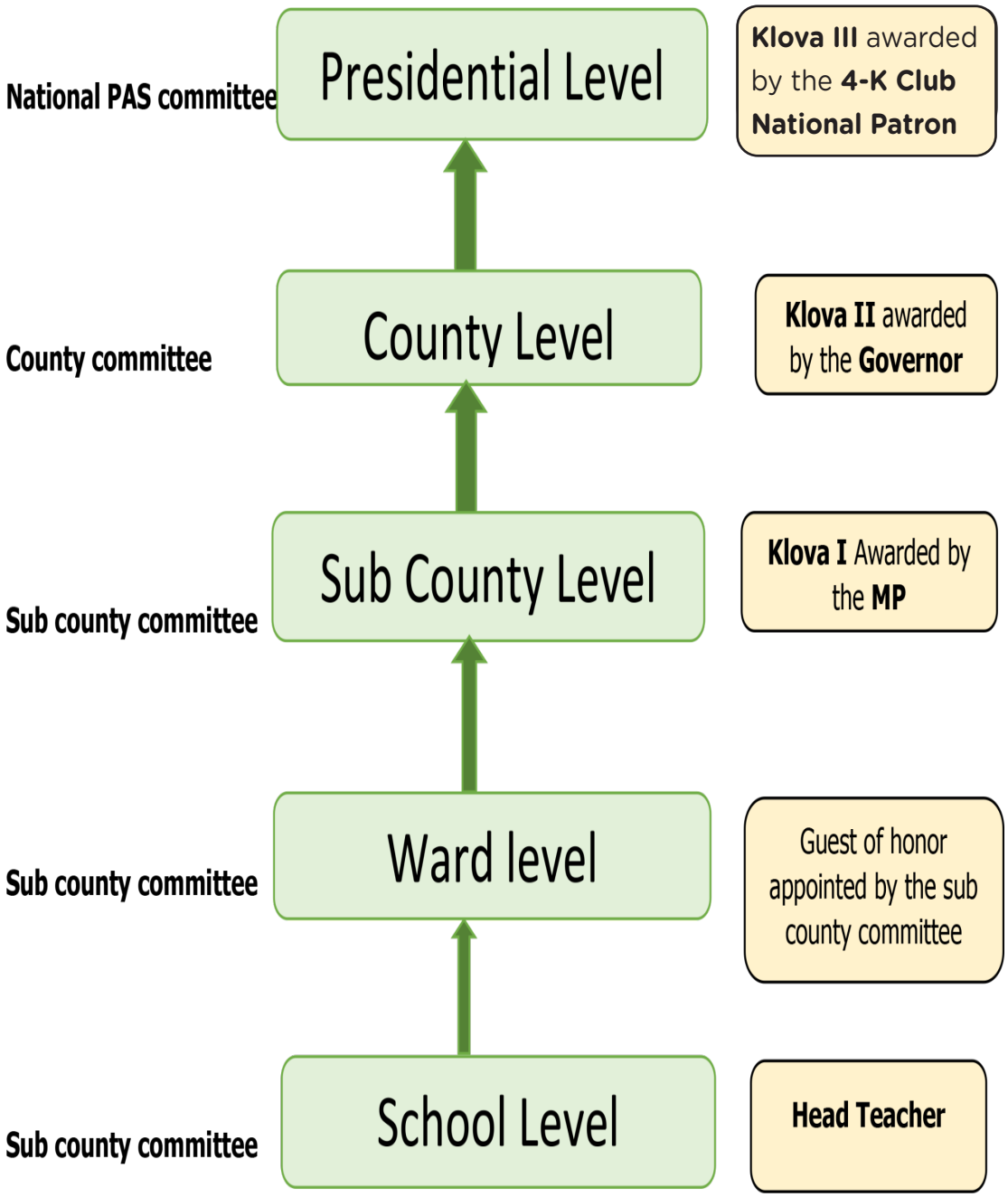

Figure 2: The 4-K Club PAS Award Coordination

1.6.3 Sequence of Events

The 4-K PAS will follow the sequence below:

i. Awards Calendar and Call for Participation by eligible club members (registered and active)

ii. Identification and set up of projects with guidance from Club Patrons & Extension Officers

iii. National and County Committees prepare Judging and Award Schedules

iv. Judging of Projects and Award Ceremonies at School - County levels

v. Presentation of the Presidential Award by President

1.6.4 Award Ceremony Attire

During award ceremonies and other formal functions, 4-K Clubs Patrons and members should be dressed in the attire outlined below.

President

- Brown Warden's Fedora with Gold crown
- Green neckerchief with Gold and White stripes
- White long sleeve shirt with Green Gold-striped shoulder epaulettes, brass buttons

CS/CAS/PS

- Black beret with Gold crown
- Black neckerchief with Green and White stripes
- White long/short sleeve shirt with Green Single Gold-striped shoulder epaulettes

Governor

- Black beret with Silver crown
- Green neckerchief with Grey and White stripes
- White long/short sleeve shirt with Green Double Silver-striped shoulder epaulettes

Subcounty Agri. Officer/Ward Agri. Officer

- Black beret with Silver embroidered crown
- Green neckerchief with Grey and White stripes
- White long/short sleeve shirt with Green Single Silver-striped shoulder epaulettes

School Patron

- Black beret with coloured embroidered crown
- Green neckerchief with White stripes
- White long/short sleeve shirt with Green Single White-striped shoulder epaulettes

Members and Officials

- Green beret with embroidered crown
- Green neckerchief with white stripes
- White short sleeve shirt with Green flat epaulettes

Figure 3: The 4-K Club Regalia

One National Gold winner per category	Upto 47 County Gold winners per category	Upto 290 subcounty Gold winners per category

NATIONAL LEVEL	Upto 47 Entries per category			
COUNTY LEVEL	Upto 290 Entries per category			
SUBCOUNTY LEVEL	Upto 1450 Entries per category			
WARD LEVEL	Merited Institution members			
INSTITUTION LEVEL	Member entry level	1 CERTIFICATE OF MERIT	2 CERTIFICATE OF MERIT	3 CERTIFICATE OF MERIT

Figure 4: Award Medals

1.7 PROGRAMME IMPLEMENTATION AT NATIONAL AND COUNTY LEVELS

1.7.1 4-K Clubs Partners and Stakeholders

- National and County Governments
- Ministry of Agriculture, Livestock, Fisheries and Cooperatives
- Ministry of Education
- Ministry of ICT, Innovation and Youth Affairs
- Ministry of Environment and Forestry
- Ministry of Water, Sanitation and Irrigation
- The National Treasury and Planning
- Agriculture and Education Committees in the Senate and National Assembly
- Development Partners (ARD)
- Project Beneficiaries
- Private Sector
- Research and other Institutions
- External consultants and service providers
- Media

1.7.2 Role of National Government

- Overall coordination, planning, monitoring, and reporting on implementation performance of the project through MOALF&C and Partner Ministries
- Prepare relevant project manuals and reporting formats
- Coordinate with stakeholders and provide timely updates on project performance, funds utilization and audits
- Overall policy oversight and guidance, governance support, strategic direction and major decision making to the project
- Institutionalize the coordination mechanism for 4-K Clubs

1.7.3 Role of County Governments

- Establish County Coordinating Committees
- Resource mobilization towards project implementation
- Coordination of activities under project implementation through their alignment with and integration into existing planning and strategy tools at the county level
- Serve as a platform to share lessons learnt and evidence-based good practice from projects and elsewhere

1.7.4 Role of County Coordination Committees

- Coordinate registration and management of 4-K Clubs at County Level
- 4-K Clubs formation and registration
- Stakeholder collaboration
- TOT Training for Patrons and Extension Staff
- Coordinate the Presidential Award Scheme at County Level
- County awards programme
- Appoint judges, identify venues and invite Chief guests
- Publicity of the award events and resource mobilization

1.7.5 Role of Programme Beneficiaries (4-K Club Members, Patrons, Community)

- Establish and manage 4-K Clubs
- Undergo extensive capacity building
- Sign commitment forms showing their participation in the programme's activities
- Prioritize intervention areas
- Develop proposals for funding identified projects
- Participate in the Presidential Award Scheme and knowledge sharing fora

2. ESTABLISHMENT AND MANAGEMENT

2.1 STEPS FOR ESTABLISHING 4-K CLUBS

Step 1: Win the confidence of the people

Patrons and members who are interested in starting a 4-K Club should have the confidence of the community if the programme is to succeed. This will make the community to cooperate and support the programme for sustainability. Programmes that address youth challenges keep them from being idle and give them tangible benefits which will easily be accepted by the farming community.

Step 2: Involve formal and informal leaders, as well as key stakeholders

Securing the approval and active support from key stakeholders at the sub county level is also an important step in starting a 4-K Club. They must be familiar with the 4-K Club programme from the beginning. At this level, the leadership will be sensitized on the following areas:

i. The meaning of 4-Ks

ii. The objectives of the 4-K Club programme

iii. The home projects of the 4-K Club members

iv. How the 4-K Club operates

v. The role of formal leaders, informal leaders as well as the key stakeholders in the programme

Step 3: Talk to the Parents

This is one of the most important steps. The parents should be informed about the 4-K Club. They should understand that each 4-K Club member "learns by doing" through his/her own project. Members run their own clubs with the assistance of the local farmers. Each 4-K Club member finances his/her own project and benefits from the returns. The role of the parents is to ensure sustainability of the projects even after the child has left school. The MoALFC supports the programme, but the clubs belong to the members and parents.

