



sharing lessons to enable innovation in agriculture

Lessons and case stories from RIU Tanzania

June 2011

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Section 1: Introduction

Research Into Use (RIU) country programmes are stimulating institutional changes that take place in a number of domains including: research practice; policy process; markets and marketing systems; policy relevance and responsiveness to poor people; access to technology; access to input and output markets; financing; new patterns of partnerships; and new and existing organisations that are playing new roles.

Between 2009 and 2011, remarkable changes took place in the local chicken sector in Tanzania as a result of RIU's work. Local farmers increased their stocks from 10 or 20 to more than 200, turning local chicken production into a business. Farmers who were previously producing for own consumption only, now sell their chicken and make a profit. They source one-day chicks at specialised hatcheries, which did not formerly exist before. They established contracts with buyers which guarantee a market for their chickens. And they are now able to access necessary support, such as extension and veterinarian services.

In agro-mechanisation, notable changes were brought up in the field in just a year of operation. Small farmers are bundling their lands and accessing mechanisation services provided by tractor owners at affordable prices. They save time and labour, increase their size of cultivated land, grow improved varieties, apply new technologies, and managed to increase their maize and rice production.

The above institutional changes represent a key impact of RIU in terms of strengthening innovation capacity. These changes are also important indicators that country programmes can use as evidence to support the case that RIU-type programmes can be effective mechanisms for strengthening innovation capacity. However, the details of such evidence has to be captured in formats that are appropriate for both national and international policy funding audiences.

To enable a broader and clear understanding of how these changes happened and the driving forces behind them, the Central Research Team (CRT) requested the assistance of the Royal Tropical Institute (KIT) in capturing the institutional change evidence and in establishing a mechanism to help both country programmes and CRT to generate information on institutional change. An analysis of the country reports of the evaluation teams helped to gain understanding of the types of institutional change that are being flagged as important. During a so-called *write-shop*, stakeholders shared their experiences; in a three-day process, participants developed case stories that give a state-of-the-art overview of the innovations they have been involved in, the institutional changes that made the innovations happen and of lessons learnt and best practices. This report provides the outcomes of a write-shop in which the stakeholders reflect on their experiences and identified the institutional factors that made the innovations happen.

The aim of the write-shop was to document experiences of stakeholders in the Research Into Use Tanzania Programme. A write shop is an intense participative way of writing publications in such a way that they are easy to understand and used by practitioners.

The write-shop is extremely flexible, the repeated presentations, comments and revision of drafts allowed for case studies to be reviewed and revised thoroughly. A team of facilitators and editors guided and assisted the participants in the writing process.

The write-shop was conducted from the 11-14 April 2011 in Dar-Es-Salaam. Participants included a wide range of stakeholders involved in agricultural innovation and institutional change process in the

RIU programme in Tanzania: farmers, private sector, government institutions and the RIU Tanzania team, all of them having interesting, evidence-based, concrete and practical experiences that are worthwhile documenting. They are the authors of the case stories, writing about their experiences from their particular perspectives. The RIU Tanzania team identified the participants. Authors worked individually or in pairs on their case stories. This resulted in 12 case-stories with unique topics.

Write-shop program

The write-shop program was flexible. The RIU Tanzania team and KIT-staff continuously discussed and adapted the program to the specific needs of participants and their specific stories and based on the progress of the writing process.

Day	Activity	
Monday 11 April 2011	4pm:	Arrival of participants
	Plenary:	Introduction, objectives of the program, planning, preparation for case study presentations the next morning
Tuesday 12 April 2011	Plenary:	Presentation of topics and key messages by participants Advices, suggestions and tips from other participants
	Individual:	Developing a detailed outline for the case Writing first draft of the case story
Wednesday 13 April 2011	Individual:	Writing first draft of the case story
	Group work:	Peer reviewing: feedback from participants and facilitators
	Individual:	Writing 2 nd draft of case studies
	Overnight editing:	English and content editing
Thursday 14 April 2011	Individual:	Feedback from facilitators and editors
	Individual writing:	Writing final draft
	Plenary:	Identifying the critical success factors for innovation and lessons learnt
	Evaluation and closing	

The write-shop resulted in this report that includes a series of 12 case stories, developed by 14 participants. The report gives an overview of experiences and lessons learnt. Participants' own case stories are a unique way to present experiences to other stakeholders, partners, or donors. The case stories are describing the innovation process from the different angles. Each author played a specific role in the innovation process. They have described the innovations from their perspective, identifying the factors that made the change happen. In plenary discussions it became clear that all the innovations, at different level, involving different actors, and taking place simultaneously or at different times, were crucial to make the system work and to make the change happen.

The first story, written by John Theodosias Kaijage, provides a historical overview of the policy context of poultry production in Tanzania. It also identifies the contributions that the RIU programme made to increased awareness of policy makers of the importance of the local chicken sector as economic sector. The second and third case stories (by Vera F. Mugittu, Jwani Tranquilino

Jube and Matilda Mndeme) elaborate on the how the Research Into Use Country Programme facilitated the development of new institutional arrangements and improved partnerships among stakeholders, which proved to be central to innovations in the production systems and the development of the sector as a whole. This is followed by a description by Eliasa Saidi on the way RIU made experiential, needs-based learning as a key strategy and approach to innovation.

In his story Godfrey Anigulile Mwaipopo, a farmer from Kibaha District, is convincingly arguing that improved local chicken production is a viable business opportunity for smallholder farmers that can contribute to poverty alleviation in rural areas in Tanzania. Maimuna Sefu Mkongea, a farmer leader or champion from Rufiji district, is describing the importance of mobilizing farmers in the innovation process.

The following stories focus on the importance of demand driven service delivery and bringing together service supply and demand. Leah Kimari, an agricultural officer, is explaining how she contributed to improving knowledge and skills of local farmers. Agustino C. Kibaya explains how improved collaboration between the public and private sectors has contributed to the development of the local chicken value chain. Festo Balegele, a hatchery owner, is explaining the arrangements that allowed him to increase his hatching capacity and to make hatching into a viable business with secured market relations. The importance of good collaboration between chicken producers and veterinarians services is reflected in the case story of Charles E Mgaya. He explains how his company, Bytrade, improved the drug supply to rural areas. Felix Temu and Thabit Waziri are telling the story on how improved organisation of farmers at one side, and of tractor owners at the other side, contributed to improved agricultural mechanisation.

Finally, Dennis Mbangulla, is looking at how the changes initiated by RIU could be sustained through the setup of KukuDeal that can take up the brokering and funding role that RIU has developed. In his recommendations, Dennis suggests that the next step would be for KukuDeal to run as a commercial entity and develop a business plan, if possible together with other private sector stakeholders like Bytrade and the hatcheries, that can be presented to the government, donors, development banks, development partners, investors.

