

Good Practices: Access to Markets

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Title: Alternative Marketing system for small growers of organic produce

Country: India

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Category of Practice: Evolution, modalities and progress of the organic bazaar system of alternative marketing which has been evolved through community based experiments of IIRD

Background and context of the innovation

India is the traditional home of organic agricultural technologies and sustainable farming systems which have been developed through many centuries of practice by the farmers. These sustainable farming systems and technologies have received new significance with increasing trends demand for organic products in i export and domestic markets . However, certified area under organic production is only around 85,000 hectares out of the 165 million hectares of arable land (.0.08%). The organic production from certified organic units are canalised for exports. The export market for organic products is steadily increasing with improved export realisation for tea, coffee, herbal products, cereals, pulses, honey, cotton and spices. Since the Ministry of Commerce of the Government is interested in promoting exports, has announced standards for organic products and certification and accreditation policies suitable for export production. The standards and certification systems designed to route organic products for exports have excluded several millions of small farmers in reaping the benefits of expanding organic markets .

At the same time, domestic market organic produce is also expanding fast . A market survey conducted by IIRD in Aurangabad city, which is one of the fastest growing urban centres in Asia, revealed that 84 percent of the consumers either strongly or moderately agreed that conventional foods are not good for one's health. Furthermore, nearly nine out of ten respondents indicated that they are ready to purchase organic foods on a regular basis. Besides 60 percent of the individuals surveyed were willing to pay a premium (of 20 percent or more above the conventional products) price for organic agricultural products. The situation is similar in other cities in India . While the domestic demand for organic products is increasing and there is scope for providing sustainable livelihood opportunities for rural poor , organic market for domestic sector is in a rudimentary stage of development with few retail out lets strewn over the metropolitan cities of India. Therefore, in order to enable the small farmers involved in organic production IIRD, as a civil society organisation linked to farmers groups has innovated the organic bazaar system. This system of alternative marketing is now in operation in 14 different cities and towns in India through the initiative of IIRD.

IIRD is located in Marathwada region which one of the backward regions in India. People of the region mainly depend on dry land faming, having low economic and social status. The organic bazaars initiated in the region have created confidence and hope among organic farmers with tiny holdings, as they are able to get better returns to their marketable surplus (60-100% higher price than they would get with local traders and middle men). As a result

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the number of organic farmers producing as per local organic standards are on the increase. Besides women organic farmers are promoting organic bazaars. The success of the new system of organic marketing and guarantee has stimulated organic bazaars in other towns /and cities in India. However the scale of operation of these bazaars are small. If we have to promote sustainable livelihoods and rural development ,we have to multiply the innovation in a manifold manner. In this case study the operational details of the organic bazaar and lessons we have learnt are described.

The Development Practice

What is an organic bazaar?

An organic bazaar is an exclusive market for organic and Indigenous Knowledge (IK) products which provides platform for exchange of products and services as well as creates linkages between producers and consumers. The organic bazaars promoted by IIRD are organised through a voluntary organisations /or private sector organisations which are responsible for ensuring organic integrity. Farmers, Consumers and civil society organisations are involved in the organisation of the organic Bazaars

Setting up Organic Bazaars - learning's from IIRD

For organizing organic bazaars, the following are critical.

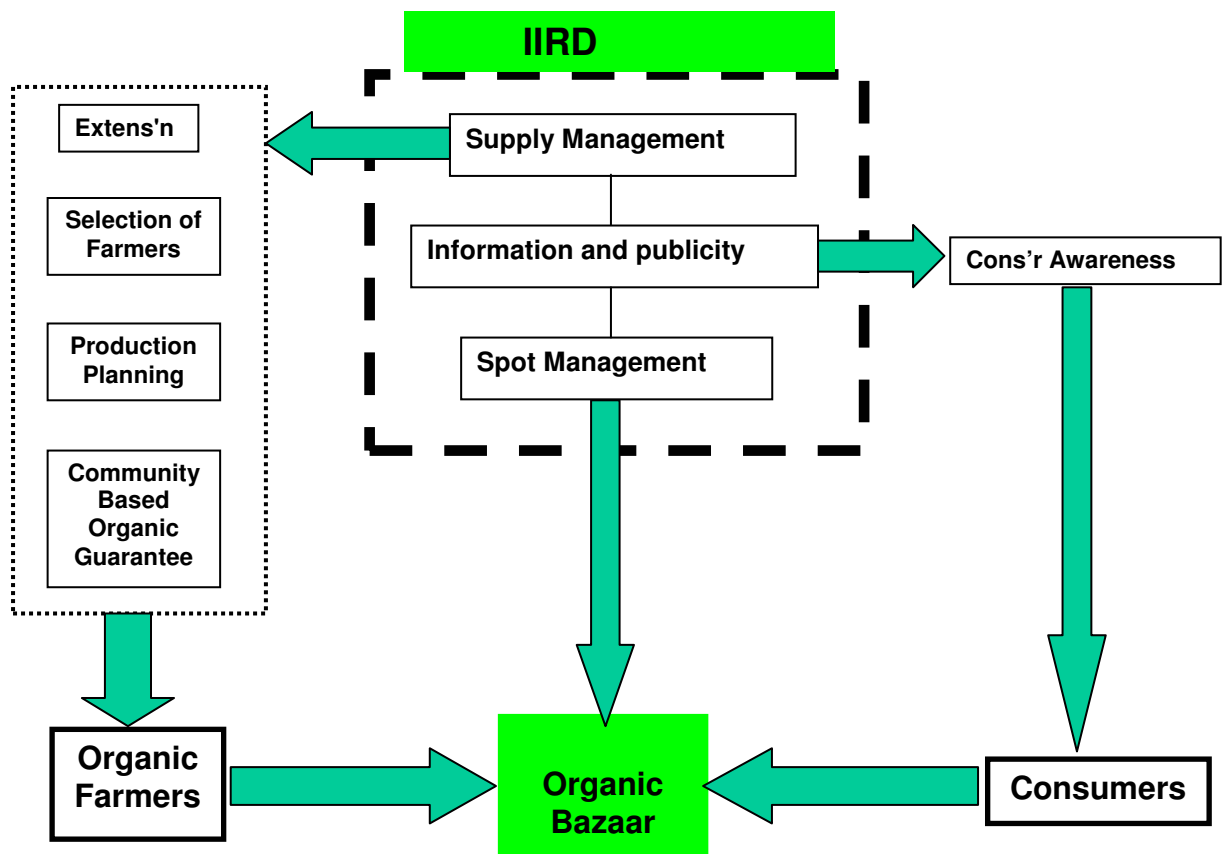
- Developing sets of core organic consumers and networking them with the bazaar centres.
- Identifying and establishing the bazaar centres which could become the meeting place of the organic producers and consumers.
- Establishing additional outlet points for organic bazaars through mobile marketing of organic and IK products
- Contacting the civil society –people belonging to the elite-middle class and lower income group - and helping them to understand the importance of organic food and indigenous knowledge products
- Reaching the message to the public through radio, newspapers articles and magazines, songs and other media
- Getting the support of civil society leaders through interviews and direct approaches
- Getting support and involvement of other civil society organizations by seeking their cooperation in the organization of organic bazaars
- Providing guidance to organic farmers for improving quality to match the consumer demand
- Developing and practicing procedures and mechanisms by which quality assurance of organic and IK products are guaranteed for the consumers
- Developing comprehensive systems for consumer records, records of farmers and other procedural elements which would make organic bazaars
- Subscribing to methods and policies by which high degree of involvement of women takes place in the conduct of organic bazaars

Lessons about criteria of organizations that facilitates Organic Bazaars

- Ensures the flow of products through a supply chain which respects acceptable standards and accountable.
- Organises environmentally conscious consumers by creating awareness about local marketing and facilitates their meeting with producers from whom they could buy products and services or purchases eco-friendly products.

- Develops a supply chain and helps farmers sell to consumers in a public place.
- Undertakes the regulation of prices of products in such a manner that it is fair for the producer and consumer.
- Conducts consumer education and publicity programmes with the cooperation of media managers of the locality.
- Receives service charges for the services rendered by it from the producers and consumers or makes sufficient returns from the sale of products and services in order to maintain its operations in a sustainable manner.

Flow Chart of Organic Bazaars



Bazaar Management

At IIRD, three interactive teams are involved in the organisation and management of the organic bazaars. All three teams coordinate their tasks in order to make local marketing a success. The teams consist of community members(farmers), volunteers, consumer representatives and IIRD staff.

i) Information and Publicity Team:

This team continuously maintains and updates the organic consumer register and provides publicity. Currently this team maintains the list of customers who regularly purchase organic products complete with address, telephone and e-mail information. A few days preceding the bazaars, the team contacts consumers by telephone to relay the variety of products and to assess consumer preference. The team also identifies which products are required on specific days and indicates their availabilities to consumers, particularly before Indian festival days.

The information & publicity team also fosters publicity through various media. Members of the team write short articles in local dailies and magazines about organic agriculture as well as details of the bazaars. The team also produces posters for display during the organic bazaar.

ii) Supply Management Team:

The supply coordination team has representative organic farmers from the six Community Learning Centres (CLCs) located in Bidkin, Bhabulgaon, Shekta, Tondoli, Jambhali and Karkin villages. Every week, the team members visit the organic farms in their area. The team works with Paryavaran Sevikas (eco volunteers) to review market situations and finalise the list of farmers who will participate in the forthcoming organic bazaar. This team organises the supply chain, manages the stock and is also in charge of the transportation logistics to the bazaar. The organic products are delivered to the CLCs and transported on the same day as the organic bazaar.

iii) The Market Spot Management Team:

This team has representatives from both consumer groups and IIRD staff. This is the strategic team, responsible for all on-site arrangements, stall arrangements, banners and boards, price lists and reception of consumers. The team supports farmers with the presentation of their products and methods to attract the consumers, since farmers have very little awareness about customer service. This team also determines the price at which the products should be sold, based on prevailing market prices in the city.