Step 4: Recruit 4-K Club Members

The 4-K club Patron should inform the school head of their intention to start a 4-K Club and the recruitment of club members. A meeting date, time and venue should be agreed on and pupils/members informed accordingly. The topics to be discussed should include the following:

i. Purpose and objectives of 4-K Clubs, explain 4-K Club Motto and Emblem of the 4-K Club

ii. Determine number of pupils interested in joining the 4-K Club

iii. Ask/request them to secure their parents'/guardians' approval to enroll

iv. Make plans for the next meeting

Step 5: Organize the New 4-K Club

In the first meeting, the following people may be invited to attend;

i. Patron

ii. Extension providers

iii. Volunteers

iv. Community leaders

v. Progressive farmers

vi. Agri-preneurs

vii. Interested pupils

During the meeting of the 4-K Club the following should be accomplished:

1. Elect officials

4-K Club officials will comprise of the following:

i. Chairperson
ii. Vice chairperson
iii. Treasurer
iv. Secretary
v. Sub Committee members (if any)

Both genders should be fairly represented in both membership and leadership of the club. ***Within the leadership structure where the chairperson is male, the vice chairperson should be female, and vice-versa.*** The same applies to the other positions. In addition, 4-K clubs may have local leaders and a patron and should also consider gender distribution.

2. Name the club

This is usually the name of the school or other appropriate name.

3. Select Enterprises

Extension providers should give guidance in selection of suitable agricultural projects

4. Register Members

Members should register by filling the application form

5. Plan meetings

Plan for the next meeting; the date, time and venue

Step 6: Support Sustainability through Parents

The programme activities require parental support for sustainability. Extension providers, stakeholders and the leaders can achieve these through:

i. Briefing the parents on the 4-K Club progress at any opportune time e.g., parents' days and barazas

ii. Arranging for an educational tour to members' farms

iii. Helping the members to entertain parents

iv. Through role plays & skits during parents' meetings in the school

v. Publicly appreciating the parents' support

If the above steps have been followed, an effective new 4-K Club should be in operation. The extension providers and patrons should visit the members' projects regularly and make every project an excellent example of improved agricultural practices.

2.2 MANAGEMENT OF 4-K CLUBS

a. Membership Identification

Every registered 4-K Club member should have a badge and a 4-K club ID. The local leader should have a different type of ID and a badge. In addition to the badge and ID, the members should have the official 4-K Clubs regalia which should be worn during special functions.

b. 4-K Club By-Laws

The 4-K clubs will be guided by a constitution drafted by the members. These are a set of laws that will guide the operations of the club towards the achievement of the club objectives.

c. Duties of 4-K Club Officials

Chairperson

i. Presides over meetings and keeps order

ii. Acts as advisor to other officials; works with them and sees that all planned activities are carried out

iii. Acts as official representative of the club at all events

iv. Guides club members in appointing committees

v. Appreciates all persons and organizations that have supported the club, on behalf of the members

vi. Introduces speakers and special guests or appoints another member to do so

vii. Cast vote in case of a tie in any decision

viii. Regulates the time taken for the whole meeting to about one hour

ix. Works in collaboration with local leaders

Vice Chairperson

i. Conducts meetings in the absence of the chair

ii. Serves as general chairperson of the programme committee

iii. Takes responsibility in working with the leader and club Chair in seeing that the annual plan is prepared and that each member has a copy in their record book

iv. Checks ahead of the meeting to ensure that the members and facilitators are prepared

Secretary

i. Takes roll call and keeps an accurate record of attendance

ii. Keeps minutes of all meetings in 4-K Club Secretary's book by entering the date of the meeting, type of project, name of facilitator and the type of recreation in the blank spaces of minutes form

iii. Notifies members of meeting dates and time

iv. Keeps a record of all members participating in ward, sub-county, county and national events

v. Writes thank you notes and letters of appreciation

Treasurer

Keeps the records of all the following financial transactions on behalf of the club:

- Cash from sale of produce
- Donations to the club
- Money collected from members
- Expenditures
- Cash prizes won during shows etc.

d. Meetings

Annual Meeting Plan

Each 4-K Club will have an annual meeting plan that captures the Date, Business, Program, Facilitator and Recreation for every month.

4-K Club Meeting

A 4-K Club meeting has three sections:

- The Business (agenda) part where the work of the club is done
- The Project which is the core part of the meeting
- Recreation

The business (agenda) part of the meeting remains the same in each meeting, but the projects and recreation activities vary. Each section should take about 20 minutes.

Meeting Procedure

Business (Agenda)

i. Call to order by the Chairperson

ii. Opening prayer

iii. Roll call by the Secretary

iv. 4-K Club Pledge

v. Reading of minutes of previous meeting by Secretary

vi. Reports from subcommittees (4-K Clubs may have a subcommittee for projects, shows, programmes and recreation)

vii. Unfinished agenda e.g., the date for a tour, information about a 4-K Club show

viii. New agenda / Emerging issues

Project

A 4-K Club project has several activities which may include a talk, demonstration, farm tour, etc., where members gain knowledge in all the five thematic areas (agriculture, nutrition, environment, STEM and civic engagement). The local leader or a member of the extension service provider will usually be in charge of this part to teach members. After discussing the project, the meeting is adjourned for members to go for recreation.

Recreation

Recreation includes but is not limited to games, dances, songs, sports. The meeting must always end with recreation. After recreation, club members say closing prayers and disperse.

e. Activities of 4-K Clubs

i. Competitions

The 4-K Club members are encouraged to initiate competition activities to motivate and promote growth both at individual and club level. These may include debates, farm projects, farm products, songs and dances, fashion shows, art and crafts, sports and games and Interviews on various knowledge areas.

ii. Games for 4-K Club Members

Recreation is an important part of each 4-K Club meeting. Each meeting's agenda should have at most 20 minutes for recreation. It is the responsibility of the recreation chair to arrange for this. New games are appreciated by boys and girls.

The Value of Games

- Games at club meetings help to break down barriers of emotion, age and social position
- Shy members often lose their shyness, and the slow ones may not be so conspicuous as to feel uncomfortable so that the potential of all members may be realized
- Games also assist in building self-esteem and bonding

iii. 4-K Club Quiz

Holding quiz contests with 4-K Club members can be fun as well as educational. A quiz contest gives the members a chance to compete with one another to learn improved farming methods and instill patriotism in the club members. Club members may be divided into groups; for example, a club of 25 – 30 members can be divided into four groups before the quiz contest is held.

3. POSITIVE YOUTH DEVELOPMENT

3.1 BACKGROUND

Positive Youth Development is an intentional, approach that engages youth within their communities, schools, organizations, peer groups, and families in a manner that is productive and constructive and promotes positive outcomes for young people by providing opportunities, fostering positive relationships, and furnishing the support needed to build on their leadership strengths. Positive youth development emphasizes life skills and developmental assets. PYD is frequently discussed in terms of the "Five Cs" model focused on Competence, Confidence, Connection, Character, and Caring and framed through the lens of relational developmental systems metatheory.

The primary objective of PYD is to create an enabling environment that maximizes their strengths, access to services and opportunities, while promoting their social and emotional competence to thrive.

Positive development is often characterized by three notions. First, youth are resources to be developed, rather than problems to be managed. Second, a problem-free youth is not necessarily fully prepared. Third, youth development occurs in community; PYD involves meaningful interactions between youth and their social environment

The PYD approach recognizes that all youth have strengths, and they will develop in positive ways when these strengths are aligned with resources for healthy development in the various settings in which young people live and interact.

Research indicates that the more exposure that youth have to positive resources and experiences and where synergy between multiple settings can be established the more likely it is that they will develop positively. Therefore, physical, and institutional resources present in the social environment (for example, family supports) are just as essential for promoting positive youth development as are individual assets (such as skills, talents, and resiliency). These resources provide 4-K club members with routines and structure, as well as opportunities for learning, recreation, and engagement with individuals and their communities. PYD strategies reach far beyond the therapy room, enabling much more holistic interventions by capitalizing on resources in the member's community. PYD will therefore help to move a 4-K club member towards his/her maximum level of autonomy, self-direction, healthy social interaction, and positive contribution to society.

3.2 DEFINITION OF KEY TERMS

Positive Youth Development: A system of strength-based youth development which seeks to focus on and promote the positive aspect of a young person's personality rather than to correct the deficit in their personality.

Competence: Positive view of one's actions in specific areas, including social, academic/ cognitive, health, and vocational.

Confidence: An internal sense of overall positive self-worth and self-efficacy; related to the way they developed a belief in their capacity to achieve.

Connection: Positive bonds with people and institutions that are reflected in exchanges between the individual and his or her peers, family, school, and community in which both parties contribute to the relationship.

Learning outcomes: Indicates what is expected to be learnt.

Caring: Having a sense of sympathy and empathy for others.

Character: Respect for societal and cultural norms, possession of standards for correct behaviors, a sense of right and wrong (morality) and integrity.

Contribution: Being involved as active participant and decision maker in services, organizations, and community.