List of case stories

Case story topics	Author(s)
Paving the way towards commercialization of local chickens in Tanzania: new dynamics in policy making	John Theodosias Kaijage
Emerging rural business in the poultry value chain in Tanzania: creating relevant institutional arrangements	Vera F Mugittu
The Chain Broker: a new way of forming sustainable partnerships and linkages for the successful commercialisation of the indigenous poultry sector in Tanzania	Jwani Tranquilino Jube and Matilda Mndeme
Stimulating the demand for new knowledge in the poultry sector innovation process	Eliasa Saidi
Certificate level agriculture officers should be used to impart knowledge to farmers	Leah Kimari
It is possible to tackle poverty in Tanzania	Godfrey Anigulile Mwaipopo
How I won against poverty and stereotypes: a story of Ms Maimuna a 59 years old village woman in Rufiji Tanzania	Maimuna Sefu Mkongea
Public private partnership simulates commercial farming of local chicken in Tanzania (a case of Chamwino district Dodoma)	Agustino C Kibaya
From using an incubator as a domestic appliance to becoming a key player in the local poultry sector	Festo Balegele
The hidden business opportunity for veterinary drugs dealers in Tanzania	Charles E Mgaya
Bridging supply and demand: a bright future for Morogoro farmers through agricultural mechanisation	Felix Temu and Thabit Waziri
Poultry Contract Farming: From Project to Business	Dennis Mbangulla

Section 2: Commercialisation 1

New dynamics in policy making are paving the way towards commercialisation of local chickens in Tanzania

John Theododias Kaijage, *Principle Livestock Research Officer*

In light of emerging innovative approaches in the indigenous poultry sector, which has increased flock sizes and sales volumes and has attracted more actors, the Government of Tanzania has developed new regulations, specific for poultry, to ensure the smooth transformation of the sector from a back yard industry to the commercialization of local chickens in Tanzania.

Indigenous Chickens has historically been a backyard industry

Before independency in 1961, the colonial Government of Tanganyika set no policy for poultry development. The poultry sector was entirely predominated by local chickens kept in the rural settings for the purpose of meeting social obligations, such as rituals, meeting dowry obligations and offering gifts in terms of eggs and live chickens to colonial masters. The scenario remained the same after independency up to 1967 when the Government started to regulate the poultry sector.

In 1967, Tanzania, through the Arusha Declaration, adopted a broad policy of socialism and self reliance. The National Poultry Company (NAPOCO) was established and mandated to establish commercial poultry farms, breeder farms and importation of the parent stock. The Government thereafter promoted the establishment of commercial poultry enterprises using exotic hybrids in the Government primary schools, secondary schools, prisons and Agriculture training institutions. Shortly after, the Tanzania Feed Company (TAFCO) was established to supply feeds for poultry. In the 1970s, the Government promoted the consumption of eggs and poultry meat, particularly to women, children and sick people. However, during that period the Government had no policy for development of local chickens despite their being predominant in the country. This was associated to the perception of the policy makers and scientists that local chicken have low genetic potential for egg production and growth rate.

In the mid 1980s the collapse of NAPOCO, combined with economic hardships, allowed for the emergence of small scale farmers producing hybrid chickens commercially, particularly in urban and peri-urban areas. This raised an intense importation of day old chicks from neighbouring countries such as Malawi, Zambia, South Africa and Uganda. The change in the poultry sector prompted the Government to promote private entrepreneurs to establish hatcheries in the country to cater for the demand of chicks. Only Inter-chick Company, Ruvu JKT and Kibaha Education Centre responded to establish the Hatcheries. However, the hatcheries established were unable to meet the demand for day old chicks and importation continued.

In the 1990s the demand of eggs and poultry meat from local chickens, rather than Hybrid exotic chickens, increased significantly and customers were ready to offer more money. This was associated to the perception that commercial chickens were raised using drugs and hormones which have potential health hazards' to consumers. In addition, local chickens are said to be more delicious by various consumers within the country. This phenomenon raised a concern to various researchers, development projects and the Government who realized the need to develop initiatives to local chicken development to cater for the market demand and improve people's livelihood.

Researchers, Government agencies and various development projects tried to improve development of local chickens in the country but they could not find a successful way to commercialize them. For example, in 1990s the Government initiated a big project in the country aiming to improve the genetic potential of local chicken through cross breeding with exotic cockerels' but the project failed due to lack of backstopping. Most of projects for local chickens did not show an impact because they had single ended interventions and were not able to attract the policy makers who could influence the Government to include local chickens in the development agenda. Furthermore, the Government had invested extensively in research and development of hybrid chickens but recommended husbandry practices and disease control innovations were not made easily available to local chicken farmers.

The status of the local chicken sector began to change when Research into Use (RIU) initiated a project in Tanzania in 2008 aimed to commercialize local chickens through application of available research results. RIU used a value chain approach which aimed to develop the value chain for local chickens through identification of the key actors and existing problems at any segment of the chain. RIU began to coordinate the sector actor's processes and make intervention where any problem existed within value chain.

The industry is now more specialized with a value chain of producers focusing on hatching eggs, hatchery coordination, delivery of chicks, farmers, service provision and distribution of local chickens. RIU has provided soft loans for hatchery operators to purchase large incubators from abroad. The Government is now supporting the process waving the importation taxes. Hatcheries were provided with soft loans from RIU to build infrastructures such as poultry houses for rearing breeder hens or buying chicks. In addition, local poultry farmers were provided initially with 100 chicks and later 200 chicks on soft loan basis. Farmers were linked with care takers to train them on poultry husbandry. RIU was also entrusted to buy the chickens from farmers' after reaching maturity. For the purpose of sustaining the project RIU has already formulated KukuDeal to take over the activities of RIU at the end of the program.

The emergence of hatchery operators and breeder farms for local chicken has increased the number actors in poultry sub-sectors has shifted the Governments attitude from indifference to seeing the need to monitor and regulate the poultry sector including local chickens.

The Government now enforces regulations for operation of hatcheries and breeder flock to minimize the spread of poultry diseases and to ensure smooth transition of the poultry sub-sector. In addition, the commercialization of local chickens, initiated by RIU, has shown the necessary evidence for the Government to develop and enforce regulations for manufacturing of poultry feeds, traceability and animal welfare.

The increase of actors in the poultry sub-sector and its commercialization has also resulted in the Government engaging stakeholders to promote poultry societies that are organized enough to work with the Government to resolve the challenges of the poultry sector. The poultry stakeholders are underway to register the Tanzania Breeders Association and the Tanzania Poultry Association. The innovation by RIU enabled the Government to consider the development of a National Strategic Plan specifically for development local chickens which will replicate the approach the model employed by RIU in other areas in the country.