Organising the supply chain

Supply chain management is accomplished in association with local committees and linked to extension programmes. Farmers intending to supply a forthcoming organic bazaar submit an application to their local Community Learning Centre. After receiving the applications from the farmers, the Paryavaran Sevika (Eco Volunteers) visit the farms and assess the quantity and quality of the products to be sold and verify whether the crop has been organically produced. Selection is then based on an analysis of supply and demand. Detailed descriptions of the procedure for supplying to bazaars are provided to the farmers in the organic production manual supplied to the farmers who are registered with IIRD. These include:

- agreement with farmers
- calendar of training for the farmers
- organic bazaar manual
- farmer- consumer workshops

Location

The location of the bazaar is a crucial factor for its success - preferably it should be located in the middle of the central shopping area of the city. It is also important to consider the economic, ecological and social impact of the bazaar on the existing environment. From the

operation of organic bazaars through IIRD, the following characteristics for identification of location could be listed:

- Accessible by private, commercial and public transportation
- Parking should be available
- Visible by passers-by
- Available year-round
- Close proximity to commercial or office areas will increase potential customers
- Sufficient space for current needs, as well as to allow for future expansion of the bazaar

Hosting the bazaar along thoroughfares or near other bazaars may enhance the convenience for customers, and thus sales. It may also be necessary to organise the bazaar in varying parts of the city, since people may not be willing to travel long distances to purchase food.

Promotion and Publicity

The demand for organic products is latent in many parts of India. As such, it is necessary to activate the consumers and to strive to create an effective demand for organic products. The following measures have been taken by the IIRD to enhance local and domestic marketing. The results have substantially increased the demand for organic products.

- Consumers meetings: IIRD organises consumers meetings in association with women's groups and social clubs like the Lions, Rotarians, etc. in different areas of Aurangabad city to discuss the importance of organic agriculture, food security and health. While providing information about upcoming organic bazaars, the IIRD also discusses strategies on how citizens may decrease environmental pollution. Participation's names are registered in the consumer directory.
- Consumer register: IIRD maintains a consumer register with the names of consumers involved in the organic movement. Newcomers to the bazaar are added to the database. At present one thousand registered consumers are involved: judges, engineers, principals, government officers, professionals, social workers, doctors, advocates, professors and teachers. Among them, 70 percent are women.
- Invitations letters: IIRD sends invitations letters to consumers, social clubs, Lions, Rotarians, Mahila Mandal members, etc. and gives information about upcoming bazaars.
- Printing and distribution of leaflets: Promotional materials are printed in mass quantities and distributed providing information about the bazaar, its purpose, advantages to consumers, the location of the bazaar, date, time and other details. The format is generally a one to two pages leaflet.
- Mass media: IIRD published articles in print media such as newspapers and magazines, extolling the benefits of organic agriculture. The IIRD maintains relationships with journalists who are interested in the issue and support the organic movement. Press conferences are also held; press releases are another way to further the organic movement.
- Advertisements: IIRD advertises in local newspapers that have wide circulation. Placing banners in strategic locations within the city may also be attempted. In addition, stills or moving ads may be broadcast through local TV networks, especially through cable TV programmes. This strategy may be quite effective because of television's wide reach and cost effectiveness.
- Direct marketing: The bazaar itself presents a forum for person to person marketing of organic products. This forum allows consumers to inquire about organic products or

agriculture directly from the producer. Direct marketing may also be undertaken through door-to-door campaigns or over the phone. However, the latter method is time consuming and labour-intensive.

- **Social Networking:** Publicity is also be generated through personal interactions. If consumers are satisfied with the organic bazaar and their purchases, they may recommend it to their friends and colleagues. This would also help to spread information about organic agriculture and the organic movement in general.
- **Consumers and organic producers meeting:** IIRD organises meetings between consumers and organic producers in Aurangabad city. These meetings involve mostly women, both as consumers and organic farmers and discussions about consumer needs and organic products. By sharing experiences and offering suggestions, these meetings have been found to be useful to both parties.
- **Telephone:** IIRD staff linked to the information publicity team contacts the consumers and provides information about upcoming bazaars.

Timing and frequency

In rain fed and dry agricultural region like IIRDs area of operation , organic production will largely occur as per nature's schedule. However, efforts are made to offer products at convenient times to both producers and consumers. IIRD had been hosting two bazaars every week in two centres in Aurangabad city and covering seven other towns in the region through monthly bazaars. The bazaars are held between 8 am and 7:30 pm so shoppers can conveniently stop by on their way home from work, or while enjoying leisure activities.

Costs and price setting

Pricing

Organic farmers largely assume that the produce from an organic farm will command a premium price. The inflated prices often reflect the usually small scale of production and the underdevelopment of the market. Consumers demanding non-polluted food with enhanced nutritional value are willing to pay a higher price. Consumers and society at large enjoy several intangibles and indirect benefits, such as sparing the costs of environmental restoration and clean and reduced hospital bills because of improved communal health. Financial incentives are also important for marketing organic products to consumers in order to enhance their perceived value. The IIRD currently sells organic products at par with declared market rates of conventional products. However, the farmers are able to get a price realisation of 60 to 100 percent higher than what they would get through middlemen who usually purchase products from them directly. However, as the market is now established IIRD is charging a service charge upto 20 percent . Bazaar prices for organic products are fixed in order to eliminate bargaining and quarrelling.

Organic product certification for Bazaars

Clearly convinced of the need for certification of organic produce to ensure the integrity of organic production as well as remain accountable in the role in local marketing, IIRD has developed a system of certification, which is compatible with internationally accepted principles of smallholder group schemes. A brief description of the community based certification and inspection as practiced by IIRD is described in the following section.

IIRD project area is in Paithan Taluka ,Aurangabad District which about 430 kms North east of Bombay (Mumbai) . The area is one of the officially identified backward areas in the country. IIRD has 1700 organic farmers with 4100 acres in 72 villages in which it is operating. Of these farmers 1100 of them are women organic farmers having very small

holding of less than 4 acres. Nearly 60 percent of the land covered depend on scanty rain fall conditions and rest is irrigated. IIRD has Paryavaran Sevikas (eco volunteers) and well organised Mahila Mandals (women's organisations in all the villages of its operation. All the villages covered by IIRD are networked through six Community Learning Centres (CLCs) located in six nodal villages in the project area. The gist of the Internal Control System (ICS) practiced in the IIRD is given below

Organic farmers registered with IIRD in each of its CLCs maintain farm documentation based on farm diaries and organic production manual developed by IIRD. The organic production manual contains simplified format of standards in local language and measures to implement those standards. Adherence to those standards makes products acceptable for the market as per the national voluntary standards, statutory standards of Government and international standards.

The Paryavaran Sevikas (Eco Volunteers) of IIRD regularly visit the organic farms and enable farmers to maintain records and observe organic practices as per standards. They watch the progress of conversion management plans of each organic farm.

The Paryavaran Sevikas also implement the yearly calendar of training programmes for the farmers in association with the training faculty of IIRD.

The Mukia Paryavaran Sevika (MPS) – the senior eco volunteer who supervises CLC activities conducts inspection visits to organic farms. The MPS is an experienced eco volunteer who has proven skills in organic operations and has undergone training in the Inspection of organic farms.

The MPS after holding interview and discussion with farmers obtains wide range of information inclusive of

- Which crops are planted
- Equipments used on the farm
- Storage facility of the organic products
- Purchase and sale records
- Birds visiting the vicinity of the area of the farm
- Methods adopted for increasing yields
- Resources obtained from other farms
- Presence of any chemical boxes
- Specific description for that particular farm
- Soil types
- The type of land and area of the farm
- Pests and diseases attacking the crops
- Book-keeping in the farm and the maintenance of farm diaries
- Live fence description

After inspection visits the MPS prepares the inspection report and submits it to the Quality Assurance Committee (QMC) of IIRD and the organic farms which qualify the certification as organic farms are informed to CLCs. The CLCs maintain the register of such certified organic farms and consider them eligible for supplying to the organic bazaars.

The Paryavaran Sevikas while assessing the supply of products for the organic bazaars consider the following norms:

- Whether the organic products are clean
- Whether the products are damaged and blemished by pest and diseases
- Whether the products are uniform in colour and maturity

- Whether ideal size and quality are maintained. For example, onions should be 50 to 80 mm and carrots 25 to 40 mm in size.
- Whether the organic products emerged from organic farms registered with IIRD and practicing local organic standards
- Is there is a reasonable quantity of produce to deliver on the specific day
- Whether the farmer is agrees to sell at the price fixed by the marketing team of the IIRD.
- If the farmer is willing/able to deliver the produce to the Community Learning Centres on the day of the bazaar.

Assessment of the impact of the bazaars

Organic Bazaars as a local marketing programme offers several possibilities of adaptation and up-scaling. The system provides assured organic products, fair prices for producers and consumers and opportunities of new relationships between producers and consumers.

In January 2005 IIRD and its solidarity partners from different parts of India organising organic bazaars met together to review the functioning of organic bazaars. The major recommendations of the meeting were:

- continuously improving local organic standards to include local knowledge
- developing common parameters for local standards
- developing inter-bazaar exchange of products
- Introducing common label for organic bazaars
- Undertaking eco-tours linked to organic bazaars
- Lobbying to include organic bazaars in Government policy

Impact of organic bazaars of IIRD have also been evaluated by IFAD and the report has indicated scaling up of operations.