Monitoring: Gives information on where a policy, programme or project is at any given time (with respect to its targets, output, and outcomes). "Did they do it?"

Evaluation: Gives evidence on why or how targets, output or outcomes have or have not been achieved. "What processes led to..."

3.3 ELEMENTS OF POSITIVE YOUTH DEVELOPMENT

i. Competence

Positive view of one's actions in specific areas, including social, academic/ cognitive, health, and vocational

Outcomes

- Good school grades, academic performance and test scores
- Punctual in activities, events
- Timely completion of assignments
- uses nutrition, exercise, and rest to keep themselves fit
- Aware of career path to take

ii. Confidence

- An internal sense of overall positive self-worth and self-efficacy; related to the way they developed a belief in their capacity to achieve
- Assess whether members know what they want, where they want to go and what's really important to them
- Assess whether members are motivated by and enjoy what they do

Outcomes

- 4-K club members who have been fearful of participating in activities learning to take risks
- Members feel could achieve in other areas
- Able to push their comfort zones and try new things
- Have optimism coupled with realism
- Coherent and have a positive personal and social identity
- Have a sense of a "larger" purpose in life

iii. Connection

Positive bonds with people and institutions that are reflected in exchanges between the individual and his or her peers, family, school, and community in which both parties contribute to the relationship.

Outcomes

- Increased connection with family and other adults in the community through participation in community service and passion projects
- Strengthened peer connections through group work

iv. Caring

Having A Sense of Sympathy and Empathy for Others

Outcomes

- 4-K sympathize with the afflicted
- Ready to participate in charity works

v. Character

Respect for societal and cultural norms, possession of standards for correct behaviors, a sense of right and wrong (morality) and integrity.

Outcomes

- Able to look beyond themselves and in their demonstration of tenacity during challenging experiences
- Ready to volunteer and help other people
- Able to tell the truth even when it's not easy
- Respects self, others, property and community
- Takes on increased responsibility at home as a result of the 4-K club programme

Contribution

A 4 -K club member who develops each of these Five Cs, is considered to be thriving. These thriving youth develop a sixth "C": contribution (to self, family, school and community).

- An openness to challenge & discovery; Club members enjoy a challenge and like to explore new things!
- A growth mindset; members embrace new experiences as a growth opportunity and welcome challenges
- Hopeful purpose; 4-K club members have a sense of purpose in life, and optimism for future
- A pro-social orientation; a member is respectful, honest, responsible, caring, and value helping others
- Transcendent Awareness; members strive to connect with something bigger than themselves
- Positive emotionality; 4-k club members are generally positive and optimistic and can manage their emotions
- Intentional self-regulation; members set goals and create effective strategies to achieve them
- Goal Setting and Management: 4-K club members set goals and persevere, adjusting when necessary to achieve those goals

4. THEMATIC AREAS AND PROJECTS

4.1 AGRICULTURAL PROJECTS

4.1.1 Background Information

"Every person has the right to be free from hunger, and to have adequate food of acceptable quality."

Article 43, Constitution of Kenya (2010)

Agriculture contributes 32.8 percent to the Gross Domestic Product, 65% of exports and employs approximately 70% of the total labour force. Kenya's GDP contracted by 0.3% in 2020 compared to 5% growth in 2019. Agriculture Sector, including forestry and fishing sector grew by 4.6 per cent in 2020 compared to a revised growth of 2.3 % in 2019

According to the Kenya Youth Agribusiness Strategy 2018-2021, Kenya has about 13.7 million youth which accounts for 35.4% of the total population and constitutes 60% of the total labour force of which 10% are directly participating in Agricultural sector Youths are the primary productive human resource of socio-economic development. It is, therefore, essential to identify the roles of youth in mainstream development. Kenyan youth are diverse in ethnicity, religion, and socioeconomic backgrounds. Such a diversity necessitates customized initiatives to meet needs and activate their untapped potentials. Every youth has a role to play in any segment of agricultural/ food value chain.

Agriculture involves growing crops and fruit trees, rearing livestock and fish farming. Basic requirements for agriculture are land and water. This is followed by identifying the agricultural activity and the good husbandry practices that go with the activity.

Different crops and animals perform well in different climatic conditions in Kenya. Majority of farmers practice rain-fed agriculture (Estimated at 95%) and where rainfall is not reliable, irrigation is carried out (Estimated at 5%).

4-K Clubs agricultural based projects form the core of the 4-K Club activities. These projects give an opportunity for members to learn by doing through activities such as planting of food crops, vegetables, rearing dairy cows, poultry and fish farming among others.

4.1.2 Definition of Key Terms

Agricultural projects - any agricultural activity, involving crop farming, livestock rearing and fisheries activities that is carried out individually or collectively for purposes of food and income

Aquaculture - rearing of fish or cultivation of other aquatic (water-based) plants in a controlled environment

Cash crops/enterprise - crops grown for money, e.g. tea, sugar cane, coffee, cotton

Cereals - are grains grown and used for food e.g. maize, rice, oat, wheat, barley, sorghum, millet, etc

Fruit tree - a tree grown for its edible fruit, e.g. mango, orange, avocado, lemon, etc

Hatchery - a building for artificial hatching of fish or poultry eggs

Herbs - plants grown for medicinal value

Irrigated agriculture - agriculture production that relies on irrigation

Irrigation - any hydraulic process other than by natural precipitation that supplies water to crops, livestock, fish and trees

Livestock - farm animals comprising cattle, sheep, pigs, goats, donkey, camels, etc

Rain-fed - Agriculture production that relies on rainfall

4.1.3 Overall Objective

To assist pupils, identify and establish different agricultural projects/activities that can be undertaken by 4K- Club members for food and income.

4.1.4 Specific objectives

i. To assist the pupils, identify suitable agricultural activities/projects

ii. To support pupils, establish and manage the different agricultural activities of their preference

iii. To assist the pupils, gain relevant life skills, and knowledge transfers for enhanced livelihoods

4.1.5 Target Messages

"Quick and High Return Agricultural Projects Have Proven Spicy for The Youth"

"Youth Involvement in Agribusiness Is the Way to Rescue Kenyan Economy"

The new face of farming : Youth making agriculture "Cool"

For majority of the world's youth, Agriculture isn't seen as being "cool' or attractive. Most think of agriculture as back-breaking labour, without an economic- pay off. Thus, in order to attract more young people agriculture's image, need to change and offer the young generation a chance to make a difference by growing enough food to feed the world, end hunger and alleviate malnutrition. Encouraging and supporting youth champions and proactively communicating positive perceptions of agriculture as a career choice.

4.1.6 Agricultural Projects for 4-K Club Members

i. Crops Projects

Farming and processing of cereals, pulses, roots and tubers, fruit trees, nuts, herbs, spices, cash crops, etc.

Farming and processing of horticultural crops and vegetables such as tomatoes, cabbages, peas, kales, spinach, carrots.

Farming and processing of spices such as rosemary, mint, chives, ginger, pepper, coriander (Dhania)

ii. Livestock Projects

Dairy farming, milk processing, poultry farming and processing, duck farming, bee keeping and honey processing, cattle, goats, rabbits, pigs, guinea pigs farming and processing, fodder production and processing etc.

iii. Fisheries Projects

Fish farming (Ponds, Tanks, Aquaponics Systems) and processing, Fish seed production (Hatchery operations), Fish feed production, Ornamental fish farming and aquariums making, Fish nets making and repairing, Fish fly making (Artificial Fish Baits) and recreational fishing activities (Sport fishing) etc.

iv. Projects along the Value Chain

The agricultural value chain can be summarized into five sections that include:

- Agricultural input supply
- Farm production
- Post-harvest handling
- Processing
- Marketing

4-K Clubs have a place and role to play at each segment along the value chain. For example, crop production input supply, this include crop inputs supply: seeds, buds, seedlings, chemicals, tools/equipment and machines; Marketing of agricultural produce and products entails buying, selling of products at wholesale (large) or retail (small) quantities. It also involves advertisement and delivery services as well as internet/online marketing.

4.1.7 How to Start Agricultural Projects

i. ***Carry out a detailed feasibility study*** to assess what's needed to complete the proposed project successfully. The report may include a description of the new project, the technology needed, as well as sources of financing

ii. ***Develop a project proposal.*** This is a document that includes sections such as, title of the project, start and end dates, objectives and goals, requirements and resources

iii. ***Secure approvals and pilot.*** The pilot project is an initial small-scale implementation that is used to prove the viability of a project idea. This helps in managing risks of a new idea and identify any challenges before substantial resources are committed

iv. ***Mobilize resources*** to secure new and additional finances and materials to advance the projects

v. ***Start small and grow big.*** This can be achieved by breaking the idea down into smaller pieces for testing as you plan for growth

4.1.8 Sustainability of Agricultural Projects

i. Continuously provide knowledge on establishment and management of the agricultural projects through provision of agricultural extension service. For example, educational, web portal and promoting exchanges between 4-K Clubs etc

ii. Invest in irrigation and water harvesting to sustain production

iii. Strengthen market information, linkages

iv. 4-K Clubs cohesiveness through welfare activities

v. Research, innovation and technologies

vi. Put in place other project support facilities - financial services, roads, electricity, legal, insurance etc

vii. Financial support and Budget for the projects and the 4-K Club

viii. Encouraging investment in new technologies to make farming a viable option for the youth

4.2 AGRI-NUTRITION

4.2.1 Introduction

In recent years, much attention has been given to the connections between agriculture and nutrition in the development sector as a whole. These connections may seem obvious: we get nourishment from the food we eat. However, agriculture plays an indispensable role in development, and though it doesn't automatically improve nutrition, its potential to do so is undeniable. Physical and economic access to adequate and affordable nutritious food is primarily a function of the agriculture sector, through support to increased production, improved post-harvest storage and processing including food safety issues such as aflatoxin control, and reduced transport costs which can increase food security.