The future of Government involvement

For smooth development of the poultry sector, the Government, in collaboration with other stakeholders, should facilitate poultry farmers to accrue loans, acquire land, market poultry products and develop slaughter and marketing facilities. On the other hand, the Government should also ensure capacity building for farmers and extension staff and ensure the availability of extension workers for breeder poultry farms, hatcheries, commercial farms and health services to ensure all the poultry value chain is covered.

Finally, the Local Government Authorities (LGAs) need to develop an inventory and involve all key players in poultry sector. This includes Community Based Organizations (CBO), Non-Governmental Organization (NGO) and Private Companies, civil society and individuals. This inventory of key players is crucial, especially during the planning and implementation process for Public Private Partnerships (PPP), to enable development and regulation of the poultry sector.

Section 2: Commercialisation 2

Emerging rural business in the poultry value chain in Tanzania: Creating the relevant institutional arrangements

Vera Florida Mugittu, *Country Coordinator RIU Tanzania*

I am a Tanzanian woman, trained as an agricultural economist who has worked in the agriculture sector in Tanzania for the past 15 years. I spent 6 years working at the village level with a livestock program before I moved to work with a donor organization at the national level. My first 10 years of work made me see the wide gap existing between the national development agenda and rural realities. I later resigned after deciding to employ myself in the private sector and thought that I would never have the opportunity to work on bridging that gap, that is until I joined the RIU programme in June 2008.

I became one of the six Research into Use (RIU) country program coordinators in June 2008 with my counterparts (all men) working in Malawi, Rwanda, Nigeria, Sierra Leone and Zambia. The DFID-funded RIU program is an action research program aiming to maximize the poverty eradication potential of previous investments in the renewable natural resources research and thereafter collecting lessons on what works or doesn't work in putting research outputs into use. The initial focus was to create innovation systems which continuously demands and utilizes knew knowledge and, in the process, promotes rural innovation. To be honest, I was not fully clear of what I was supposed to do to achieve those objectives and when I tried to exchange with my fellow country coordinators I learnt that they were as stranded as I was. Worse, when I sought help from the many program advisors, both in Uganda and in the UK, I got even more confusing messages. At that point I realized two things: the first thing was that there was no clear blue print for programme implementation, and second, RIU was a pilot program and we were all learning.

Attached to my employment contract were detailed terms of reference spelling out generic managerial roles as the overseer of the RIU program in Tanzania and my duties to coordinate activities to implement the program country strategy was titled "Demand-led Innovation." The document was later abandoned in August 2009, after the program review, and this provided our country team the opportunity to develop our own implementation documented titled "The intervention logic." The new document defined the vision, statement of ambition and anticipated mile stones. It was not a binding project document but a description of how we intended to run the RIU experiments in Tanzania. We did not develop a log-frame but had milestones to report against every quarter and adjust accordingly. Writing the intervention logic document was the beginning of our journey towards developing institutional arrangements necessary to commercialize the indigenous poultry sector in Tanzania.

When RIU started working in the indigenous poultry sector in Tanzania in 2008, the sector was disorganized with no significant commercial value apart from the value of the 35 million chickens all kept under an unregulated low input free-range system. The sector was worth about 140,000,000 TZS (approximately US \$117 million). The low economic value made the sector neither important to the government nor attractive for private sector investment. The reasons for the low commercial value came from the fact that the number of chickens raised was very small (farmers were keeping between 5-10 birds raised for not less than a year) and transactions in the sector were very small,

informal and not recorded. Keeping indigenous chickens was mainly a backyard activity with no serious investment in hatcheries because the breeding was natural. There were no transactions on feeds because the chickens were free ranged, and there were few transactions on veterinary drugs and extension services as the chickens were hardly ever treated or vaccinated. The marketing of local chickens was informal and no value addition existed.

Our job was therefore to transform the poultry sector to be both commercially viable and one that included small local producers. We knew this could only be achieved if the sector is made attractive for investment by both the Government and the private sector. Most importantly, small producers had to be made viable for urban businesses to deal with. At this point, the vision to commercialize the sector was clear but before it could be realized we had to answer a lot of questions. The big question was how? How can one make a sector, which is dominated by backyard activities, attractive for investment? How, and where, do you start? How much time and financial resources do you need? Which partnerships are needed, and how do you establish them? And what would be our position in all this? What kind of skills do we need to manage these processes? What rules are needed? All these and many other questions became very important to us. We chose not to look for answers but decided *“to cross those bridges when we got to them”*, and this became our approach, i.e. to work on every bottleneck that we come across and make decisions based on the context and nature of the problem. Therefore, we chose to focus on the vision of a commercially viable sector and do what it takes to achieve that. This was an ambitious mission and we were expected to play many and different roles. At the centre of all this, we had to ensure relevant capacities are built to sustain the upcoming sector.

The decision to work in the Coast Region had been made earlier during the global RIU program planning process, even before we were recruited to lead the program. The choice of the Coast Region is interesting as many projects and (Government) programs tried to avoid the region as the people were considered lazy and lacked motivation for development. At the onset of the RIU program, various technical reports, oral presentations from experienced development actors who have worked in Coast Region and numerous political speeches were clearly raising concerns about the choice for the project area. While its proximity to the capital city Dar es Salaam was ideal, the message was always the same: the **attitude** and **entrepreneurship capacities** among the people in the Coast Region were very low and may not be able to trigger the support needed or sustain any rural development initiative in the region.

Our first assignment was to conduct a functional analysis upon which we later carried out a stakeholder mapping exercise to know who was performing these functions (like producing chicks, manufacturing feeds, importing veterinary drugs, producing chick carrying boxes, selling inputs in the villages, selling live chickens, providing business training, etc.) and where the gaps existed. All stakeholders identified during the mapping exercise were then called to attend the first stakeholders meeting and formed a platform. Ideally, this platform was meant to stir development in the sector; however the focus shifted to small networks based on the need. At this point the typology of stakeholders was variable ranging from farmers, input suppliers, extension agents, live chicken traders, business advisory services providers, local government authorities, regulators, etc.

It was during the first meeting that it became clear to us that the sector had great business potential if the volumes handled by each actor increased to levels that made business sense. It also became clear that certain institutional infrastructure was missing to stimulate businesses in the rural areas as

well as to link them with urban dynamics. For example, rural producers could not produce significant volumes because they lacked skills, had no access to inputs, no access to extension services, had no markets, and more importantly, they had no access to day old chicks. Therefore they could not decide on the scale.¹ On the other hand, input suppliers, extension workers and marketing agents were not attracted to extend their business to the rural areas because of low demand. These problems/challenges were among the many “*chicken and egg*” situations that RIU came across. So the question here was how could we make the rural producers produce larger volumes if there are no inputs supplied in their areas? Likewise, how do we entice input suppliers to establish businesses in the rural areas if there is no enough demand? RIU had to innovatively build farmers capacity to demand and pay for significant volumes of inputs while at the same time helping input suppliers to invest in setting up businesses in rural areas. Since both farmers and input suppliers were not bankable, RIU had to act as a financial institution and provided soft loans in the form of a coupon system was used to ensure farmers’ access to inputs like feeds, vaccines and drugs and which was paid back upon the sale of the first batch of chickens.