Prospects of up-scaling

Adoption of the principles of organic bazaar and the quality assurance methods is feasible in various rural areas of the world. But requires strong policy support from civil society organisations and Governments, through which the following could be achieved:

- Market infrastructure (place, storage, warehousing, transport etc)
- Generic promotion and publicity for organic products produced by small farmers
- Recognising and acknowledging local standards
- Providing equivalence to community based certification of organic bazaars with other forms of certification

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IFAD, Report Organic Agriculture and Poverty Reduction in Asia July 2005

Titre: Développement de l'élevage caprin laitier et fabrication du fromage de chèvre comme activité féminine génératrice de revenus²

Pays: Sud marocain (Ouarzazate)

Auteurs: Ali Zahari³

Catégorie pratique: Amélioration des conditions de vie des femmes pauvres

Contexte et sa Genèse

Description du Système de Production ou du Service

La palmeraie de Skoura se caractérise par un système de production oasien basé sur la combinaison systématique dans l'espace et dans le temps de nombreux systèmes de culture et d'élevage.

La superficie agricole utile (SAU) est de 2 800 ha dont 1 800 ha sont plantés, 1 600 ha sont destinés aux céréales, 450 ha aux cultures fourragères (la luzerne), 400 ha aux cultures maraîchères et 300 ha aux légumineuses. Le maïs est cultivé en dérobé sur 300 ha. Ce périmètre est caractérisé, par l'exiguïté des exploitations agricoles qui ont une SAU moyenne de 0,8 ha, dont 0,13 ha est réservé aux cultures fourragères. Le cheptel de la région est estimé à environ 1 500 bovins, 1 8000 ovins, 3 000 caprins et 200 équins. Le niveau moyen de consommation en lait est de 20 l/habitant/an, se situant ainsi à 50% du niveau de consommation national.

Certes, les moyens de production (terre, accès à l'eau, équipement, bétail de trait, revenu extérieur), ainsi que le poids relatif de chaque atelier, peuvent varier fortement d'une exploitation à l'autre. Cependant, les exploitations présentent une forte homogénéité en terme de choix des cultures, de pratiques techniques et de logique de fonctionnement, qui vise avant tout à produire pour satisfaire les besoins alimentaires de la famille (céréales: blé tendre, légumes: oignon, tomate, fruits: dattes, figues, parfois lait) avec des surplus destinés à la commercialisation: dattes, olives et figues.

Les femmes, en plus de leurs activités ménagères habituelles, participent pour une grande part aux différents travaux agricoles, le plus souvent dans des conditions pénibles. Les contraintes économiques, sociales et climatiques sévères font que le revenu familial est sujet à des fluctuations considérables mettant une grande partie des familles en dessous du seuil de pauvreté. Ce phénomène est aggravé par un accroissement démographique important et un taux de scolarisation faible, notamment chez les filles. Enfin, les activités des femmes ne dépassent guère le cadre étroit du ménage; la femme, ainsi repliée sur elle-même, n'est pas en mesure de développer des contacts avec le monde extérieur.

² Étude de cas soutenu par IFAD

³ Office Régional de MIE en Valeur Agricole de Ouarzazate, Marocco.

L'amélioration des revenus par le développement de la race caprine Drâa est parmi les activités féminines à encourager vu que la race drâa, originaire des palmeraies du sud marocain, est réputée par sa production laitière, ses performances de reproduction exceptionnelles (prolificité et désaisonnement) et surtout par son adaptation aux conditions du milieu pré-saharien.

Grâce à ses performances zootechniques, les caprins laitiers offrent des opportunités intéressantes. En effet, en plus du développement du tourisme dans la région en constante expansion et qui constitue un débouché durable pour la commercialisation du fromage, la forte demande sur ces animaux par d'autres provinces du Royaume constitue aussi un marché potentiel pour les éleveurs avisés du berceau de la race.

Description des Contextes Social, Économique et Institutionnel

Le périmètre de Skoura appartient à la vallée du Dadès qui est localisée au Sud-Est du Royaume du Maroc sur les pentes Sud de la chaîne de l'Atlas dans la vallée du Dadès qui est située à 1 200 m d'altitude, au Nord-Ouest de la province de Ouarzazate; Elle fait partie du bassin versant du Haut Draa et appartient au Maroc présaharien.

La zone concernée se caractérise par des contraintes naturelles liées à un climat aride et à des menaces de désertification et d'inondation sur les infrastructures hydrauliques ce qui limitent la productivité des systèmes culturels ainsi que par des parcours dégradés et des zones rurales enclavées et dépourvues de moyens.

La commune de Skoura se trouve à 40 km de Ouarzazate, sur la route d'Errachidia. Sa population est de l'ordre de 26 500 habitants (dont 52% de sexe féminin), répartis en 3 400 foyers et regroupés dans plusieurs douars situés dans la palmeraie. Skoura est connue par ses palmeraies, ce qui a attiré, ces derniers temps, l'attention de plusieurs entrepreneurs qui ont investi dans le secteur touristique (restaurants, hôtels, auberges, ...). Ceci a créé une certaine dynamique à l'intérieur de la palmeraie constituant un pôle d'attraction pour d'autres investisseurs.

Problème ayant Permis l'Adoption de cette Pratique

Cette pratique a été adoptée suite à l'insuffisance du régime alimentaire des populations pauvres, essentiellement des femmes et des enfants, et aussi à l'insuffisance des revenus pour les femmes rurales.

Organisations et Parties Prenantes qui ont Participé à sa Conception

L'Office Régional de Mise en Valeur Agricole de Ouarzazate avec le financement du FIDA

La Pratique

Description Spécifique des Innovations ou Changements Introduits

- * Savoir-faire en matière de conduite d'élevage caprin pour la première fois à skoura
- * Savoir-faire en matière de transformation du lait en fromage
- * l'amélioration du niveau nutritionnel et sanitaire des femmes et des enfants à travers l'utilisation de la viande et du lait de chèvre dans l'alimentation
- * La participation des femmes à la commercialisation, réservée par le passé, aux hommes.
- * L'acquisition d'expérience à travers le voyage: les femmes adhérentes ont exprimé leur satisfaction en matière de voyages d'étude. Ils leur ont permis de s'ouvrir sur d'autres expériences.

* La participation à la prise de décision: La coopérative a constitué pour certaines femmes, les plus actives des adhérentes, une plate-forme de renforcement de leurs capacités en matière de connaissances en disposition législatives et réglementaires

Principale Activités Réalisées

Aménagement de la Station Caprine de Skoura

Les travaux d'extension de la station caprine ont concerné :

- La construction de trois aires d'exercices et trois aires couvertes,
- La construction d'un lazaret et d'un magasin,
- L'aménagement de la maternité et des aires couvertes existantes,
- L'équipement de l'ancienne chevrerie en matériel d'élevage nécessaire,
- Cette extension de la station a permis de doubler les capacités d'élevage de la station.

Amélioration Génétique des Caprins

En matière d'amélioration génétique des caprins, les réalisations ont été comme suit :

- L'établissement d'une convention avec l'IAV Hassan II, qui a pour objet la formation de deux techniciens en matière de fabrication de fromage et le contrôle de la qualité du lait de chèvre. Cette convention a été exécutée presque en totalité.
- L'acquisition de 96 têtes de race Draa pour le peuplement de la station.

Equipement de la Fromagerie de Skoura

L'équipement de la fromagerie de Skoura en matériel nécessaire pour son bon fonctionnement. Dans ce sens, la chaudière de la fromagerie a été dotée d'adoucisseurs.

Fonctionnement

Pour le fonctionnement de la station caprine, chaque année l'ORMVAO procède à son approvisionnement en produits vétérinaires et en aliments.

Par ailleurs, une coopérative féminine d'élevage de caprins et de production de fromage a été constituée et regroupe actuellement 70 membres. Ces derniers ont bénéficié de la rétrocession d'un lot de soixante dix-sept (77) chèvres sur les 300 prévues par le projet. Cet effectif rétrocédé a permis aux membres de la coopérative d'accroître davantage leur cheptel de chèvres laitières. Actuellement, elles détiennent plus de 400 têtes dont 200 chèvres laitières.

Cette opération a pour objectif d'encourager la constitution d'un cheptel caprin chez les femmes pauvres par des ventes à crédit de chèvres pleines qui sont achetées à la station (à environ 1 500 de DH/tête) et distribuées (à crédit sans intérêt) à un prix subventionné de 500 DH/tête. Les femmes devaient rembourser leur crédit en 9 mensualités de 50 DH avec une avance 50 DH au moment de l'achat.

La mise en place d'un système de suivi zootechnique et sanitaire .au profit des élevages de la coopérative féminine. Dans ce sens une vulgarisatrice et un technicien sont mis à la disposition de ladite coopérative.

Les Principales Parties Prenantes et Acteurs qui étaient Impliqués dans la Réalisation et qui ont Bénéficié des Résultats,

L'ORMVAO depuis longtemps renforce le développement des caprins laitiers dans sa zone d'action. En 1989, ce programme a été renforcé en collaboration avec une ONG américaine (Near East Foundation).

Avec le projet FIDA, ayant démarré en 1994, l'ORMVAO avait considéré le développement de l'élevage caprin dans le cadre de la promotion des activités féminines visant l'amélioration des conditions de vie des femmes rurales. Cette activité se justifie par:

- l'existence d'une station caprine pouvant abriter environ 300 caprins,
- l'existence d'un troupeau de reproducteurs sélectionnés
- l'existence d'une unité de fabrication de fromage à renforcer
- situation de Skoura sur un axe routier important et à 40 km de Ouarzazate
- activité touristique importante dans la zone
- existence de techniciens qualifiés en élevage caprin.

Les Principaux Groupes Bénéficiaires

Malgré que cette action ne visait que les familles déshéritées, les résultats positifs ont encouragé l'adhésion massive des femmes à la coopérative et ont stimulé une nette augmentation de l'effectif des caprins qui leurs ont été distribués initialement.

L'Évaluation de l'Impact de la Pratique

Qu'est qui a été Considéré Comme un Succès?