Agriculture is nutrition-sensitive when it goes beyond food production to address the underlying causes of malnutrition which include food insecurity; Poor water and sanitation services; economic access; feeding and care practices at individual, household and community level.

Nutrition security is achieved when food security is combined with education, a sanitary environment, adequate health services and proper care and feeding practices to ensure a healthy life for all household members.

Nutrition Situation in Kenya

Undernutrition – wasting, stunting, underweight, micro nutrient deficiencies

Overweight and obesity – 28% among adults 18-69 years, 17% among men and 38% among women (stepwise 2015) 33% women of reproductive age overweight or obese (KDHS, 2014)

Urban areas (43%)	Rural areas (26%)
Higher education (38%)	Low education (18%)
Highest wealth quintile (50%)	Lowest wealth quintile (12%)

Areas with high prevalence (almost 1 in 2 women) - Nyeri, Kirinyaga and Mombasa

Above recommended Waist hip ratio – 27.2% men - 35.9% women

NCDs account for 55% of hospital deaths, 50% of hospital admissions, 7% deaths are due to cancer.

4.2.2 Definition of Key Terms

Food - products derived from plants or animals that can be taken into the body to yield nutrients for maintenance of life, growth and repair of tissues

Food access - is achieved when all households and individuals within the households have sufficient resources to obtain appropriate foods for a nutritious diet. The ability to access food rests on two pillars: economic and physical access

Food security - a situation that exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life

Food systems - Encompass all the people, institutions and processes by which agricultural products are produced, processed, and made available to consumers

Nutrition - the process by which an organism ingests, absorbs, transports, utilizes and excretes food substances

Nutritional Status - an individual's health condition as it is influenced by the intake and utilization of nutrients

Nutrient - it is an element in foods that is essential for growth, reproduction and good health

Malnutrition - refers to deficiencies, excesses, or imbalances in a person's intake of energy and/or nutrients

Undernutrition - is a type of malnutrition which occurs when the body does not get enough food. It is divided into two major categories; micronutrient malnutrition and protein energy malnutrition (PEM)

4.2.3 Objectives

i. The 4-K Club members to understand the role of agriculture in nutrition

ii. To encourage good nutrition for 4-K Club members

iii. To promote Agri-nutrition projects by the 4-K Clubs members to ensure sustained good nutrition

4.2.4 Target Messages

"We are what we eat"

This is a common statement whose importance is often underrated. Our physical and mental well-being is directly linked to what we eat and drink. The nutritional content of what we eat determines the composition of our body cells, bones, blood, hormones, tissue, organs, skin and hair. Good nutrition is a requirement for all individuals and it is derived from what we eat as food and the nutrients contained therein.

Linking Agriculture to Nutrition

Nutrition-sensitive agriculture is a food-based approach to agricultural development that puts nutritionally rich foods, dietary diversity, and food fortification at the heart of overcoming malnutrition. Agriculture is nutrition sensitive when it goes beyond food production to address the underlying causes of malnutrition. These entails production for dietary diversification. food processing, post-harvest storage, food fortification, targeted livelihood activities and bio-fortification.

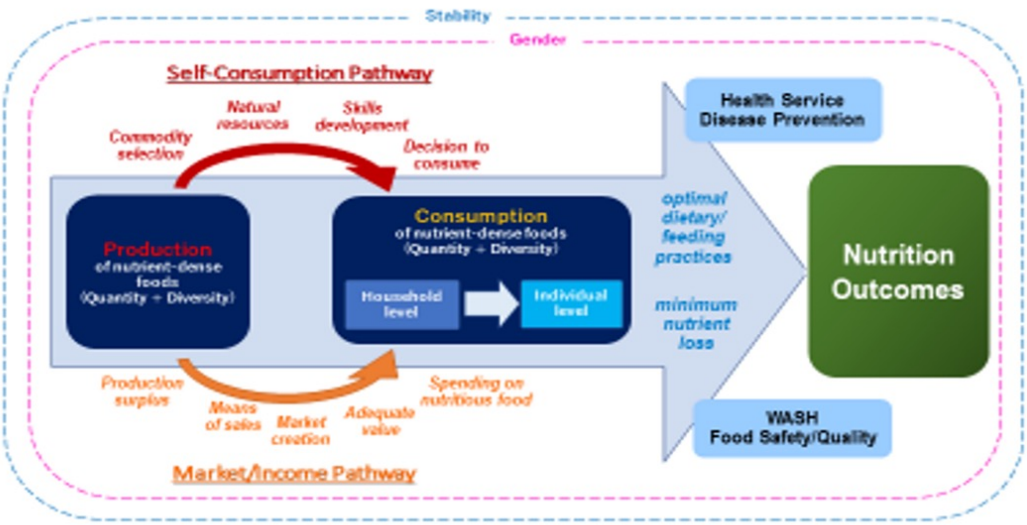

Figure 5: Pathways from Production to Nutrition Improvement

Source: FAO.org

4.2.5 Food groups

Foods are rich in one or two nutrients, but could be comparatively poor with regard to other nutrients. There is no ideal food, thus the need to take a variety of foods. Food groups are a collection of foods that have similar nutrients, and those whose functions in the body are the same. Nutrients are divided into macronutrients and micronutrients. Water, carbohydrates, proteins, and lipids are called macronutrients, because they are needed in large quantities (over a gram each day). Vitamins and minerals are called micronutrients, because we need only very small amounts of them (often micrograms or milligrams each day).

In the past, foods were classified into three groups; energy giving (carbohydrates); bodybuilding (proteins) and protective (vitamins) but currently foods are classified based on food groups and combinations of foods that share nutritional properties. These food groups are illustrated in table 1.

Grains, white roots and tubers, plantains

Pulses, Beans and lentils

Nuts and Seeds

Dairy

Meat, Poultry and Fish

Eggs

Dark Green Leafy Vegetables

Vitamin A rich Fruits and Vegetables

Other Fruits

Other Vegetables

Figure 6: Food Groups

When one eats a variety of foods from each of the groups, the body will receive all the nutrients it needs to function.

4.2.6 Healthy Foods

Nutrition and health revolve around the intake of healthy foods and drinks. Intake of healthy foods and drinks together with other healthy practices has been shown to not only support optimal health but also improve the quality of life and as such eventually lengthen life. There is generally an overall feeling of well-being derived from taking healthy foods and drinks.

Unhealthy food is referred to as any food that is not regarded as being conducive to maintaining health and their consumption is a risk factor for the non-communicable diseases (NCD) such as obesity, diabetes, cardiovascular diseases (CVD), and also other chronic diseases.

Common unhealthy foods include **processed meats** for example sausages, hot dogs, salami (cured sausage), ham, cured bacon, salted meat, and canned meat; **Fast foods** include foods such as burgers, chips; **Refined foods**: These are highly processed foods that have been stripped of their original nutrient content and fibre. For example, refined white flour, white pasta, and white sugar; all sweets and candies; Salty snacks e.g. crisps and bites.

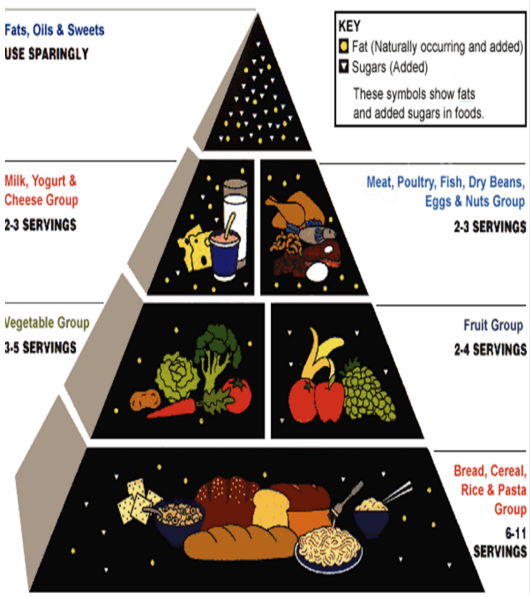

Figure 7: Food Pyramid

4.2.7 My Food Plate

My Food Plate, is a visual food guide designed to illustrate the recommended five food groups using a familiar mealtime visual: a plate setting. The recommended daily intake of four of the food groups (fruits, vegetables, grains, and protein foods) are illustrated proportionately on the plate, whereas dairy intake is represented by the round glass or bowl on the upper-right periphery of the plate. As the MyPlate icon shows, all the five food groups should be present, half your food plate should be fruits and vegetables, the other half include whole grains and protein source. Low-fat or fat-free milk or yogurt should also be included.