One major decision made by the program was to push small producers to new scales. Farmers were asked to raise 100 chicks with the plan to move into 200 and later to 300. This was meant to solve the volume challenge and stimulate business to service this new demand. It was also meant to justify the introduction of new poultry management systems in the rural areas which includes introducing the use various inputs like chicks, feeds, vaccines and drugs which were not used before in the rural areas. The ability to introduce and sustain this new scale required a lot of reorganization in the sector since most players were not used to work with rural producers. RIU organized a number of meetings between and among stakeholders to sensitize, encourage and support them to develop interest and mechanisms to work with small-rural producers.

The process of introducing poultry farming on a new scale involved the mobilization of farmers by introducing them to the idea of raising 100 chickens in a different way. The program used district champions who are farmers appointed during the first stakeholder meeting to mobilize their fellow farmers. The champion was empowered to believe in the commercialization dream so that s/he could convince other farmers to take up commercial indigenous poultry farming. What made farmers believe in the vision was the assured support from RIU staff as facilitators all the way. RIU promised to work with relevant stakeholders to solve all bottlenecks that farmers faced. Farmer mobilization lasted for three months and during this period experts in building chicken pens and general poultry husbandry visited the champions for a short period to assist in telling farmers what commercial poultry keeping entails. In the end, interested farmers were asked to build chicken sheds using locally available materials provided they meet the basic requirements like proper aeration, lightening and size. The idea of buying chicks was then introduced to farmers and they raised questions around affordability and skills to raise day chicks, a duty usually done by the mother hen. The question of affordability was also important to the chick producer and other poultry input suppliers who wanted to be sure of the buying capacity of their client before-hand.

Imparting skills to care for day old chicks was critical to the commercialization process because farmers have to manage them every time they start a new production cycle. The existing government extension system and the farmer field schools approach could not provide the mentorship required. Farmers needed on job training while in their own environment. The idea to

¹ Small producers were relying on natural breeding where the number of chicks was determined by the hen’s laying and hatching capacity. It’s only through buying chicks, that farmers can decide on the flock size they want to keep and plan accordingly.

use livestock production certificate holders graduating from vocational training colleges was experimented with. Before RIU, these graduates were not known to be employed by the government and the private sector did not recognize their role, not even in the large scale livestock farms. RIU organized a meeting with the graduates and asked them to live with farmers and guide them for 30 days as “*household care takers*”. Farmers accepted to house them and terms of reference were drawn up. Once this was done the champions introduced the caretakers to the Local Government Authorities and submitted their profiles and the terms of reference. The idea was to use the certificate holders for the first 30 days and then leave the work for the Government extension staff to take over. This was not an easy arrangement as some District Government extension staff were reluctant to advise farmers after the “*household caretakers*” had left. This was reported to the District Authorities and where satisfying solutions were not provided, farmers opted for a private veterinarian at a cost.

In order to get the business ball rolling in the villages, RIU had to take care of farmers’ purchasing power to encourage service providers to invest in set up businesses up to the ward level. Therefore, after farmers had negotiated prices with suppliers RIU agreed to pay for 60% of the cost of 100 chicks as a soft loan to the farmer. Farmers paid the remaining 40% before receiving the chicks. RIU recovered the 60% after the chickens matured and were sold. Farmers paid the 40% through their champions and after the shed was inspected, they received a box of 100 chicks, a household care taker, two drinkers, two feeders, a poultry keeping guide book, a laminated vaccination calendar, an exercise book for recording keeping, charts showing the type of records to be kept, a pen and coupons for procuring vaccines, essential drugs and bags of feeds enough for one month. RIU had two reasons to subsidize the cost of vaccines, drugs and one month feeds. The first reason was to give every farmer the opportunity to test the new technologies involved in the new poultry management systems we were promoting. The argument here was that if farmers are not assisted to try the technologies, how will they know their usefulness? Secondly, RIU wanted to ensure that a large number of chickens survive to maturity to demonstrate to farmers that indigenous chickens can enter the market in 4 months as well as to have a significant lot that can be used in developing the reminder parts of the value chain. The argument is, if all chickens die, which chickens will RIU use to develop the market?

Another challenge came when we learnt that not all sensitized stakeholders had the needed capacity to respond to the new demand created by the new production scale. RIU had to support them to access new technologies, skills and even finances. For example, one chick producer attending the first stakeholder meeting mentioned that his incubators could produce 60,000 chicks per week if there is demand. But he could not produce even 2,000 chicks per week when he was asked to. It was only when he was demanded to produce at full capacity when he experienced problems associated with producing that kind of volume. Problems like availability of such a number of potent eggs, technical problems related to the hatching machines, availability and quality of parent stock to increase eggs production, management of larger parent stock, transportation of eggs from distant places, availability of breeder feeds and many others became visible.

RIU had to advertise on paper and organized a meeting of interested indigenous chicks’ producers. The response was very good but most of them had very little capacity and were facing a lot of challenges. It was during this meeting that RIU realized the need to invest in hatcheries. About 300 million Tanzanian Shillings was invested as matching grants to five hatcheries which was used to

procure bigger incubators, expand parent stock size and to finance some construction work. This investment is expected to increase the production of chicks to 250,000 chicks per week.

Before RIU decided to give loans to the hatcheries, attempts were made to access loans from different financial institutions without success. The hatcheries had no collateral and the time needed to process the loan did not match with what was developing in other parts of the chain. Producer had tied their little resources in building sheds, other input suppliers had also tied their capital preparing to service farmers in the rural areas, and all these needed the chicks to be distributed urgently to set the business in motion. In order to keep the momentum going RIU had to fill in the gap.

Supply of veterinary drugs and vaccines also posed some challenges to the whole process. Some drugs were not available in the country as a result of the government policy that requires importers to have permits for drug importation. The quality of drugs also became an issue and to address that RIU identified Bytrade as a trusted drug supplier to work with very closely. The relationship with Bytrade provides room for suing them if poor quality drugs are supplied. However, Bytrade could not supply all the drugs and all the quantities needed. RIU had to often sit with Bytrade management asking them to adjust accordingly. We also used Bytrade as advisors to farmers and to chick producers where new technologies are needed. For example, we approached them to investigate and educate our partners on using poultry feed supplements like premixes and *enzymes* which were new to most feed producers in Tanzania.