Les caprins de race Drâa ont des performances très intéressantes, leur viande et leur fromage sont très demandés sur le marché. En plus, la station de Skoura est la seule qui produit le fromage de chèvre dans la région.

Le changement dans les activités d'élevage par l'introduction de la chèvre et le remplacement progressif des bovins par les caprins a permis aux familles de disposer d'élevage moins exposé à la vulnérabilité climatique comme la sécheresse. Ceci est très important si on considère la sécheresse qui a sévi dans la région et qui n'a pas permis aux bovins de résister comme les caprins

Evaluation des Bénéfices pour les Parties

D'après l'entretien effectué avec les femmes, le revenu généré par cette action est issue essentiellement de la vente des chevreaux et du fromage. Quant au lait des chèvres il est généralement gardé pour l'allaitement des chevreaux et pour la consommation familiale. Le revenu moyen ainsi généré par les femmes est estimé comme suit :

La production moyenne d'une chèvre est de 2,4 chevreaux par an. D'après les statistiques les femmes adhérentes possèdent en moyenne 4 à 5 chèvres. Il en résulte une production moyenne de chevreaux de 9 et 12. Après la consommation de 2 chevreaux par la famille il restera 7 à 10 qui seront vendus. Il en découle une recette de 5600 à 8000 Dh /an (prix de vente : 800 Dh). Ces recettes sont la propriété des femmes contrairement aux recettes des bovins considérés comme propriété de l'homme bien que les femmes y investissent énormément de leur temps et efforts. Ces revenus sont dépensés dans la scolarisation des enfants, l'achat de vêtements pour les membres du foyer, l'hygiène et les soins corporels et l'ameublement.

Concernant le fromage, la quantité produite par la station varie suivant l'année (1980 unités de 150g en 2000 contre 960 en 2002). Le taux de vente dépasse les 85% et le prix est de 10

Dh/(unité de 150g). La commercialisation qui est assurée jusqu'en 2002 par un technicien de l'Office, est réalisé , actuellement par les femmes.

Les Impacts les plus Significatifs

Cette action présente des particularités et une nouveauté comparativement aux interventions qui l'ont précédé au niveau de la zone dans la mesure où elle a sensibilisé les femmes à s'autogérer et à se prendre en charge.

En plus des revenus générés par la vente du lait et du fromage, plusieurs femmes se sont données après à d'autres activités pour subvenir aux besoins de leurs familles (artisanat, cuniculture, aviculture à petite échelle...etc)

Les Résultats les plus Significatifs

La zone est connu maintenant par la production de fromage des chèvres et plusieurs ONG et associations nationales viennent profiter de l'expérience de la coopérative.

Un nombre de chèvres est vendus pour des projets similaires dans d'autres zones.

Facteurs Contribuant aux Succès et Échecs

Problèmes Rencontrés et Solutions Trouvées quand la Pratique a été Réalisée,

Le résultat de cette pratique a été influencé négativement suite aux problèmes suivants :

- Le projet ne ciblait pas les femmes des grands exploitants qui ont les moyens pour assurer une importante et régulière production laitière pour rentabiliser les investissements de la fromagerie et prendre la relève de la station en matière de production d'animaux performants;
- La coïncidence du projet avec la sécheresse ce qui a limitée les disponibilités fourragères au niveau des exploitations ;
- Les rivalités entre les femmes des différentes fractions lors de la constitution du bureau de la coopérative.

Mais malgré que l'exécution de cette pratique ait coïncidé avec la sécheresse, l'ORMVAO a pu corriger certaines défaillances organisationnelles de ce secteur au niveau de la région tels que:

- L'organisation des femmes bénéficiaires des chèvres en une coopérative ;
- La délimitation des exploitations bénéficiaires des chèvres dans un rayon de 3 km afin de faciliter la collecte du lait et de minimiser les frais d'encadrement ;
- L'initiation d'un suivi zoo-sanitaire des élevages caprins des membres de la coopérative ;
- La prise en charge de la gestion de la fromagerie par la coopérative.

Principales Raisons ayant Contribué au Succès

- Plus interne: comment les activités ont été réalisées? Types de formation? Méthodologies spécifiques utilisées? Capacités spécifiques nécessaires?
- Organisations ou champions qui ont été déterminants pour le succès (qu'est ce qu'il y avait de spécial)?
- Local ou raisons externes: sociales, environnementales, conflits au sein des communautés, intérêts politiques

- Conditions plus globales: politiques non favorables, soutien approprié des institutions nationales, environnement macro-économique

Opportunités pour la Généralisation

Possibilité de Généralisation au Reste du Pays et d'Extrapolation dans d'Autres Pays,

Plusieurs ONG ont déjà commencé au développement de l'élevage caprin dans la région et surtout dans les oasis. Un projet similaire est en cours de réalisation dans la région de Zagora

Les Risques Associés à la Généralisation

La non adaptation de la race caprine Drâa au milieu

Le manque de débouchés pour le fromage

Que Doit on Faire pour Promouvoir cette Pratique autre Part

La durabilité de ces actions est tributaire de:

- L'appui de l'Etat. En effet, les femmes rurales ne peuvent accomplir leur tâche sans un soutien logistique et financier de l'Etat pour l'amélioration de la productivité de leurs caprins. Il faut donc aussi cibler les femmes aisées et les inclure dans la coopérative pour bien assurer la pérennité de l'action
- La résolution du problème de la collecte en organisant une collecte collective et en dotant les femmes par un moyen de collecte. Il faut aussi penser à créer des petits centre de collecte dans le villages concernés.
- La sensibilisation, la réactivation des adhérentes actuelles, et l'augmentation du nombre d'adhérentes
- La diversification des types de fromage (production de fromage à longue durée de conservation) serait à considérer quand la production de lait est importante.

Title of practice: Dairy goat farming development and cheese processing as a generating income project for women⁴

Country: Southern Morocco

Authors of this case: Ali Zahari⁵

Category of Practice: Improvement of livelihoods of poor women

Context and Genesis

Production or service system

There is in Skoura an oasis farming system which is the combination of a lot of livestock and cropping systems. The cultivated area is about 2800 hectares. Within this area, 1800 hectares are planted. There are in the area 1500 cattle, 18000 sheep, 3000 goats and 200 equines. The level of the milk consumption is about 20 litres per capita per year : it is about half of the national consumption per capita and per year. Women, in addition to the housework, are strongly involved in agriculture, doing usually hard works. The family income is fluctuating because of economic, social constraints as well as constraints related to climate : then, most of the families are under the poverty line. The population growth as well as a low education rate for girls is strengthening this trend. Women carry out activities only within the household : there is no contact with the external world. There has been an increase of the income through the development of the goat brand Draa : this activity should be developed by women in other areas as the brand Draa is originally from the oasis in Southern Morocco. The brand Draa is known for its high potential in milk production, its reproductive performance and its adaptation to the pre Saharan context. Thank to their technical performance, there are opportunities in rearing dairy goats. The sector of tourism is developing in the region and there is, then, a market for cheese. There is also a tremendous demand for dairy goats coming from other regions in Morocco : it is a potential market for farmers raising goats, located in the region of origin of this brand.

Social, economic and institutional context

The oasis of Skoura is part of the valley of Dades which is in South eastern Morocco on the Southern part of the Mountains Atlas. The altitude of the valley of Dades is 1200 metres, in the North Western part of the province of Ouerzazate. The oasis of Skoura is part of the basin of the high Draa and belongs to pre saharan Morocco. There are many natural constraints in the oasis of Skoura : some of them are related to a dry land climate, there are threats of desertification and risks of flooding. Then, cropping systems are not as productive as they should be and rangelands are degraded. Rural areas are remote and there is no means available. The commune of Skoura is 40 kms far from Ouerzazate on the way to Errachidia. Its population is about 26500 inhabitants (with 52% of females), living within 3400 families in several villages located in the oasis. Skoura is known thank to its oasis : many promoters have invested recently in tourism (restaurants, hotels...). It generated a dynamics that may attract other investors.

⁴ IFAD Case study.

⁵ Regional agricultural agency, Ouerzazate (Office Regional de Mise en Valeur Agricole de Ouerzazate) (ORMVAO)

Problem

This practice has been adopted because of food insecurity within the poor families (essentially for women and children) and because women had very low incomes.

Organizations and stakeholders

Regional agricultural agency, Ouerzazate (ORMVAO). It has been funded by IFAD.

The Practice

The innovations

Knowledge in terms of goat rearing has been adopted for the first time in Skoura, as well as knowledge in terms of milk processing (cheese). This led to an improvement of the nutrition and health of women and children through meat and milk consumption. There was now participation of women in marketing, that was done by men only in the past.

Women got the chance to travel abroad, notably women members of the cooperative enjoyed the study trip and got to know other experiences. In the setting of the cooperative, some active members have developed their capacities in terms of legislation and participation in policy making.

Activities

Basic actions

- Creation of a goat centre,
- Goat breeding
- Equipment of the processing unit.

Women activities

A cooperative for women has been set up for goat rearing and cheese processing. There are 70 members in that cooperative and they own 77 goats. 300 additional goats have been given to women, members of the cooperative. So the cooperative members have got now more than 400 goats and among them there are 200 dairy goats. The objective was to encourage poor women to buy goats in kid from the goat centre through a loan system : goats are bought at 500 DH per head (instead of 1500 DH per head) thank to a loan without interest given to the woman. Women have to return back their loan within 9 months and they should pay back 50 DH each month with an advance of 50 DH given when they purchased their goats.

Main stakeholders

The main stakeholder was ORMVAO because it has developed dairy cow rearing in the area. In 1989, a collaboration with an US NGO has been set up.

Thank to the project funded by IFAD which started in 1994, development of goat rearing has been considered by ORMVAO and it aimed at improving rural women livelihoods : there was already a goat centre with facilities for 300 goats and Skoura located on the main road, 40 kms from Ouerzazate.