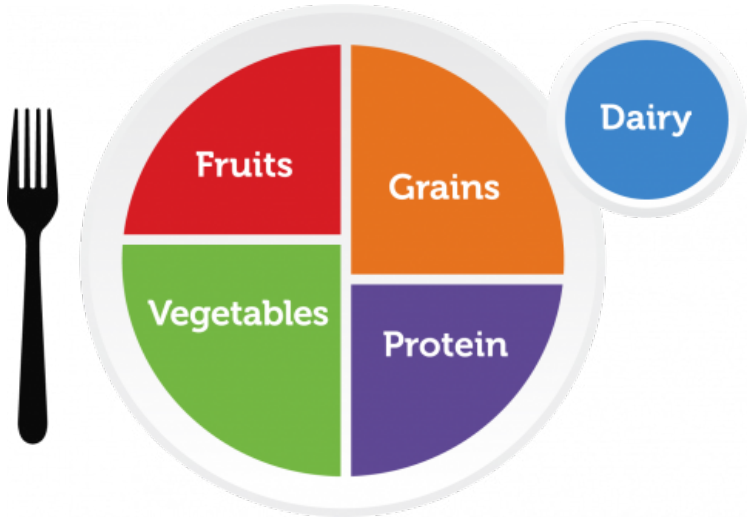

Figure 8: My Food Plate

4.2.8 Food Safety and Hygiene

Food safety and hygiene aims to prevent food from becoming contaminated during handling, preparation and storage. This starts right from production through use of safe quality water, proper application of manure and agricultural chemicals. It also involves the handling, preparation and storage of food in a hygienic and clean environment to prevent food borne illnesses.

Failure to maintain food safety and hygiene leads to food borne diseases and food poisoning. Food borne illnesses result from ingestion of foodstuffs contaminated with microorganisms or chemicals. Contamination of food may occur at any stage in the process from food production to consumption and can result from harmful bacteria, viruses, parasites, chemical substances and environmental contamination through pollution of water, soil or air.

4.2.9 Food packaging

Food packaging is the enclosing of food to protect it from tampering or contamination from physical, chemical or biological means. Food packaging is vital as it ensures food safety, protects the integrity of food products, ensures easy transport of foods as well as a means of marketing the food product. Food packages provide consumers with ingredients and nutritional information. Materials used in food packaging include glass, wood, metals (Aluminium, tin, steel), Paper and plastics.

4.2.10 Agri-Nutrition Projects for 4-K Clubs

4K-Club Agri -nutritional projects can be derived from four different areas along the nutritional value chain that include food production; Post harvest management; food preparation and utilization; energy conservation and time management.

i. Food Production

Food production involves cultivation of crops and rearing of livestock and other animals for food. Sustainable food production is important for food and nutrition security and optimal health. The food production activities that school children can engage in include school gardens. A school garden is an area of land within the school ground or nearby where the children can learn the simple art of caring for living soil and plants, help learners stay active and practice 'hands on' lessons.

Learners have an opportunity to learn agricultural practices on a small scale. They can grow crops such as cereals, fruits, vegetables, roots and tuber crops, herbs and spices, nuts and rear small animals (chicken, rabbits, goats and fish).

In case land is a limitation, other innovative intensive production technologies such as multi-storey gardens, moist beds, micro-gardens, hanging gardens and hydroponics can be used.

Figure 9: Multi Storey Garden

Figure 10: Wick Irrigation

ii. Post-Harvest Management

Post-harvest management is the effective handling, storing and transporting of agricultural commodities immediately after harvest. The reduction of loss or waste of agricultural produce remains the ultimate goal of post-harvest management strategies. Appropriate post-harvest management can significantly reduce these losses and alleviate food and nutrition insecurity. This can result in better health by preventing health risks related to poor nutrition. Post-harvest also ensures that communities have access to safe and diverse foods.

There are various post-harvest management practices that 4K club members can engage in. These include: harvesting of produce, Pre-cooling, sorting, cleaning, grading, washing, packaging, storage and transportation.

Figure 11: Hermetic Bags

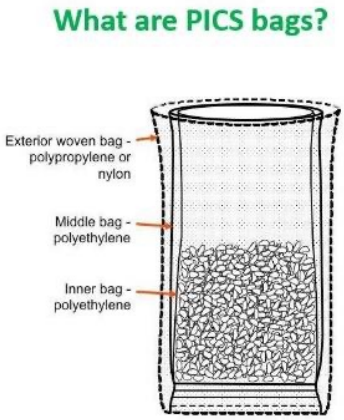

Figure 12: Hermatic Bags

iii. Food preparation

Food preparation generally requires selection, measurement and combination of ingredients in an ordered procedure so as to achieve desired results.

Food preparation involves all the steps that occur between obtaining raw ingredients and consuming them as food. Some foods can be eaten raw while others need to be cooked.

Cooking methods include; Boiling, Braising, Poaching, Steaming & Stewing. Baking, Broiling, Frying (shallow and deep-frying), Grilling, Roasting, Sautéing.

Figure 13: Enriched Mandazi

Figure 14: Enriched Bread

iv. Food processing

Food processing is the transformation of agricultural products into food, or of one form of food into other forms. In this process, raw foods are made suitable for human consumption. Food processing makes food more edible e.g. edibility of grain crops (wheat and maize) can be improved by transforming them into flour through grinding and milling. The flour can be used to make breads, and other edible grain-products.

Food processing is also done to preserve or increase the shelf life of perishable foods. Preservation involves treating and handling food in a way that maintains its edibility and nutritional value while slowing down spoilage. It prevents growth of bacteria, fungi or other microorganisms, and includes processes that inhibit visual deterioration, such as the enzymatic browning and inhibiting natural ageing and discoloration. The nutrient value of foods is almost always altered by the kind of processing it undergoes, thus careful cooking and storage is important to retain the nutrients.

Some of the methods of processing and preserving food that 4K Club members can engage in include; drying, salting, smoking, freezing, addition of sugar and honey, canning, blanching, pasteurization and fermentation of farm produce.

Figure 15: Vegetable Drying

Figure 16: Yoghurt Processing

v. Energy Conservation and Time Management

Use of energy and time saving devices eases work around the homestead. Some of these gadgets are fireless-cooker, improved jikos, water-harvesting tanks, firewood storage, blenders, pestle and mortars, food processors.

Practices such as soaking grains overnight and covering foods while cooking reduces the cooking time.

Practice multi-tasking (dovetailing) whenever possible e.g. washing clothes and cooking githeri, soaking clothes before washing.

4K Club members can engage in making fireless cookers, jikos and briquettes for energy conservation.

Figure 17: Fireless Cookers

Figure 18: Briquettes

4.2.12 Sustainability of Projects

i. By sale of products and ploughing back the profits

ii. Replication of projects by club members in their homes

iii. By introducing a homework diary of their projects

4.2.13 How to start the projects

i. Carry out a detailed feasibility study to assess what's needed to complete the proposed project successfully. The report may include a description of the new project, the technology needed, as well as sources of financing

ii. Development of a project proposal. This is a document that includes sections such as, title of the project, start and end dates, objectives and goals, requirements and resources

iii. Securing approvals and piloting. The pilot project is an initial small-scale implementation that is used to prove the viability of a project idea. This helps in managing risks of a new idea and identify any challenges before substantial resources are committed

iv. Resource mobilization to secure new and additional finances and materials to advance the projects

v. Starting small and grow big. This can be achieved by breaking the idea down into smaller pieces for testing as you plan for growth.

4.3 ENVIRONMENTAL CONSERVATION

4.3.1 Introduction

In This section outlines some basic environmental statistics useful for the 4-K club members and TOTs, operational terms on environment and natural resources including components, environmental degradation and conservation.

Kenya: Some Environmental Statistics, 2021

- Human Population: 5.4M in 1948, 38.6M in 2009 and 47,504,296 (23,548,056 M, 24014716 F) in 2019)
- Access to water – 586M^3/person/year against global requirement of 1000 M^3/person/year
- 7.29% forest cover against target of 10% (Nyeri County highest at 38%, Siaya lowest at 0.42%)
- 1100 species of birds
- 7004 species of plants
- 25000 species of invertebrates
- 769 species of fishes
- 250 species of small mammals
- 300 heritage sites to support variety of living things in environment
- Waste generation – 5kg/ person/day

Source: State of Environment Report 2021

4.3.2 Definition of Terms

Environment – refers to everything living and non-living that includes people, animals, plants, micro-organisms, air, soils, water, sound, odour, taste and aesthetics.

Environmental conservation - this is an umbrella term for anything we do to protect our environment and preserve our natural resources. It is the responsible use of the environment and natural resources for present and future use, e.g. the planting of trees and grass to reduce soil erosion.

Environmental degradation - this refers to any activity or process that destroys the living and non-living parts of the environment. An example is the overuse of plastics that end up blocking sewages and waterways.

Climate Change - this is the long-term change (over 30 years) of weather patterns including temperature, rainfall, humidity, wind, solar, atmospheric pressure etc. An example is excessive floods that displace people, destroy property and kill people and domestic animals.