As poultry volumes increased and more actors came in, the sector had to be regulated for quality and standards. At this point RIU had to work closely with the Ministry of Livestock and different policies were influenced. Stakeholder mobilization also became important and the sector is becoming more organized.

After all this work, the sector is now ripe for investment and private individuals are progressively investing in the sector. By using public funds from DFID, RIU has created a network of more than 3,500 farmers keeping between 100- 300 chickens which are available for the market every 3 to 4 months. In total these farmers are providing about 50,000 mature chickens ready for consumption every month. The volume is also increasing as more regions are covered and more farmers are being recruited through contract poultry keeping. Contract farming assures farmer's ability to purchase inputs including chicks, drugs, vaccines, feeds and extension services. There is also a network of 13 hatcheries currently producing over 7000 chicks of indigenous breeds per week per hatchery, making a total of about 91,000 chicks that are produced and ready to enter the market every week. Fifteen out-growers have signed contracts to raise medium to large scale parent stocks and supply fertilized eggs to the 13 hatcheries whose total capacity is above 250,000 chicks per week. Stakeholders are well coordinated to deliver poultry services and inputs including veterinary drugs, vaccines, poultry feeds, extension, technical information and relevant BDS. Contract farming is being rolled out to more regions in Tanzania as well as reaching more farmers in the current regions. Moreover, more vulnerable groups like the elderly, people living with disability (i.e. the blind, physically challenged, deaf, albinos, etc.) are being supported to enter into poultry contract keeping.

The infrastructure justifies further private sector investment, possibly in marketing, processing, export, etc., as well as attracting urban dwellers to do business with rural enterprises. It also attracts government attention for both regulation and support. Research is also demanded and justified. In

the end, rural producers are increasingly doing more business with urban investors who were initially not interested to work with them.

As I look back, exactly 2 years ago when the RIU program started working with the indigenous poultry sector in Tanzania, I cannot help but feel proud. I am proud of the level of energy the program has managed to mobilize along the entire value chain; I am proud of the institutional arrangements that emerged; and I am proud of the significance of the institutional and attitudinal changes that took place within such a short period. I am also proud of how RIU has demonstrated the importance of having an innovation broker who is equipped with resources and flexibility to solve different kinds of bottlenecks, coupled with a political will to support and finance solutions needed to establish the infrastructure necessary to stimulate efficient private sector engagement in a particular sector or commodity chain. It is indeed an opportunity for other development actors to learn from. It is worth learning how much can unfold when the right approaches are used.

There is also a serious message to this story. I am deeply worried and concerned about the sustainability of all this achievement, come June 2011 when RIU program comes to an end. To me the program closure has come at the wrong time, a time when businesses have just emerged and need a bit more support to have them on their feet. As I explained earlier, farmers were introduced to new scales and it goes without say that a lot of support and time is needed before they fully adjust to the change (For example, a minimum of five production cycles might be needed before they become confident and reliable to produce at such a scale). Moreover, investment to recruit more farmers² is still needed to produce volumes needed to stimulate investment in chicken meat markets and value addition. Another concern is the immaturity of the investment put by input suppliers as a response to the new demand from farmers. There is yet a sufficient supply of quality inputs like drugs, feeds and vaccines in the country, and with without those inputs farmers cannot sustain their businesses because of the high risks. Likewise, without farmers sustaining their businesses, input suppliers cannot continue to invest to achieve the needed quality and quantity need to supply the growing market. So the question is who will steer the ship and keep the progress on course while these new businesses continue to stabilize? Honestly, public support is inevitable required here to strengthen the sector as it transits from the backyard to the GDP basket! Anything less will mean all the investment will crumble and farmers will have the most to lose!

Mama Maimuna Mkongea from Rufiji District in Tanzania once told me:

'I have been living in a cave all my life. Then RIU came and pulled me out. It took me time to adjust my eyes to the new light and to know that I can actually walk, jump and run. After the short period of awe, I am now ready to learn to walk and live out of the cave. I now know I can do big business with urban people using a chicken that I have always kept in my kitchen. RIU can't leave me now, at least not until I can do everything on my own.'

² Larger volumes of mature chickens are still needed to stimulate investment in slaughter houses and exports. While the option could be to increase individual flock sizes i.e. from 100-1,000 birds per farmer, this is not always possible because most farmers have small farms (usually less than 2 acres) providing them with limited land carrying capacity. So the only option is to go for more farmers.

Section 2: Commercialisation 3

The chain broker: A new way of forming sustainable partnerships and linkages for the successful commercializing of the indigenous poultry sector in Tanzania

Matilda Mndeme-Field, *RIU Tanzania, Operations Coordinator*

Jwani Tranquilino Jube, *RIU Tanzania, Programme Officer Communications*

Whether in business or in development, partnerships emerge, not only out of need, but also out of an understanding that more can be achieved through collaboration.

When RIU started an intervention to commercialise the indigenous chicken industry, everyone was interested to participate. The major question then was how to form practical and lasting partnerships to respond to the difficult challenges within the poultry subsector. Different skills, knowledge, abilities, resources and systems were needed to facilitate delivery of effective and efficient services and inputs to rural farmers. However, due to the complexities within the subsector (which was marginalised and subsistence oriented), RIU was challenged to look beyond the traditional ways of partnering and introduce and nurture new ways of linking stakeholders.

The situation before RIU

Until early 2009, stakeholders in the indigenous chicken industry was scattered with most farmers in rural villages. The few hatcheries in operation were in urban areas but never produced indigenous day old chicks for selling. If they ever did produce day old chicks it was for sale to friends and neighbours and not commercially. Livestock input suppliers were in urban areas as well but they never really dealt with rural poultry keepers. Extension and advisory systems for poultry were almost non-existence. There were barely any organised transporters or organised markets nor marketing systems. All the actors in the industry operated individually and did not know of the existence of similar or complementary partners. With all the market confusion our major dilemma was to know where to start?

RIU had to take on a role of being a chain leader responsible for chain brokering, a gap that was not fulfilled by any stakeholder in the country. The programme started by identifying all stakeholders in the indigenous chicken industry. The initial idea was to link stakeholders through an innovation platform. Platforms were thought of as an effective way through which stakeholders can be linked and can be facilitated to work together to analyse their system problems and propose solutions to improve the functioning of the indigenous chicken industry.