Main intended target groups

Although only poor women were targeted, most of women became members of the cooperative and there has been an increase in herd sizes.

Assessment and impact

Goats of the breed Draa have good performances and there is a high demand for their meat and cheese. The goat centre of Skoura is the only centre producing goat cheese in the area. The shift from cattle to goat rearing has protected resource poor families from climate risks as droughts. Because of droughts, cattle could not resist as goats can.

Benefits

Income is mainly generated by the sale of cheese and kids. The income average is generated and assessed by women : there are 2.4 kids produced by goat per year. Members of the cooperative own 4 to 5 goats. So, each member has got 9 to 12 kids per year. 2 kids are consumed by the family and 7 to 10 will be sold. Benefits are then about from 5600 DH to 8000 DH (the market price is 800 DH). Benefits are controlled by women (in the case of cattle rearing, benefits are controlled by men although women take care of cattle). Income coming from goat rearing are allocated to education, clothes, hygiene and furniture.

The amount of cheese produced is fluctuating : 1980 units of 150 g in 2000 versus 960 in 2002. 85% of this amount is sold and the price is 10 DH per unit of 150 g. Until 2002, cheese was marketed by a technician of ORMVAO. Now, women are marketing the cheese themselves.

Significant impacts

This action is quite different from the former actions implemented in the area because women have been able to manage their own activity and to get benefits from it.

In addition to goat rearing, women developed other activities in order to generate income to cover family needs : handicrafts, poultry. Another women cooperative has been set up and is producing cow cheese sold in some hotels in Ouerzazate.

Significant outcomes

The area is now famous for its goat cheese production and many national NGOs try to take advantage of this experience. Goats from this area are sold for developing similar projects in other areas.

Factors to be understood contributing to successes and failures

Some of the problems encountered have been :

- the project has not targeted well off women able to produce great amounts of milk: this could have increased the processing unit return on investment and they would have been able to sustain the production of goats instead of the goat centre.
- drought has occurred at the beginning of the project and there was no forage available on farm.
- conflicts between women from different tribe groups for the constitution of the board of the cooperative.

Despite all these constraints, ORMVAO has been able to fix all institutional weaknesses by :

- setting up a women's cooperative.
- identifying farms benefiting from the project: farms should be less than 3 kms far from the goat centre in order to make milk collection easy and to decrease assistance costs.
- setting up a health monitoring scheme of goat herds.
- making the cooperative manage the cheese processing unit.

Nowadays, there are some problems in the management of the cheese processing unit but, according to women, the project is still an important initiative that helped them to open up.

Key driving forces in managing change

There have been meetings for sensitizing women.

- Wider context/conditions: unfavourable policies, suitable national level support institutions, macro-economic environment, etc : Support of IFAD and the Near East Foundation

Opportunities for mainstreaming and scaling-up

Many NGOs have initiated goat rearing development in the region, especially in oases. A similar project is implemented in Zagora. In 2005, a local NGO has given goats to women in the project area.

The first sealing up risk is that the breed Draa may not suitable to other contexts. The second risk is the lack of market for cheese.

Sustainability of such actions relies on :

- Government support during the first stages of the project : women cannot carry out their tasks without a financial support from the Government and some assistance for logistics in order to improve the productivity of goats. Well off women should be targeted and be members of the cooperative in order to sustain the action.
- Milk collection should be solved by setting up collection facilities in the villages as small milk collection centres,
- Sensitization of women should be active and the number of the cooperative members should increase,
- Cheese product diversification should be introduced (especially long term storage cheese) when there is an important production of milk.

Title of Best Practice: Challenges to the development of a functioning livestock marketing chain in Kenya⁶

Country: Limuru, Kiambu District, Kenya

Author: Michael Kibue⁷

Category of Practice: Multi-stakeholder learning groups for developing a market chain for beef cattle.

Context and Genesis

The Context of Constraints

Two thirds of Kenya is arid. This massive land surface hosts more than half of our livestock and 25% of the population almost all are pastoralists. Livestock represents our pastoralists economic and social position. Increasing pastoralist populations means increased livestock to sustain their livelihood. But this will not be possible without irreversible degradation of natural resources. Therefore there is urgent need for our pastoralists to commercialize their herds for better financial returns and livelihood. However, improved stocks will not bring desired economic benefits if marketing of livestock and their products is not improved. Prior to 1983 livestock marketing division (LMD) of Ministry of Agriculture and Kenya Meat Commission (KMC) were main buyers of our livestock. With the liberated agricultural economy these government owned institutions have ceased operation. Today livestock trade and processing is wholly in the hands of private traders and informal sector micro-enterprise. Unfortunately this change though positive has disorganized our livestock industry with consequent decline in operation capacity, quality standards and unfair trade practices. Consequently our pastoralists have been made poorer due to low prices and unfair trading. These negative impacts have completely depressed all positive development of meat industry in Kenya. However, notwithstanding these negative impacts the responsibility of restoring orderliness and organized livestock, trade and meat industry rests wholly with stakeholders including pastoralists.

Present Livestock Trade and Marketing Practice

Prior to 1983, the Livestock Marketing Division (LMD) in a department the Ministry of Agriculture was the main buyer of livestock. Purchased fat stock for slaughter at a government owned Kenya Meat Commission (KMC) plants at Athi River and Mombasa. Immature cattle were fattened at LMD holding grounds. LMD ceased its operations in 1983 and the trade has been left in the hands of private livestock dealers. They are doing a commendable job and providing valuable service but which carries a high risk. Government still controls the movement the movement of animals resting trade while disease control measures impede sourcing.

The marketing process starts at pastoralist level with small traders/pastoralists buying from the local community and selling on small lots at local community markets. Bigger traders buy these animals, consolidate smaller groups and trek then to main markets where the larger

⁶ IFAD Supported Case Study

⁷ Kikasha Livestock (Beef) Association, Nairobi, Kenya.

traders buy and transport directly to markets in urban towns in Nairobi City for sale to butchers. In addition there are many large-scale farms with feedlots who sell their animal directly to livestock traders. Lorries are generally the common transport vehicles and transport charges are usually high. Once landed at Nairobi slaughterhouses the animals have to be sold often in stressed conditions as there are neither holding grounds nor grazing available and markets are disorganized.

Often traders prefer to buy the poor animals at cheap price and then sell the meat product at high price. The net effect is minimal returns to livestock farmers. On average farmers get 40% of the total value. In addition this system exposes livestock farmers to untrustworthy traders. Due to lack of organized marketing many pastoralists are unable to salvage the value of their livestock when adversely affected by draught. Unless the situation is reversed by emergency intervention pastoralists who rely basically on livestock becomes destitute. There is therefore urgent need to re-organize our livestock trade. The way forward is to help livestock farmers form marketing associations. Livestock marketing associations will empower livestock farmers with market information hence knowledge of prices offered and potential buyers. This will enable pastoralists to bargain from point of strength when selling their livestock.

Genesis of Learning Practice

The position is that Kikasha Livestock (Beef) Association would wish to present a very practical case study that reflect our reality and challenges with livestock (beef) marketing chain. Our concern is that a lot of studies have been undertaken on pastoralist livestock marketing situation but no practical international are coming up. We observe that every donor (SIDA, DfID, GTZ, USAID, EU etc) have set aside funds to improve the pastoralists livelihoods and central to this effort is the livestock resource chain. For unknown reason all this goodwill is stalled. Why? And what can possibly be done to realize this goodwill?

It has been observed that 30% or more of resource value is lost due to inefficiencies in the market chain which is a bit unique and complex since it starts with poor producers (pastoralists) and ends with low income/middle class consumers but with rich middlemen as the operatives. Of course 30% loss value is too much to think about sustainable livelihood. It could be the reason why our pastoralists remain condemned to poverty. How can this situation be reversed and instead have 30% profit? Is the deep question in our minds the more we think about it the wider the “knowledge gap” gets.

Our case study focuses on grass root efforts to address this “knowledge gap” in resource management and market chain development using the learning approaches. That is exploring with all key players in the market chain the following questions:

- Where are we now? (30% loss in livestock resource value)
- Where do we want to be? (30% profit in beef resource value)
- How do we get there? (our vision, imaginative innovations of improved market chain)

The Practice

Our Beginnings as LISSA

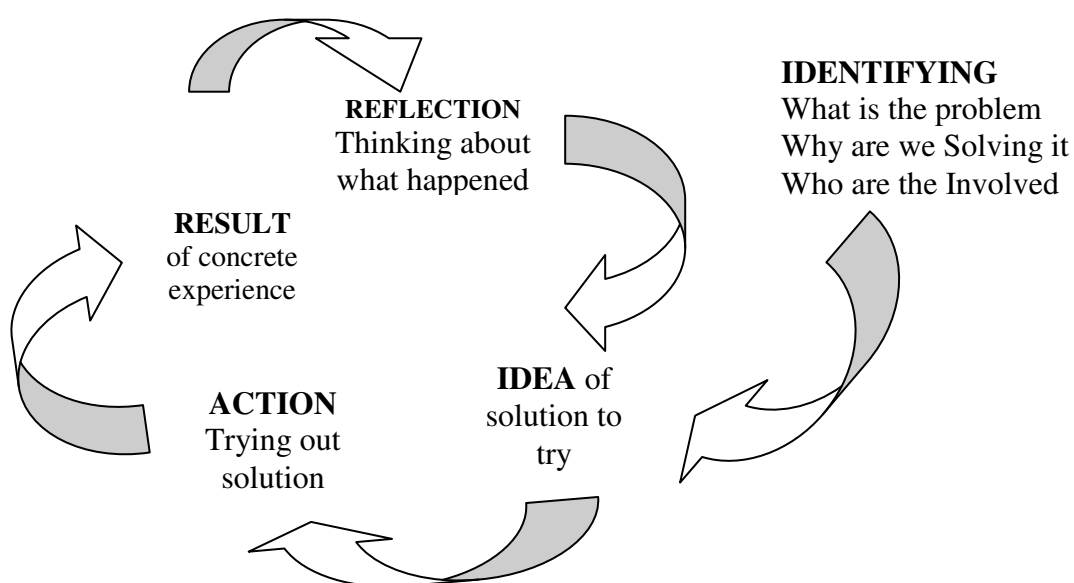
Livestock Stakeholder Self-Help Association (LISSA) is a non-profit association of grassroots, stakeholders in our meat industry. Association was established in 1999 after a group of committed livestock stakeholders attended a seminars sponsored by Hanns Seldel Foundation and KACE discovered they shared common goals and challenges. LISSA

membership comprises of pastoralists, livestock farmers, livestock traders, meat processors and butchers, who share a vision to upgrade livestock trade and meat industry in Kenya. LISSA aims to create a framework to develop new ideas and strategies to organize Kenyan livestock trade and meat industry.