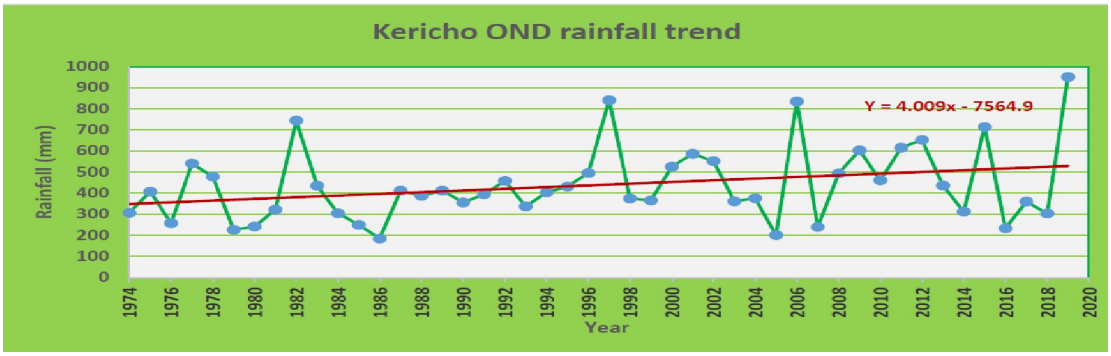

Figure 19: Rainfall Trends in Kericho County – KMD

Pollution - this is the introduction of harmful or poisonous substances to the living and non-living parts of the environment. An example is excessive use of harmful chemicals on farms which are eventually drained in to water bodies thus killing fish and other living things.

Waste - material, substance or product that is removed or thrown away because they are no longer useful or required.

Waste management - this is a process to prevent or reduce wastes. It is also a process to re-use and recycle wastes (not throwing away). It is the process of recovering energy from wastes before the small remains are eventually thrown away. Waste management covers the prevention, reduction, re-use, recycling, recovery and to a small extent disposal of remaining wastes.

Figure 20: Waste Management

4.3.3 Objectives

i. To enable TOTs, patrons and 4-K club members recognize that both the living and the non-living parts of the environment are important and should be conserved

ii. To allow TOTs, patrons and 4-K club members learn the strategies for preserving and conserving the environment and its natural resources.

4.3.4 Target message

The following are some of the messages that Environmental Conservation projects will communicate to club members:

'We must Protect Nature' (The importance of the environment and natural resources)

'Nature is very unforgiving If we don't protect it' (The need to recognize the negative impacts of environmental degradation)

Waste is wealth (How to minimize the negative effects on the environment and natural resources).

General concerns on environment and natural resources including Climate Change, reducing pollution and managing wastes.

4.3.5 *Environment Projects for 4-K Clubs*

Potential projects that 4-K club members can undertake in the thematic area of environmental conservation and their sustainability measures.

Projects		Sustainability
1	**Water** • Establish and practice water conservation and storage techniques (protect water sources, stop pollution of sources, grow trees, make good use of waste water, mulching) • Establish and practice water harvesting techniques (establish water storage facilities)	• Practice skills on family farms for ownership, negotiate and apply same skills in neighbors' farms for a token • Practice skills on own farms for ownership • Undertake peer rotational visits for cross learning
2	**Plants** • Establish gardens for conserving traditional high value plants (Identify nutritious, medicinal, curative plants for the gardens) • Package and try out environmentally friendly plant protection techniques (Identify and demonstrate indigenous techniques for crop protection) • Establish tree nurseries (Grow fruit and forest tree seedlings suitable for the site) • Grow suitable woodlots as energy sources • Undertake value addition of plant-based products, e.g Bamboo	• Sale of produce inspires continuity • Good techniques can be patented for financial benefits • Sale of tree nurseries under the government tree growing campaign inspires continuity • Woodlots done on farmlands leads to self-sufficiency in wood fuel • Good bamboo artifacts may fetch good prices hence monetary benefits for continuity

Projects		Sustainability
3	**Animals** • Rabbit keeping • Bee keeping (Try modern and traditional hives) • Aquaculture (Fish rearing) • Botanical gardens for Biodiversity (The variety of life of plants and animals and their different environments)	Practice of skills on family land for monetary gains
4	**Soil** • Develop techniques for undertaking Simple soil tests and establish corrective measures • Practice soil conservation techniques for rehabilitation and restoration and scale up lessons to family farmlands (Different terraces, mulching, wind breaks, grass strips etc)	Apply the skills back in the family farmlands
5	**Air** • Develop and apply simple methods of detecting air pollution (Identify substance to detect i.e. dust, methane etc) • Establish and apply air pollution control measures (i.e. How to control polluted air from washrooms)	Establish a simple motivation mechanism for best performing projects
6	**Reclaim and restore degraded lands** • Map all degraded areas (Show in photos and describe levels of degradation) • Apply techniques to rehabilitate the degraded areas (Show photos after rehabilitation)	Apply techniques in the community and farmlands

4.3.6 *How to start projects in the thematic area*

i. National and county level projects with Centers of Excellence/ demonstration centers / incubation centers in schools

ii. Establish a challenge grant for schools on different thematic areas to trigger startups

iii. Individuals and companies extending their CSR activities in schools on the thematic areas

iv. Make formal applications and seek approvals from school administration for funding under different open calls to initiate different projects.

4.4 STEM EDUCATION

4.4.1 Introduction

What is STEM Education?

STEM is an abbreviation that stands for Science, Technology, Engineering, and Mathematics. STEM is an interdisciplinary approach to learning where academic concepts are coupled with real-world lessons. Students apply science, technology, engineering, and mathematics in contexts that make connections between the classroom and the world around them. There is an incredible amount of science and mathematics behind everything we do in Agriculture, yet we do not always recognize it in the classroom. The Vision 2030 recognizes the need to integrate STEM from early childhood through graduate education. The uptake of STEM subjects and courses in secondary schools and tertiary institutions is still low in Kenya. To reverse the trend, STEM education must be strengthened in primary schools.

The projects and activities incorporate technology to emphasize the application of science and prepare students for future classes. STEM education integrates concepts that are usually taught as separate subjects in different classes and emphasizes the application of knowledge to real-life situations. A lesson or unit in a STEM class is typically based around finding a solution to a real-world problem and tends to emphasize project-based learning. Many STEM lessons involve building models and simulating situations. A good STEM lesson ensures that students understand the connection to the real world.

Science

Agriculture is a great fit for science today because science permeates through everything farmers do - from medicine to animals, to plant breeding technology to make plants more resistant to diseases and pests. In primary school's science, pupils learn about weeds and weed control, pests and diseases and their control. They also learn about various nutrients needed by plants and animals such as Nitrogen, Phosphorus, Calcium.

Topics on balanced diets and the foodstuffs that can provide these nutrients are also taught in primary school syllabus. Other topics in science that are relevant to agriculture and farming include; classification of animals, the digestive systems, weather and soil types.

Technology

One of the driving forces behind agriculture is technological innovation. New technologies are constantly being developed to help farmers increase their productivity. Agriculture is at the cutting edge of technological advancements, whether it is GPS technology that allows machines to work autonomously, the use of drones to map fields and monitor livestock, or the development of robots that plant, monitor, and treat crops automatically.

In our primary schools, Technology is not learnt as a stand-alone subject but traces of it can be found embedded in other subjects such as science and art and craft.

Engineering

Engineering is found in agriculture in areas such as; designing of farm structures, storage and processing of agricultural produce, analysis of data on weather, efficient use of farm machinery, soil management and erosion control. Excelling and understanding of these skills and components by members of the 4-K Clubs, will likely lead them to careers in agriculture engineering, agriculture extension and meteorology.

Mathematics

Mathematics is a key element for every farm business which goes beyond general business calculations of profit and costs. Agriculture also lends itself to working out heights, weights and distances as well as calculations like how much seeds will be needed to plant a farm and how much feed is needed for animals.

4.4.2 Objectives

i. To build the capacity of the 4-K Clubs members to integrate STEM into agricultural activities

ii. To leverage on the agricultural projects and activities of the 4-K Clubs for more understanding about STEM

4.4.3 Target Message

The club patrons should develop target messages that demystify STEM as a complex field. Example of messages to be developed include:

"STEM is fun!"

"Engaging in STEM will broaden your thinking"

"STEM activities can prepare you for a career in science and technology"

"STEM is for both boys and girls, everyone can do it"

4.4.4 STEM Projects for 4-K Clubs

Below are some few projects that can learners can take up in STEM. The patrons and the learners of 4-K Clubs can come up with many other projects.

i. **Setting up a simple weather station in their school.** Pupils can use simple materials such as bottles and funnels for a rain gauge, a plastic bag for a windsock, cans and pointers for a wind vane

ii. **Use of simple gross margin analysis to come up with a viable agricultural enterprise (decision making).** Calculating the profitability of an agriculture enterprise either in their school or at home

iii. **Preparation of compost/Farm Yard Manure.** To be achieved through aggregating farm and household (kitchen) waste, heaping in the corner of the school farm for several weeks then use after decomposing has taken place

iv. **Planting beans in different soil types** to understand the soil types and their properties for food production

v. **Rabbit urine harvesting** for organic application to control pests and for foliar fertilizer

vi. **Learners to improvise the watering of crops** using simple irrigation technologies

vii. **Grafting of passion, avocado, oranges** to illustrate vegetative propagation methods in plants

4.4.5 How to Start STEM Projects

i. The 4-K Club members to come up with an idea of a project in STEM that is related to agriculture and farming. The sources of ideas include:
   - The environment
   - Related topics in classroom teaching
   - Mass media- newspapers, TVs and radio programs
   - Visits to agricultural shows

ii. The 4-K Club members discuss the project idea with the patron and/or the parents

iii. The 4-K Club members write a project proposal indicating the background of the idea, the objectives, the intended problem to be solved, the methodology, the required resources and or equipment and the expected outcome

iv. The project proposal is discussed, amended and the approved by the patron

v. The 4-K Club members acquire the necessary resources and or equipment required to carry out the project. Emphasis should be that the 4-K Club members can start with locally available materials and explore possibilities of resource mobilization to acquire the not readily available resources

vi. Project implementation phase where every members' participation is expected. Teamwork and appreciation of each members contribution should be taken into consideration

vii. Report writing to be encouraged by periodic monitoring of the activities towards the STEM projects

4.4.6 How Projects Under STEM Can Be Sustained

Sustainability can be enhanced through various ways like:

i. Recognition of the 4-K Clubs members with innovative ideas in the schools

ii. Linking up the 4-K Clubs with stakeholders that are championing specific innovations and technologies in the STEM thematic area

iii. Field visits and excursions to events and activities showcasing innovations and technologies in STEM

4.5 CIVIC ENGAGEMENT AND CITIZENSHIP

4.5.1 Introduction

The integration of civic engagement and citizenship into the 4-K Club Programme is meant to help the pupils to develop the knowledge, skills and attitude that they need to build and contribute to the welfare of their communities and become active citizens who can advocate for social justice.