Platforms highly succeeded in increasing connections and direct interaction among stakeholders in the sub-sector. However, at the practical level, a different force beyond linking partners was needed to jump start operations. This was due to the nature and capacities of stakeholders in agriculture and livestock sectors. For instance, after stakeholders were linked through platforms, they were not able to immediately start operations due to their low financial or knowledge capacities. Farmers knew district agro-dealers but their purchasing power was still too low to buy inputs or pay for advisory services. Agro-dealers knew input importers and manufacturers but they still didn't have the required financial capacity to buy and stock the required amount of inputs. At this point the

introduction of new rules, practices and principles were needed to allow partnerships to practically function and solve the problems in inputs and service delivery.

Due to the complexities in communications, varying capacities and energies among stakeholders, RIU had to continue being a broker even after the linkages were established. The programme had to continue coordinating all logistics. This included communicating with hatcheries, checking for quality control (particularly of chicks), coordinating feeds and other inputs delivery, transportation of chicks and matured chicken. Our role also included mediating conflicts among farmers and service providers or farmers and the Local Government Authorities. In a system where stakeholders were weak and scattered, the presence of a committed leader and coordinator of processes proved to be very crucial to ensure that all stakeholders were on the same track. A committed leader also ensured the necessary solutions were planned, synchronised and implemented at all levels to reach intended outcomes to boost the growth of the industry.

Changes from the platform philosophy

After a few months of operation, RIU had to revisit and revise its ideas concerning partnerships. Considering the marginalised and subsistence nature of the indigenous chicken industry, the programme had to abandon the idea that partnerships have to revolve around the platforms. Platforms became more expensive to maintain and platform meetings to do system analyses were too costly to hold. Some platform members just didn't have the time to sit in platform meetings. Also in some cases, not all members of the platform were needed to debate and find a solution to a particular problem. For example, when there was shortage of indigenous day old chicks, it was practical for RIU management to issue a public call for supply of chicks from other producers than to have a platform meeting to get recommendations. Some challenges required spontaneous and quick solutions and, in such cases, operating around the platform philosophy was not practical.

Due to these challenges, a new way to forming partnerships was adopted. Each partnership was formed on the basis that it was needed to solve a particular challenge and at a particular time. For example, the programme initially focused a lot of energy on solving the chicks supply problem to ensure a stable supply of indigenous day old chicks to farmers. Issues of markets and processing were not dealt with until six months later when farmers had matured chicken to sell. This allowed the programme to effectively address smaller issues within the main challenge.

The value of having a win-win situation for all stakeholders

To encourage efficient and reliable service and inputs delivery, partnerships were formed with business principles in mind. Each stakeholder went into a partnership with something to gain, a principle that is not often practiced in agriculture projects and programmes.

In most cases however, the win-win situation was not necessarily visible at the beginning of the partnerships due to different capacities and needs among stakeholders. In such cases, RIU (as the innovation broker) had to take the role of making weak partners viable for large stakeholders (e.g. hatcheries, drug and vaccination dealers), especially those in the private sector. For instance, feed producers and drugs suppliers were both operating businesses but they had never viewed a large number of smallholder farmers as their main clients. Originally they were servicing large scale farmers mostly in urban and peri-urban areas. RIU had to come up with a system to showcase that when smallholders gain enough financial capacity they can be a profitable client for inputs suppliers. For example, in Coast Region, RIU introduced a credit coupon system (which served as an interest

free loan to farmers) to help smallholder farmers to access inputs from district agro-dealers. Through the system, RIU provided farmers with different coupons for specific inputs which they submitted to the agro-dealer in exchange for inputs. The agro-dealer would then later submit the coupons and names of farmers to RIU and claim for refunds. The farmers would repay back their loans to RIU after they sold their mature chickens.

The system ensures that while the farmer is going through their first production round, they are able to immediately start a partnership and access inputs from agro-dealers. At the same time, the agro-dealer is able to provide services and inputs to farmers while waiting for his/her purchasing power to grow. Such support has enabled the growth and establishment of partnerships between agro-dealers and farmers at the district levels.

A major contributing factor to making the innovation work was the presence of RIU as the broker at the centre, linking stakeholders and finding solutions for problems in the industry. With RIU at the middle, the hatchery owners and the booming number of farmers could be linked. The hatchery owners invested more in indigenous chick production, knowing that there were farmers who will pay for chicks at the other end. With RIU as broker drug suppliers, who had been selling drugs before albeit in smaller quantities, increased the volume of drugs being ordered and are beginning to bridge the demand/supply gap.

RIU also acted as the informed and trusted voice linking stakeholders. For example, in signing contracts, farmers expect timely delivery of chicks without being aware of the complex logistics involved before RIU can deliver the chicks. We have to continuously communicate with their champions and update them on what is going on, so that they can inform and update the farmers in a timely manner.

The value of flexibility

Another important aspect that led to successes in sustaining partnerships was that they were based on open ended planning and responsiveness to changing needs. In each case, new partners were voluntarily allowed to join activities anytime and to leave whenever it was seen that their tasks had changed or had been accomplished. The flexibility was a key requirement from stakeholders who saw it as an opportunity to sustain performance. This ensured that those who performed and delivered continued to remain in the system, and those who failed were replaced by new partners. Basing partnerships on performance rather than on formal contractual agreements forced most of the stakeholders to make the choice of performing and delivering or being excluded from the process. For example, in the case of chicks production and supply, quality was continuously enhanced as the demand for better quality chicks increased from farmers. However, the flexibility has its consequences in some areas. For instance, when stakeholders, such as drug suppliers, sold low quality drugs to farmers, they were dropped because there was no way of holding them accountable.

In terms of the public/private partnership the flexibility of the public partner to respond to changing and unpredictable needs and opportunities increased access to services among farmers as well as enhancing the programme outcomes. For example, in Chamwino and Mpwapwa districts, the flexibility of the District Councils to work with RIU and accommodate poultry activities in their operations to provide combined and coordinated support created the best environment for farmers

to easily engage in indigenous poultry keeping. It also allowed farmers to easily access inputs and advisory services.

At the grassroots level, informal partnerships and networks among farmers were preferred to formal farmer groups and structures. The informality in farmers' networks eliminated the bureaucracy and was considered by farmers as an effective and efficient way of quickly responding to system problems. For instance, in Rufiji District, farmers operate their enterprises individually but come together only in cases where they need to collectively advocate for particular issues, access financial services or markets, mobilise for resources and acquire information.

In each region that RIU was working in, farmers were required to operate and own their enterprises individually, but were also linked to informal networks. Encouraging farmers to have independent enterprises (not group projects) increased the level of ownership, commitment and learning. However, in all the cases RIU encouraged having a network of 20 or more farmers in a village or ward to ease service delivery and to increase cooperation among farmers who could use the networks to mobilise for resources.