The LISSA Lesson Learning Model

Our collaborative leaning model enabled stakeholders to share a ‘common’ vision to follow a process of ‘learning-by-doing’ to realize that vision. The learning entails trying out a new way of working together to address a certain issue and then reflecting together on how the new ways worked or failed. It is through reflection and the emergence of new ideas to try out that our learning initiate because a continuous process as shown in the figure below.

Figure 1. The Process of Learning



- Our Learning is a social activity. It connects us with others farmers, service providers, officials, and politicians. Learning recognizes the social aspect and use of conversation, dialogue among learners.
- Our Learning is built on what we already know. We learn in relationship to our shared vision, who we know, what we know and what we believe to be happening. It’s not possible for us to generate knowledge without having some structure developed from previous knowledge to build on.
- Our Learning takes time and needs patience we have to revisit ideas, reflect on them, try them out and use them. Our Learning is a product of repeated experiences and thoughts. It takes time to sink in.
- Our Learning is a contact sport it needs to keep members interested. Motivation does not just help learning it is essential to it. Unless we know the reasons why we want to learn something we will not be very interested in carrying out the necessary actions and reflection.

How Learning has Happened in LISSA

1) Preparation of entry point for learning

The start of the learning cycle: At the Linked Local Learning workshop organised by ISG in Nyeri (Kenya) in 1998; the LISSA founder member worked together with others to understand the learning cycle; including how to get involved and the activities to undertake to work together towards a shared vision.

What was to be learned? Some members owned and managed a small abattoir in Limuru. Their challenges concerned issues of unfair trade, disorganized livestock marketing systems, poor consumers and low incomes of producers. Moreover, low returns rendered investment fragile while lack of knowledge and skill led to resources being wasted.

Why Lissa learning? Members wanted to create fair trade and better business for all members of the marketing chain. They wanted to learn how to make meat affordable to the poor and access their greatest meat market, the Nairobi city. Their aim was to operationalise the meat chain to consumers in fair trade and profitable manner for benefit of all.

Who were the learners? Members organized a multi-stakeholder learning workshop for those in the meat producing chain, from pastoralists to butchers selling to customers in the Nairobi slums, at Limuru that posed these critical empowerment questions: Where are we now? Where do we want to be? How shall we get there?

2. Future Vision of New Ideas to Try Out

Where are we now? All the stakeholders attending workshop agreed that they had four main challenges: 1) disorganized livestock marketing; 2) unfair trade practices that marginalized the Maasai; 3) poor meat quality and unhygienic meat production; and 4) environmental issues including pollution from slaughter houses.

Where did they want to be? Stake holders had a future vision of fair trade among all parties including price discovery and better pricing mechanisms; empowerment of pastoralists to manage change and conserved natural rangelands; hygienic meat processing and higher quality meat and consumer satisfaction and increased trade volume from new market opportunities.

How shall we get there? They proposed to get there through partnership and co-operation between all stakeholders forming the Livestock Self-help Stakeholders Association (LISSA) to bring together pastoralists, traders, Bahati abattoir, butchers, market centre managers, and vendors. LISSA aimed to ensure fair trade practice for all concerned through price discovery.

3. Actions to Realize our Future Vision

Organized livestock marketing: LISSA members undertook to organise a market chain starting from the Maasai pastoralists through the livestock traders to the Bahati abattoir and on to the wholesale meat sellers, the retail butchers and finally to the consumers.

Fair trade practices: The Maasai in Kajiado and Narok have benefited from LISSA because today they are able to sell their livestock not for promissory notes but for cash paid on delivery! There is a system of price discovery making the prices within the market chain transparent to all the members. LISSA has been able to turn over a lot of money to the pastoralist community hence, 'poverty alleviation in the pastoralist community.'

Good meat quality and hygienic meat production: LISSA has developed innovations for hygienic processing by building a biogas plant at Bahati abattoir at converts waste from the abattoir into gas which is used for lighting and heating water for cleaning. In the LISSA

classroom regular training on hygiene; aspects of meat production and environmental issues, is conducted.

Conserving Environment: Bahati abattoir is situated next to a small lake; so environmentally acceptable waste disposal methods are essential for legal operations. The waste water used at the plant is treated through a set of ponds to ensure that it does not pollute the lake. Trees have been planted around the area to prevent soil erosion and to encourage birdlife. The sludge from the biogas plant is composted and sold to local farmers.

Assessment and Impact

The achievements have been basically that today Lissa abattoir is a most hygienic and environmentally friendly abattoir. We have got very good management and the business is increasing. LISSA as a whole has had its own challenges to be able to do fair trade. We have engaged the members to adapt some practices. We are now associated with a good name in terms of hygiene and high quality meat products. The Bahati abattoir has become a learning example for better practice to other abattoirs and stakeholders in livestock industry.

LISSA members found that the learning process was a powerful rethinking tool that transformed their problems into challenges. It demonstrated the mutual benefit of communication and information exchange both vertically to higher levels of government and industry and horizontally to peers in the livestock market chain. 'For LISSA members, learning is a contact sport of continuous engagement through multi-stakeholder meetings, individual communications, and information exchange'. Together we now push for increased livestock trade volume, higher value products and greater leverage on government policies and regulations for the livestock industry.

Benefits of the LISSA Learning Initiative

Nothing can make life more promising to poor livestock farmers than guaranteed market and price for their livestock. LISSA members committed hard work and invested their won resources into the livestock industry. LISSA meat-processing plant is a community benefit investment providing livelihood to many. Our investment provides much needed market services to pastoralists. Our abattoir has enabled pastoralists in Narok and Kajiado to realize more than 65,000 US dollars income from selling livestock. Many livelihoods have been created through the LISSA initiative and the consumers have benefited from hygienic meat production.

Against our expectation LISSA has been become service provider for training and technology development to other abattoirs. It's refund case for community of service (private sector) initiative to organise meat industry. LISSA evolved into greater association of abattoirs in Kiambu and Kajiado District called KIKASHA.

Limitations of the LISSA Learning Initiative

Failure to access and harness information and technology is our greatest impediment. Yet meat processing is a technical enterprise. Lack of critical product processing technical know how has led to income and resource wastage. In effect, we urgently need participatory technology development to exploit viable technologies capable of raising meat enterprises productivity. It is evident we have been doing something. On the ground we have capabilities and assets including material and social resources that are ripe for development. Unfortunately, we lack the financial resources to undertake technology development and adaptation. Our greatest problem is how we can link our meagre resources and investments

with formal Extension and Research so that improving our meat micro-enterprise is best served by our energies and creativity. We strongly believe a participatory technology development process can help. We are currently seeking a partnership between LISSA, the University of Nairobi and the Kenya Meat Institute.

Factors Contributing to Success and Failures

The critical factor to LISSA learning initiative was the shared vision. The other major factor that contributed to success was LISSA learning in practice where members could immediately see the results of their learning. Most important aspect was the learning was coordinated by a motivated learning champion on the spot who kept the group spirits high never giving up even in times of hardship. The availability of energetic community of service (Private Sector) operating at Bahati abattoir contributed to the success of LISSA learning initiative. ISG provided very essential backstopping to LISSA learning initiative that kept the group active with new tools (information) to resolve problems and linking potential funding agencies. LISSA is an active member of the “Linked Local Learning” initiative for demand driven services in East Africa. Association coordinator attended learning workshops on Demand Driven Services organised by ISG. LISSA’s own training workshop greatly motivated members as new knowledge give them faith in their vision.

Opportunities for Mainstreaming and Scaling-Up

LISSA has evolved in to bigger association called Kikasha. This evolution happened during a learning exchange visit by representatives of other abattoirs from Kajiado and Kiambu Districts. The visit was organized by PSDA, a GTZ project, to help other abattoirs learn of LISSA’s experiences and innovations. After the visit all agreed to form a bigger Association help mainstream and scale up the LISSA vision for better meat industry and adopt the innovations for benefit of all involved in the livestock marketing chain.

The new Association (KIKASHA) has adopted LISSA’s learning model and practices. Already it has successfully organized a training course on hygienic meat processing for Kajiado abattoir. This was supported by PSDA and great improvement has been recorded. The Association has plans to start a Telecentre for information sharing and knowledge management for meat industry stakeholders. The telecentre would allow us to bring many more abattoirs and other livestock stakeholders into our learning model. There is great potential for scaling up the learning practice with great benefits to all stakeholders including pastoralists. The envisaged information and knowledge sharing between many more stakeholders will add value in the livestock market chain.

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Title of Best Practice: Strengthening Market-Orientation of Agricultural Research in Low-Income Countries Using Sorghum as an Example⁸

Country: Lake Zone, Tanzania

Authors: January M. Mafuru, Seperatus P. Kamuntu⁹ and David W. Norman¹⁰.