The goal of activities within the civic engagement and citizenship thematic area in the 4-K Clubs is meant to build the capacity and raise awareness of the club members towards making a positive contribution to the quality of life of the communities they live in.

Projects and activities in civic engagement will also contribute towards empowering the 4-K Club members to be better informed and concerned about their communities. These activities will help the members to live as citizens who are patriotic and of high integrity.

4.5.2 Objectives

i. To build the capacity of 4-K Club members to be agents of community development

ii. To provide opportunities for the members of the 4-K Clubs for practical involvement in community affairs

iii. To empower 4-K members towards decision making and good governance

iv. To harness the energy, innovation and skills of 4-K members in community development

4.5.3 Definition of Key Terms

Civic engagement/civic participation - civic engagement can often be synonymous with terms such as civic participation, community involvement, and community engagement.

Civic engagement is an individual or collective action designed to identify and address issues of community concern. It can also include a wide range of efforts to directly address an issue, work with others in a community to solve a problem, or interact with the institutions of representative democracy.

Working to make a difference in the civic life of one's community and developing the combination of knowledge, skills, values and motivation to make that difference is the core of civic engagement. It means promoting the quality of life in a community. It includes unpaid forms of political activism, environmentalism, volunteering and national service.

Civic identity - when one sees her or himself as an active participant in society with a strong commitment and responsibility to work with others towards public purposes.

Civic life - the public life of the citizen concerned with the affairs of the community and nation as contrasted with private or personal life, which is devoted to the pursuit of private and personal interests.

Volunteerism - volunteerism is the offering of an individual's or group's time, skills or resources to provide services by free choice for the benefit of other individuals, communities or nations without the expectation of financial gain other than reimbursement of reasonable expenses.

Citizenship - citizenship can be defined as the relationship between an individual and a state to which the individual belongs. As a citizen, one is entitled to various rights, privileges and benefits of a citizen. On the other hand, one has to observe various obligations, shared values, responsibilities and duty towards his/her country. The rights of a citizen are enshrined in Chapter

4 of the Constitution. The national values and principles of governance are stipulated on Chapter 2 Article 10.

Citizenship is also concerned with relationships and obligations of people within communities, nations and the global world. Skills and knowledge in citizenship will prepare the members of the 4-K clubs to step into their roles in life as responsible citizens.

4.5.4 Target messages

Young people have a huge stake in their communities. All aspects of community development such as the environment, education, healthcare, housing, crime and violence affect young people in one way or another. It is therefore important to prepare children from an early age to be active members of their communities so that they are not merely bystanders on community issues.

Young people can be powerful agents of breaking barriers that are created by factors such as ethnic background, gender, education and socio-economic status. In addition, the voices of children in community development is usually unheard. The 4-K Clubs therefore can be important forums for **consolidating** the voice of children and building their capacities in decision making. Useful messages to promote civic engagement and citizenship include; ***We rise by lifting others; It is rewarding to give back and make a difference in the community; We learn by being involved in our community; Leadership develops from service.*** Civic engagement seeks to enable 4-K club members direct their focus and energy towards the civic action, civic commitment, duty, civic skills and social cohesion.

4.5.6 Civic Engagement and Citizenship Projects for 4-K Clubs

Civic Engagement Programs and Activities provides 4-K club members with an opportunity to have an impact in their respective learning institutions and the communities around them. It is their “small acts” that eventually produce “big impacts” hence making a difference.

4-K Clubs can integrate the following examples of civic engagement programs and activities:

i. **Participating in public events and meetings** - 4-K club members may participate in public events and meetings such as national celebrations (Madaraka Day, Mashujaa Day, Jamhuri Day) and public barazas. Through such forums, the members will be able to raise awareness among the general public on importance issues of community interest, such as promoting patriotism, national values, cooperation and national unity through presentation of songs, poems, skits, plays and dances.

ii. **Organizing mass clean-up activities** - Mass clean-up activities can go a long way in enabling 4-K club members to appreciate the need to live in a clean and safe environment. Mass clean-up exercises and establishing of litter bins can be organized either in class, school compound or within the village or estate. 4-K clubs may also integrate a recycling component within the civic engagement programe as a way of enhancing their environmental conservation projects. Clubs may involve pupils from different schools in order promote social cohesion. These activities may provide I opportunities for the club members to market produce from their agricultural projects.

iii. **Volunteerism and Community Service** - Volunteerism enables members to uphold the spirit of being mindful of other people's welfare. 4-K club members should be encouraged to volunteer their skills, energy and time by giving services for the benefit of the community they live in. Members may assist in community projects as well as offer help to the less fortunate. Club members may visit children homes and homes for the elderly. During such visits, they may carry along part of their farm produce, food and cloth donation. Further, 4-K club members may also participate to raise awareness during blood donation campaigns and hygiene activities.

iv. **Public Walks and marches** - Walks and marches are powerful methods of passing across messages to the public concerning important issues such as agriculture, patriotism, peace and cohesion. Public walks also promote positive interaction among 4-K club members and the members of the public.

v. **Fostering of nationalism, patriotism and national unity** - Kenya's people belong to different communities, races and religions, but these differences need not divide them. They must be able to live and interact as Kenyans. 4-K clubs can be important forums of building and promoting the values of nationhood and mutual respect.

   4-K club members may compose songs, poems, plays, dances and comedy skits that seek to promote patriotism, national values, cooperation and national unity. Such items can then be presented during clubs meeting, school parade and assembly, during parent's day forums and meetings as well as during the commemoration of national days.

vi. **Organizing for debates and public speaking competitions** - Organizing debates and public Speaking competitions is a fun way of engaging club members and nurturing their skills in leadership and civic engagement. Topical issues such as importance of agribusiness, the need for patriotism, embracing of national values and principles of governance, importance of cooperation and national unity, contributions of national heroes are possible debate topics within this thematic area. Such debates can be organized within the 4-K Club programme or in conjunction with other school clubs as well.

vii. **Undertaking fundraising initiatives** - Organizing runs, walks and rides can be fun ways of mobilizing club members and members of the community towards fund-raising to support community or club initiative (e.g. hospital, school and 4-K Club projects). Funds raised can be supplemented by the proceeds from the club agricultural projects

viii. **School beautification projects** - 4-K club members may undertake school beautification projects and activities such as tree planting and planting of flowers in the school compound or in community public spaces. Further, the 4-K club members may also participate in the naming of different species of trees found within the school as a contribution to their school.

ix. **Establishment of school magazine** - club members may initiate a school magazine or contribute articles within an existing school magazine. The articles may be on issues such as agriculture, environment, school discipline, patriotism, cohesion and integration. Club members may also research and write about the history of their school or community. They may also contribute pictures, photographs, quizzes, jokes, poems and personal experiences on issues that are relevant to civic engagement and citizenship.

x. **Talent shows** - Organizing talent shows can provide club members with a to showcase their talents in sports, fine art, music, dance, poetry, skits, comedy etc.

xi. **Visits to public institutions and galleries** - Visits to public institutions such as parliament and county assemblies will enable club members to learn more about governance and decision making. Visits may also be made to local public library or museums to learn about country's history. Club members may participate in local Agricultural Society of Kenya's annual shows to learn about agriculture. Visits may also be

organized to institutions that are involved in civic engagement and community development activities such the Kenya Red Cross Society and World Vision to learn more about these institutions' projects in civic engagement and citizenship.

xii. **Awareness on dangers of drugs and substance abuse** - 4-K clubs should endeavor to integrate awareness on the dangers of drugs and substance abuse and to create a safe and caring environment. The clubs can play a critical role in making the school a drug free environment. Through innovative and creative activities, patrons of the clubs should take the lead in sensitizing club members about the dangers of drug misuse and abuse and ways of resisting peer pressure towards drugs.

xiii. **Continuous Capacity Building and trainings** - Club patrons are encouraged to explore opportunities for training of club members on skills and attitudes that will enhance their roles in the thematic area of civic engagement and citizenship. The trainings may be on areas such as on First Aid, Fire and disaster preparedness, peace building and conflict management, among others. Such trainings and sensitization forums can be conducted in collaboration with other institutions such as the NCIC, Amani Clubs or similar and relevant institutions within the community.