In sum, we have learned that for innovation to occur in a sub-sector that is dominated by small-scale stakeholders, formation of partnerships has to allow flexible terms for partners to explore new ways of working. In some cases, it is necessary for stronger partners or innovation brokers to support weak (small) partners to get some processes forward and unblock challenges in the value chains even when the weak partners are not in the best position to negotiate.

The value of champions

Another success factor in managing local grassroots relationships was using farmers as leaders (champions) in coordinating and managing their own relationships. There is a District and Ward champion in each area that is responsible for linking farmers with RIU and versa; linking farmers with Local Government Authorities. Champions that were also farmers proved to be key actors in mobilising other farmers to engage in keeping poultry commercially. For instance in Coast Region there is a District champion in each area. In Rufiji District alone there are 11 champions (1 district champion and 10 ward champions). The local network of voluntary leadership promoted self-organisation of farmers for access of inputs, services, markets, information and sharing and reducing operational costs.

The value of national leadership

In order for a nation to ensure an emerging industry is successful they must first nurture it to a point where it can stand on its own feet. Currently, within the indigenous chicken industry, the burden of ensuring inputs and services are reaching farmers has been carried on the shoulders of RIU alone. The reality is that this industry is a great economic opportunity for Tanzania and therefore the burden of ensuring the growth of the industry should be a public responsibility, supported by the Government, until the sector can stand on its feet. RIU has proven the viability of the industry and has supported it from its infancy and now it's time for greater leadership on the part of the Government and other key stakeholders in terms of involvement and coordination.

Section 3: Knowledge 1

Stimulating the demand for new knowledge in the poultry sector innovation process

Eliasa Saida, Training and Entrepreneurship Specialist

Innovation in the local poultry value chain is successful when farmers have the capacity to willingly and consciously demand for new knowledge based on their needs. Equally, innovation is successful when farmers are able to learn to 'search for new knowledge' and integrate that new knowledge with the knowledge embedded in historical routines to manage their farming practices.

This was the case when farmers, who were engaged by RIU, received their first 100 chicks. At that moment the farmers realised that the business as usual model could not work because they had to care for such a large number of chicks, which they never had to do in the past. The increased responsibility to look after a larger flock stimulated the demand of farmers for new knowledge. Farmers had to work hard to ensure they did not lose chickens because it was a loan they had to pay back. Suddenly it was very important that they found out the kind of diseases chicks/chickens suffer from, they needed to understand the kind of medicines needed, the dosage of the medicine, the quality feed to be given, the types of records to be kept etc. They also had to learn to seek advice from extension workers in respect to their specific needs.

Having realised they needed expert support gave room for the RIU program to intervene to change farmers behaviour and attitudes. It allowed RIU to help in building new skills, stimulating knowledge and learning from practical approaches. Farmers began to recognise and appreciate the power of 'new knowledge' and this allowed change agents to apply a 'learning by doing approach' once they were pushed to raise chicken commercially.

Farmers demanding new knowledge

There have been two major areas of knowledge that have been requested by farmers. The first is poultry husbandry, which includes vaccination, disease control, feeds, and the like, and the second is entrepreneurship skills and Business management training.

RIU program responded to the request for knowledge on poultry husbandry by deploying household caretakers to provide on-farm poultry husbandry skills training. The household caretakers stayed with the farmers for a period of 30 days, catering to 12 household a day and coaching farmers as the chicks grew. The hands on approach was well received by farmers who absorbed the new skills and knowledge faster since they applied it to challenges as they presented themselves on the farm.

The entrepreneurial training was provided in house by RIU itself. The entrepreneurial skills and business management trainings was provided in a business simulation module which allowed the farmers to test different scenarios and exercise their decision making skills when it comes to commercialised poultry keeping. They farmers learnt how to deal with risks, manage changing business environment the importance of keeping records. This was crucial training because the farmers learnt the value of planning and exercising business sense to ensure that they remain in business.

One of the biggest challenges to absorbing new knowledge is culture and tradition. The challenges have mostly been overcome by the project because of the use of champions who have enabled RIU to tackle attitudes and behaviours that threatened the project. A good example is in the Coastal Region where traditional dances precede other priorities. Farmers would leave their flocks unattended and therefore at risk. Champions, together with caretakers, have resolved this challenge by involving the entire household in the poultry husbandry training, thus ensuring that more than one person in the household understands how to care for the chickens.

In all, stimulating business in the local poultry industry must go beyond simple training. It has to first ensure that the attitudes and culture that threaten the acquisition and absorption of new knowledge are addressed and mitigated. It is imperative that once demand for new knowledge is generated, the project is able to meet that request with practical and realistic learning methods. Ensuring the access to new knowledge is imperative as new knowledge is constantly required for the innovation chain to continue creating value at each level.

Section 4: Tackling Poverty 1

It is possible to tackle poverty in Tanzania

Godfrey Anigulile Mwaipop, Poultry Farmer, Kibaha District

My name is Mwaipopo. I am a retired police officer living at Picha ya Ndege, Lulanzi area, Kibaha District and I have been involved with RIU since 2009. Since I started working with RIU I have witnessed women, old people and young people in my community who have been able to tackle poverty after learning how to raise indigenous chicken commercially through the RIU project. This has not only brought great benefits to my community, it has also inspired me to be part of the success story.

The entrepreneurial training that I received from RIU has transformed my life. Before the project I knew nothing about raising indigenous chickens commercially. In fact, it had never even occurred to me that local chickens could be raised commercially. Before RIU I used to raise 5 to 10 chickens for home consumption. After the RIU intervention I started raising 100 indigenous chickens commercially. Through RIU, I discovered that indigenous chickens are not only marketable but are preferred by customers and therefore fetch a good price in the market. When I started realising profits, I started raising them in phases so I would always have stock to sell. I sell them wholesale and that way I am able to plan expenses and see the profits clearly.

It is because of the indigenous poultry business that I can afford to pay school fees for my children, which I have not been able to afford in the past. My children had been home for a long time because I could not afford the school fees. Now, one of my children has completed a certificate course in community development and is now in college pursuing a diploma in the same field to learn more practical skills. My other son is studying in a private boarding school. All of this is possible because of the profit I make from my business selling indigenous chickens. After learning from RIU how to keep indigenous chicken commercially my life and that of my family has improved.

The way RIU conducts the trainings is the reason for the project's success. I must be honest, that at first receiving 100 chickens was shocking. I did not know what to do with them but RIU held my hand all the way and brought trainers to stay with me for 30 days. The trainers taught me how to feed the chickens and to give them water, vaccinate them and maintain the right temperature for them to grow in uniform size and weight. They also taught me how to detect symptoms of various diseases.