Category of practice: Market-oriented research.

Context and Genesis

Sorghum is the second most important cereal crop and a major source of income for many poor farming households in the semi-arid areas of Tanzania. In areas of low and unreliable rainfall, there is a growing recognition that sorghum is superior to maize in providing for food security. Therefore, there is increasing recognition of the importance of encouraging farmers to grow sorghum in drought-prone areas. In Tanzania, farmers grow sorghum mainly as food to prepare *ugali* (stiff porridge), *uji* (soft porridge) and a malting local brew. Despite its importance in facilitating household food security, the production of sorghum has been declining over time, while production of maize has increased even in drier areas. The change in consumer preferences towards maize meal has reduced the importance of sorghum as far as production decisions of farmers are concerned except when household food security is at risk.

In Tanzania, sorghum research has been conducted by government institutions in collaboration with regional and international research organizations, in an effort to develop appropriate improved sorghum technologies for smallholder farmers. To date eight improved sorghum varieties have been released, together with associated agronomic recommendations. Despite such achievements sorghum farmers still grow local varieties, while the adoption of improved varieties is generally low. As a result of the introduction of FSA in the 1990s breeders have incorporated quality characteristics that farmers demand. Since the mid 1990s farmers have participated in variety development experiments through on-farm research trials. Breeding programs have focused on developing varieties that are resistant to production constraints (i.e., including disease, *striga* and drought), which vary by production season and agro-ecological zone. However, sorghum research activities have not adequately addressed quality attributes demanded by sorghum consumers in the market place. Therefore, most of the sorghum produced is consumed by farm households themselves.

The production of sorghum has been characterized by a lack of use of purchased inputs partly due to the absence of rural credit and marketing services. In addition sorghum utilization has largely been limited to the traditional food products such as *ugali*, *uji* and local brews. There have been limited processing and/or value adding activities due to either a lack of appropriate technologies and/or suitable sorghum varieties. The absence of value adding activities has made sorghum less competitive in the manufacturing and livestock feed industries. One way the sorghum industry could effectively compete with the maize sector is in the development

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of value-added products through strong linkages with the key stakeholders in the sorghum sub-sector. The non-utilization of improved technologies and poor linkages between producers, processors and consumers, are partly responsible for the inferior status of sorghum in the country. There is either a lack of awareness concerning existing technologies or when such technologies do exist, they are either not suitable for the production environments farmers face or they are not appropriate for direct utilization by processors who demand specific crop attributes in order to produce value-added products. The lack of effective collaboration among the key actors (i.e., research institutes, NGOs, extension services, farmer associations, traders and processors) has undoubtedly been responsible for the limited use of improved varieties in developing value-added products.

The Practice

Objective

The overall objective of the research approach or practice was to determine the potential adoption of improved sorghum varieties, by integrating the production and consumption characteristics preferred by farmers and consumers in the Lake Zone of Tanzania. Previous sorghum research efforts have focused on farm level analysis with little emphasis on characteristics of varieties demanded by consumers in the market place. Although sorghum is produced mainly for the purpose of attaining household food self-sufficiency, improving its marketable qualities could potentially enhance the adoption of new varieties and their associated technologies. Furthermore, since the mid 1980s, Tanzania has carried out major economic reforms particularly focusing on market liberalization, which have influenced farmers' production decisions. Structural Adjustment Programs (SAPs) and the associated removal of production subsidies have necessitated farmers' concentrating most of their limited resources on crops that are profitable. This implies that farmers now respond more to market incentives than was the case prior to market liberalization. Numerous studies have shown that consumers prefer specific variety attributes (Ndjeunga and Nelson, 2005). On the other hand, market information has been found to be important in farmers' decisions to adopt new technologies (Negatu and Parkish, 1999). Therefore, providing targeted market information concerning specific needs of the consumers would help farmers to make informed production decisions.

This case study discusses the application of a sub-sector approach (SSA) in evaluating five sorghum varieties (i.e., three improved and two local) in the Lake Zone. This approach was used in combination with FSA, which is currently widely applied in Tanzania. The case study involved evaluating the sorghum varieties across different production environments as is normally the case in applying FSA. Then the varieties were evaluated by producers (i.e., farmers) and consumers to elicit their preferences. Finally, the adoption of these varieties by farmers in the study area was predicted using an ordered probit model. The study used in-depth and focused group interviews to collect the required information, which was later analyzed using various parametric tools.

The Concept of a Sub-Sector Approach

A sub-sector is defined as a vertically integrated group of enterprises that deal with the same product(s) (Shaffer, 1973). It includes enterprises that produce and/or procure the raw materials, as well as process and sell the final product to end-users. In agriculture, the food systems matrix consists of a horizontal and vertical dimension (Boughton *et al.*, 1995). The horizontal dimension refers to firms within a particular industry where production functions are performed. The vertical dimension comprises of a subsystem (i.e., sub-sector) of single

commodities where different production, assembly, processing and distribution functions are performed (Figure 1).

Since the mid 1980s, many agricultural research institutions in low-income countries have adopted the FSA. This has resulted in greater emphasis on farm level systems analysis (i.e., horizontal orientation) but there has been less attention on the interrelationships among the different stages in the vertical dimension of the food system matrix (Boughton *et al.*, 1995). Therefore, in the agricultural sector the productivity of the food system has remained low, because small-scale farmers have adopted little in the way of improved technologies. Thus a SSA has been advocated as a complement to current farm-focused research approaches.

Figure 1: Food Systems (Agricultural Sector) Matrix

| PRODUCTION AND DISTRIBUTION FUNCTIONS | SUBSECTORS | | | | | |
|---------------------------------------|---|---------------------------------|---------------------------------------|--------|-------|--|
| | Sorghum | Millet | Maize | Cotton | | |
| Input Distribution | S U B S E C T O R | A P P R O C H | | | | |
| Farm-Level Production | | | ----- FARMING SYSTEMS APPROACH -----> | | | |
| Processing | | | | | | |
| Storage | | | | | | |
| Transportation | | | | | | |
| Marketing | | | | | | |
| Consumption | | | | | | |

Source: Boughton *et al.* (1995)

What was Done

To analyze the sorghum sub-sector, four steps were followed. First, five sorghum varieties were evaluated at farm level through on-farm trials. The performance of the varieties across different production environments was evaluated using adaptability analysis. Then farmer preferences for the five varieties were elicited through farmer interviews. The third step involved elicitation of consumer preferences of sorghum *ugali*. Finally, the information obtained from steps one through three were combined using the conjoint design technique to obtain variety profiles, which were later ranked by farmers to predict adoption. The analytical tools together with types and sources of data were as follows:

- *Adaptability Analysis.* Adaptability analysis (formerly modified stability analysis) was applied in this study to evaluate the performance of sorghum varieties across different production environments in the study area. The method involved regressing the yield of each variety at each site against the mean yield of all varieties at each site (Hildebrand and Russell, 1996). The mean yield represents a type of environmental index. Using the estimated regression coefficients, sorghum varieties were evaluated on the basis of their performance and improved varieties were compared with the local varieties under different production conditions. The following regression model was used to estimate the performance of the different sorghum varieties across production environments (Hildebrand and Russell, 1996; Sall *et al.*, 1998).

$$Y_{ijk} = \alpha_0 + b_1 Z_j + b_2 X_i + b_3 Z_j X_i + \varepsilon_{ij} \quad (1)$$

Where: Y_{ijk} = yield of improved variety i and the local variety k at location j ,
 Z_j = the average yield of all varieties at location j ,
 X_i = a dummy variable that takes the value 1 for the improved variety, and
0 otherwise.

In addition determinants of good production environments were examined using Tobit analysis.

- *Preferences of Sorghum Varieties.* We applied conjoint analysis to determine farmers' and consumers' perceptions of variety performance, and level of acceptance. Conjoint analysis is a multivariate technique used to estimate how respondents develop preferences for products or services (Hair *et al.*, 1998). Unlike matrix ranking and/or scoring which are usually applied in FSA we used parametric analyses to check the consistency of farmers' and consumers' preferences with respect to their utility functions (Equation 2).

$$R_j = a_0 + \sum_{i=1}^N \sum_{l=1}^3 b_{il} r_{il} + \varepsilon_i \quad (2)$$

Where: R_j is the ranking evaluation of the farmer for a sorghum variety j with
production/consumption characteristics (attributes) I ,
 a is an additive constant,
 r_i is the perception (i.e., defined in terms of 3 levels l) of variety attribute I ,
 b_{il} 's are the part-worth utilities for the 3 levels (l 's) of each of different
attributes (i 's) of the j^{th} variety, and
 ε_i is a normally distributed error term.

Each level of attribute may have a different part-worth utility. Consequently we assumed each farmer/consumer adds the individual part-worth utilities to evaluate the overall utility of each sorghum variety. This formulation suggests that respondents' ratings are an additive function of the "true" but unknown part-worth utilities.

In addition we computed the relative importance of variety characteristics in the respondents' preference ranking. Relative importance is the value that indicates how important one variety attribute is relative to all other attributes. The relative importance value is critical for designing research and development strategies that might be needed to enhance acceptability of the varieties by respondents. We calculated relative importance values by first calculating the range for each attribute by taking the difference between the maximum and minimum estimated part-worth of that attribute. Then we computed the sum of the ranges over all attributes. The relative importance (RI) of an attribute i was obtained as follows:

$$RI = \left[\frac{\text{Utility Range for Attribute}_i}{\sum_{i=1}^N \text{Utility Range for all Attributes}} \right] * 100 \quad (3)$$

- *Ex-Ante Adoption Analysis.* To determine adoption of sorghum varieties we used the concept of derived demand. The concept is based on the premise that farmers adopt the new varieties if there is an effective demand along the vertical orientation of the food matrix (i.e., production by farmers to be purchased by consumers in the market place). Since sorghum production is also affected by biophysical and socioeconomic (i.e., production) conditions experienced by farmers, performance of the varieties was also

evaluated in terms of farmer and consumer preference. Using Lancasterian demand theory, we described sorghum varieties in terms of their production and consumption characteristics. The theoretical model used in this analysis was formulated as follows:

$$V_{(G)} = b_0 + b_1A_i + \dots + b_k Q_k + b_p P_G + \varepsilon_i \quad (4)$$

Where: $V_{(G)}$ is an indirect utility (preference) obtained from each variety,
 b 's are the marginal utilities (part-worth) to be estimated,
 A is a vector of variety production attributes, and
 Q is a vector of variety quality (consumption) attributes.