4.5.7 Sustainability of Projects

The following are suggested strategies of sustaining projects in the thematic area of civic engagement and citizenship.

i. Schedule the activities or projects within the 4-K Club annual work plan e.g. annual walk, annual clean up exercises

ii. Secure partnership and support from existing and ongoing community programmes and projects

iii. Secure support from organizations involved in community development programmes such as KRCS, VSO Jitolee, St. John Ambulance among others

iv. Contributions from 4-K Club members

v. Mobilize support from local leaders and institutions (churches, hospitals, business community)

4.5.8 How to Initiate Projects

i. 4-K Clubs members should be involved at all stages of the project/ activity (Situation Analysis, planning, implementing and monitoring and evaluation). Patrons may assign club members roles to identify a social problem in the school or the community. The club members may then be involved in discussions to explore various options of resolving the problem and identifying the resource required in order to undertake the identified project

ii. Club members can be guided by the patron to identify the stakeholders/ persons/institutions that can contribute to the proposed project as part of resource mobilization. Upon mobilization of resources, the patron will guide the 4-K Club members towards the implementation of the activity/project as well as the impact evaluation of the activity.

5. AGRICULTURAL MARKETING

5.1 INTRODUCTION

Agricultural marketing comprises all activities involved in the supply of farm inputs including all operations which are related to procurement, collecting, grading, storing, agro-processing, transportation, financing and selling agricultural produce. The 4-K club project seeks to ensure transformation of mindset and perceptions among the young people towards agribusiness whose main goal is to maximize profit while sustainably satisfying the needs of consumers for products related to natural resources such as biotechnology, farms, food, forestry and fisheries. Lack of connectivity, long chain of intermediaries and ignorance about buyer demands are some of the factors that have led to collapse of businesses leading to enormous losses creating a negative attitude towards agriculture. 4-K club patrons are advised to guide members to select projects that match with market demands and ensure customer relations are maintained.

The aim of this module is to strengthen capacity of 4-K Club patrons ensuring that they acquire competencies that will enable them to coordinating club activities in a manner that will guarantee profits in line with the project objectives.

4-K Club Patrons should consider four controllable variables while preparing their marketing plans i.e. product, price, place, and promotion. As each of these four components of agricultural marketing is critical.

i. **Product:** Clubs must produce the right type products, so as, to give maximum satisfaction to members of the target market, i.e.

consumers. If possible, conduct a market survey and map buyers before producing

ii. **Price**: the right product must carry the right price in light of market conditions

iii. **Place**: the right product, at the right price, must be in the right place to be purchased by members of the target market

iv. **Promotion**: members of the target market must be told in the right way that the right product, at the right place, is available at the right location. Promotion includes a variety of activities such as advertising, selling, sales promotions, public relations, direct marketing .Patrons may choose to list their clubs online i.e. google my Business listing (https://www.google.com/business) to showcase what the 4-K club is producing, quantities and location of the product

5.2 MARKETING STRATEGIES

The following are some strategies that can be used to market a club's commodities more profitable:

i. Determine what types of markets are available to you

ii. Determine the cost of various types of marketing

iii. Determine transportation costs to each of the markets available to you, and sell where transportation costs are lowest

iv. Determine the most profitable form in which to market your product. Club patrons can adopt various strategies to boost their sales including;

- Securing an opportunity to make displays and sales during local agricultural field days and ASK shows
- Liaise with Institutions i.e. KEFRI, KFS in the case of seedlings to get orders for their produce
- Utilize parent's day and school events to market their produce

v. Advertise to create markets where none existed before

vi. Market seasonal products at the peak of demand

vii. Shorten the marketing channels between you and your customers

5.3 SUSTAINABILITY

The primary goal of Agribusiness is maximizing profits while minimizing costs. To run a profitable business all the agribusinesses must keep and user records. From the records, a club can trace and a certain when profits have been realized and plough back to the project or whether losses have been made and what measures to be put in place to sustain club activities. Other roles of records include:

i. To measure and reward success

ii. Maintain accurate farm record keeping on business performance will help you to plan and forecast your future input needs, yield volumes and prices

iii. Using past records, you can analyze your profits, and costs of growing a crop like kales, spinach or cabbages or rearing a given number of poultries

iv. Records can be used to inform assure financiers/donors on viability of the project

v. Future reference on farm records can help you to correct failure in operations and activities

vi. Farm records help you to succeed by making better management decisions

Some of the records that can be kept by the patron and the 4-K Club members include:

i. Financial & Statutory records (cost tracking, balance sheet, MoU)

ii. Management records (business plan)

iii. Production records (identification, breeding, feeding)

iv. Quality assurance records (disease and treatment records)

v. Customer (buyers and suppliers) records

6. TRAINING SUGGESTIONS

6.1 TRAINING METHODOLOGIES

i. The 4-k club members can conduct Field visits, attend field days or participate in exchange visits. Club members can also visit relevant institutions, such as Parliament, County Assembly, NCIC, KRCS, Agricultural research institutions like KALRO, etc

ii. The patrons can engage trained facilitators for example the ward agricultural officers, in an identified topic to mentor the 4-K Club members (Resource persons can be identified from the school, local community or institutions)

iii. Securing child-friendly Information, Education and Communication materials (IEC)

iv. With the help of the patrons, 4-K Club members can take part in demonstrations, practical classes, experiments and simulations

v. 4-K Club members can take part in group work discussions in order to enhance peer to peer learning

vi. 4-K Club members to conduct debates on topics related to 4-k clubs

vii. The patrons can assist 4-k club members to take part in recreation activities such as games, dances, songs or sports. These may help in boosting self-esteem and bonding for the 4-K club members.

6.2 LEARNING RESOURCES/DELIVERY METHODS

i. Digital learning resources

- Video (e.g., YouTube channels),
- Audio (e. g. radio programs)
- Animations
- Images

ii. Illustration using diagrams, cartoons, pictures and drawings

iii. Textbooks

iv. Lectures

v. Speeches

vi. Roleplay scripts

vii. Group discussions

viii. Demonstration or modeling

7. MONITORING AND EVALUATION

Monitoring is a continuous process of collecting and analyzing project information to assist in timely decision making, ensure accountability and provide a basis of evaluation and learning. It is used to provide the management and key stakeholders with indication of progress and achievement of objectives measured against the set indicators. It helps to ensure that programs are implemented in accordance with their design and objectives, and helps answer questions such as *"Are we doing the right thing? Are we doing it right?"*

Evaluation is a systematic assessment of planned, ongoing projects that aims to answer specific management questions to judge the overall value of the project and to provide the lessons learned to improve future actions, planning and decision-making. It gives evidence on why or how targets, output or outcomes have or have not been achieved.

The following tools can be used by the patron to monitor progress and evaluate performance of 4-K club activities depending on projects undertaken on the thematic areas:

i. Questionnaire design
ii. Focus group discussions
iii. Case studies
iv. Individual interviews
v. Participatory and creative tools
vi. After Action Review

The aim of this Monitoring and Evaluation framework is to act as a guide the 4-K club patrons to periodically evaluate the level of transformation of mindset and perceptions of 4-K club members towards agribusiness and ensure that the 4-K club activities are undertaken in line with the intended objectives.

Monitoring and Evaluation Framework for 4-K Club Projects

Objectives	Activities	Indicators	Tools/ Data Source
Initiate and establish a 4-K Club in the school	• Mobilize enrollment of pupils into the 4-K club	• No. of pupils enrolling as members in 4-K Club • Percentage increase in no. of pupils enrolling in the club	• Baseline survey • Membership registers
	• Initiate and engage pupils in 4-K club projects	• No. of 4-K Club members involved in club projects • No. of projects initiated and sustained i. *Agricultural projects* ii. *Nutrition projects* iii. *Environmental conservation* iv. *STEM* v. *Civic engagement and citizenship*	• Project records • Assessment tests • Club records
	• Mobilize stakeholders to support 4-K projects	• No. of stakeholders supporting the 4-K club projects • Types of resources mobilized • Financial • Material/equipment • Trainings/ mentorship	• Project records • Project budgets • Partnership records • Agreements/ MOUs

Objectives	Activities	Indicators	Tools/ Data Source
	• Training of club members in the 4-K project areas	• No. of training sessions held • No. of technologies adopted • No. of technologies undertaken by club members at school • No. of technologies undertaken by club members at home projects • No. of topics covered	• Training records • Project records • Meeting records
	• Carrying out field visits and excursions	• No. of field visits conducted • No. of technologies adopted • No. of collaborating institutions	• Reports • Photographs • Videos and clips
	• Participation of club members in other activities.	• No. of shows held and exhibitions held • No. of quizzes held • No. of games conducted	• Reports • Photographs • Videos and clips
Presidential Award Scheme	• Participation in the 4-K Club Presidential Award Scheme	• No. of entries registered in the Presidential Scheme • No. of awards won • No. of club members participating	• Event records • Photos and videos • Media reports

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THE 4-K CLUBS TOT MANUAL

A Guide for 4-K Clubs Implementation

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