From consumer theory, price (P_G) is a function of individual income and demand shifters such as taste and preference (in this case variety attributes). However, in conjoint analysis price is considered as one of the attributes, which affects consumers' decision-making (Green, 2003).

The empirical function used to estimate the adoption potential of the varieties was an ordered probit model (Equation 5).

$$V_{ij} = \beta' x_i + \varepsilon_i \quad (5)$$

Where: V_{ij} is a latent and continuous measure of preference ranking,
 x_i is a vector of variety attributes,
 β is a vector of parameters to be estimated,
 ε_i is a random error term.

Data for the *adaptability analysis* was obtained from agronomic trials conducted on farmers' fields in two agro-ecological zones in the Lake Zone Tanzania. Farmers compared the performance of five sorghum varieties; three improved (Tegemeo, Pato, Macia) and two local (Weigita and Gudungu) on their farms. The two agro-ecological zones are characterized by low (<600mm) and medium (600-1000mm) annual rainfall, and are the main areas for sorghum production in the Lake Zone. Data for determinant analysis included yield, amount of rainfall, soil nutrients, soil type and farmers' management practices.

Data for farmers' *preference analysis* were collected by interviewing farmers who participated in the agronomic trials. Prior to trial establishment, focus group interviews were conducted to identify sorghum characteristics which farmers use to evaluate new sorghum varieties. These characteristics were included in the questionnaire, in which farmers were asked to rate the performance of each characteristic in each variety according to their perceptions. Then they were asked to rank the variety according to their overall preferences from one to five (i.e., one implies most preferred). An analogous methodology was used in consumer preferences. Consumers evaluated six *ugali* samples in which five were prepared from flour obtained from undehulled sorghum varieties. The sixth *ugali* was prepared from a mixture of local sorghum and cassava flour. In both cases two price levels were added to evaluate the effect of price on farmer/consumer preferences.

To predict *ex-ante adoption* of the varieties, orthogonal plans describing the different sorghum variety profiles were generated using the conjoint design technique. A sample of 100 farmers selected from two villages was asked to rank the different variety profiles according to their preference. An ordered probit model (Equation 5) was used to determine potential adoption of these varieties.

Table 1. Results of Sorghum Sub-Sector Analysis

| Variety Name | Farm Level Analyses | | Consumer Preference Analysis | Predicted Adoption | Recommendations |
|--------------|--|---|---|---------------------|--|
| | Adaptability | Farmer Preference | | | |
| Macia | -Without fertilizer it was superior to local varieties under low rainfall but inferior to local in high rainfall -With fertilizer inferior to local varieties under low rainfall, but superior in high rainfall | Ranked first by farmers. Accepted attributes: early maturity, high yield, high tolerance to drought and Medium tolerance to bird attack Rejected attributes: None | Ranked first by all consumers. Accepted attributes: Color, taste, texture and aroma Rejected attributes: None | FSA- 56% SSA-80% | Promote for production, home consumption and marketing |
| Tegemeo | -With fertilizer it was superior to local varieties across all levels of rainfall -With fertilizer inferior to local varieties under low rainfall, but superior under high rainfall | Ranked second by farmers. Accepted attributes: yield, tolerance to drought and bird attack, and medium maturity. Rejected attributes: None | Ranked second by all consumers. Accepted attributes: Color, taste, texture and aroma Rejected attributes: None | FSA-56% SSA-80% | Promote for production, home consumption and marketing |
| Pato | -Without fertilizer it was inferior to local varieties under low rainfall, but superior under high rainfall. Similar results for fertilized fields. | Ranked fourth by farmers. Accepted attributes: yield, medium maturity and medium tolerance to drought. Rejected attributes: susceptible to bird attack | Ranked third by urban consumers, ranked fourth by rural consumers. Accepted attributes: Taste, texture and aroma Rejected Attributes: Color | FSA-16% SSA-11% | -Reduce susceptibility to bird; - Improve color |
| Gudungu | -When unfertilized it was superior to Pato but inferior to Macia in low rainfall areas. Inferior to Pato but superior to Macia in high rainfall areas. It was inferior to Tegemeo across all levels of rainfall -With fertilizer it was superior to all improved varieties in low rainfall areas, but inferior in high rainfall areas | Ranked third by farmers. Accepted attributes: yield, medium maturity, tolerance to bird and drought Rejected attributes: None | Ranked fourth by urban consumers, ranked fifth by rural consumers. Accepted attributes: Color, texture and aroma Rejected attributes: Taste | FSA-56% SSA-12% | -Improve taste |
| Weigita | -When unfertilized it was superior to Tegemeo and Pato in low rainfall areas, but inferior to both varieties in high rainfall. It was inferior to Macia in low rainfall areas, but superior in high rainfall. -When fertilized it was superior to all varieties in low rainfall, but inferior in high rainfall. | Ranked fifth by farmers Accepted attributes: yield, tolerance to bird attack and tolerance to drought Rejected attributes: Long maturity | Ranked fifth by all consumers Accepted attributes: Texture and aroma Rejected attributes: Color and taste | FSA-21% SSA-15% | -Reduce its maturity. -Improve color and taste. |

Source: Mafuru (2005).

Assessment and Impact

Space constraints do not permit a detailed discussion on all the results from the case study – see Mafuru (2005) for much more information on the results. Therefore, the results for each variety are briefly summarized in Table 1. In general, from both the producer and consumer viewpoints, two of the improved varieties (i.e., Macia and Tegemo) were better than the other three varieties.

It was found that in farmers' overall preference ranking of the varieties, length to maturity contributed 42.6%, tolerance to bird attack contributed 27.5% and tolerance to drought contributed 15.1%. Yield and price of sorghum seed contributed 3.5% and 11.4 % respectively. Although yield was less important in farmers' ranking, low yielding varieties were less preferred. In consumer preference analysis, the results indicated that colour of sorghum *ugali* was the most important attribute considered by consumers when ranking their preferences. It was found that on average colour of *ugali* contributed 24.8% in overall preference ranking; and taste was the second most important attribute contributing 18.5%. Price of a plate of sorghum *ugali* contributed 13.9% while stickiness on touch contributed 10%. Softness of *ugali* was less important in consumer preference ranking.

For farmers' preference ranking, most respondents indicated that they preferred a short (early) maturing variety and a variety with medium tolerance to bird attack, and high tolerance to drought. On the other hand, consumers indicated that they preferred *ugali* with white or khaki colour. Red or brown coloured sorghum was not preferred except in one region (i.e., Mara) where red colour was much more preferred. Most respondents preferred a slightly sweet or neutral *ugali* taste while a bitter taste was less preferred. The results indicate that farmers and consumers have preferences concerning specific variety attributes, which are important in them deciding whether or not to accept specific sorghum varieties. Therefore, availability to producers of information on variety characteristics preferred by consumers is likely to enhance the adoption by farmers of those varieties that have the preferred characteristics.

Factors Contributing to Potential Success

Findings from the sub-sector analysis of the sorghum varieties examined indicated that two of the improved varieties -- Macia and Tegemo – in general appeared to be preferred by both producers and consumers over the other improved variety (i.e., Pato) and the two traditional varieties (i.e., Gudungu and Weigita). Therefore promoting the Macia and Tegemo varieties is likely to be potentially most successful in terms of enhancing production, home consumption and boosting marketing of sorghum. Promotion strategies are likely to be needed for this to occur. These could be facilitated by wider tasting of *ugali* prepared from these varieties as well as indicating to farmers the acceptability of these varieties by both rural and urban consumers. Increased production of these varieties will also need to be promoted through ensuring farmers use appropriate techniques by making sure adequate soil moisture conditions are created/exist and fertilizer is applied. In addition, it could be useful to undertake benefit-cost analysis relating to the production and processing of these varieties in order to promote entrepreneurship on the part of farmers and other key players in the sorghum sub sector. For varieties which were less acceptable, there may be potential payoff from improving those characteristics (attributes) which were not acceptable.

Opportunities for Mainstreaming and Scaling-Up

A farm-focused analysis approach, as currently implemented under FSA was an important first step in improving the potential adoption of new sorghum varieties, through taking into account farmer preferences. However, the application of a SSA that also takes into account the views of the end users (i.e., consumers) could encourage higher adoption rates, because of the potential return from marketing some of the production. Acceptance of *ugali* from Macia and Tegemeo by consumers implies a potential market for those varieties. Hence application of SSA potentially helps improve understanding on where, when and what actions need to be taken to promote acceptability of technologies generated by research organizations. Since the SSA covers everyone from the producer to the consumer, strategies need to be developed to ensure active participation of the key stakeholders. This is a challenge that still needs to be institutionalized particularly in national agricultural research systems (NARS) in low income countries. A starting point could be building on foundations developed through participatory approaches that evolved from the FSA which involved farmers in breeding and selection of varieties – for example, beans in Rwanda (Sperling and Berkowitz, 1994) and rice in Nepal (Sthapit et al, 1996). In this era of increasing globalisation and commercialisation of agriculture, a failure to adopt the SSA involving both farmers and consumers is likely to lead to increased marginalisation and decreased support for, and relevance of, research organisations in low-income countries.

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