The hands on approach, in which we learned, is the reason for my success. If I had learnt this in a classroom environment the results would have been entirely different. First off all, I wouldn't have remembered how to apply the lessons learnt in the classroom once I got the chicks. Having the trainer guide me through the process, step by step, made all the difference. I learnt through action and the right knowledge was given at the right time. Having trainers live with us also helped dispel a lot of the anxiety that I faced. Each time I had a problem, I knew who to go to and I was less worried because I knew they were at my disposal.

RIU gave us feeds for one month and interest free loans in the form of chickens. I understood that I had an investment to protect and that motivated me immensely. I realised that if this venture worked then it would mean a lot for me and my family. I built a shed for the chickens and learnt

that I had many resources at my disposal within my environment. Throughout my learning RIU empowered and motivated me to strive for more.

I soon found out that I was also a role model for my community. When my neighbours saw the progress I had made raising indigenous chickens they were easily convinced to join the RIU programme.

RIU's project results speak for themselves. I now keep a total of 300 chickens, which I raise in rotation. Every 4 months I sell between 170 to 180 chickens at 5,000 Tsh (US \$ 3.40) each to KukuDeal, who then distributes them to hotels, retailers and other customers. Every time I sell off my chickens I remain with 20 to 30 chickens that I keep for my personal consumption of which I give some as gifts to family and friends. We also replace the 200 chickens we just sold and shift the remaining 100 to the larger pen to be the next in line to be sold. So the whole business is based on constant rotation of stock.

I feel that I have truly embraced the spirit of entrepreneurship and I can see the opportunities available to me within the indigenous chicken sector. For example, right now my chickens don't have enough room to sleep in their current shed and they do not have a protected enclosure to run around in. I hope to build new sheds in the near future and a proper pen so that the chickens can run freely and safely. This expansion is important for me because I want to expand my flock to 500 chickens by the end of this year and continue to expand every year.

It is common practice for governments, NGOs and community projects to claim that they are bringing transformation and development to the people they say they are serving. It is easy to speak about their successes in the media, through newspapers, radio and TV. Just because they advertise their so called success it doesn't mean that their projects really reached the target audience. For those projects I want them to learn from the RIU project. The RIU project can teach them that giving interest free loans is the way forward. The way forward is in helping poultry keepers learn through action. The way forward is teaching and showing people that indigenous chickens are a viable business. This is why I can say with 100% confidence that with the right projects, such as demonstrated with RIU, it is possible to tackle poverty in Tanzania.

Section 4: Tackling Poverty 2

How local chickens helped me win against poverty and negative stereotypes: My story as a 59 year old village woman in Rufiji, Tanzania

Maimuna Sefu Mlongea, Poultry Farmer and Project Champion of Rufiji District

My name is Bi Maimuna Sefu Mkongea and what I want you to learn from my story is that it is innovation and entrepreneurship that wins against poverty. I have been living in Rufiji District for many years and most of the population is very poor. Unfortunately the people of the coastal District in Tanzania have always been accused of being lazy and irresponsible to development programs. With the RIU program we are seeing a reversal away from poverty and laziness. This has been possible through innovative approaches that have stimulated farmers to become entrepreneurs.

Beginnings as a chicken farmer

Generally people in Rufiji never believed that it was possible to train and mentor a farmer into a successful entrepreneur. Even government leaders at the higher levels had lost hope in finding new ways of addressing poverty in the district. Unfortunately the failure of most entrepreneurship programs implemented in the district was blamed on the culture of “laziness” amongst the coastal population. The truth is that no one bothered to search further to understand the real reason behind the failures and further decline of local farmers into poverty.

Change started to happen in early 2008 when the Research Into Use programme was introduced in Rufiji. RIU started by initiating the formation of district platforms. In the Coast Region in Tanzania, a platform of local poultry actors was formed. The platform meeting included multi-stakeholders working in the local poultry sub sector from government extension workers, hatchery owners, vets, suppliers of poultry inputs and small scale farmers. Local farmers from Rufiji were also present in that meeting. The actors were then asked to develop their own action plans. Towards the end of the meeting, every district was asked to choose a champion to lead the project. In Rufiji District I was chosen to champion the local poultry project.

As a champion, my main job was to mobilize farmers to join the project. This involved leading them to change the keeping of indigenous chickens from subsistence purposes into a business. This was a very big challenge for me. I wondered how I could convince the people in Rufiji to join this project after many others had failed before. Fortunately, I got very good support from my family and this gave me the confidence I needed to persist. I began my mobilization work by undertaking an information campaign to the local government. I also held meetings with communities at different wards and villages. This was followed by collecting information and statistics on local poultry farmers. My commitment and desire to disprove the stereotype that people of Rufiji are lazy allowed me to mobilize many farmers in a very short time. From June to September 2009 I had already mobilized 6 wards in my district and by early 2011 I had reached 12 wards.

I then entered the learning phase where the mobilized local poultry keepers were to be trained. RIU employed very practical training methods unlike other projects that had been implemented in the past. Ms Vera Mgittu, the RIU Country Coordinator for Tanzania, conducted the training. The farmers

were trained on improved and modern methods of keeping chicken. They were also trained on business skills and marketing. Farmers were then provided with interest free loans for their projects as well as chicks to use for piloting their poultry projects and learning. They were also provided with trained house hold caretakers to support them in building up their projects. RIU supplied farmers with feeds, medicine and other inputs that can cover a period of one month.

Overcoming our fears to become entrepreneurs

After the first month the poultry keepers were left alone to run their own poultry farms. This proved to be a very challenging period for the farmers. Many of the chicks they had died and most farmers started to become worried because they had never kept such a large stock before. RIU listened to the farmers and then later called them into a training session. In the training session most farmers complained about how RIU was failing to manage the local poultry projects. RIU insisted that was part of the learning exercise to know the challenges involved in keeping local poultry. The trainers emphasized that *“you can never be able to sell the first cloth you learn to make”* and therefore the farmers should not despair. This revitalized the enthusiasm among the poultry keepers and has been the key to their commitment to date.

RIU then conducted a technical training for local chicken farmers. The training included learning how to build modern shelters for their poultry using local materials and how to raise the chicks into chickens over a short period. We learned how to buy the best chicks and the timing for immunization. We were then trained on entrepreneurship skills. We learned that it is possible for a small farmer to become an entrepreneur. We learned that to be an entrepreneur you should overcome the fear of failure before you even try. We learned it is important to be brave and persevere even when you face challenges. RIU also trained us on markets and how they work as well as how to manage your business.

From this training it was easy for farmers to grasp what was being thought. This is because of the practical experience we had from the initial stages of running their pilot projects. It was also evident from the success stories that followed in the second round after many had failed during the pilot phase. Now most farmers have moved from keeping 15 chickens to keeping 200 chickens. RIU provided chicks as interest free loans to farmers to kick start their projects. RIU was also there to mentor farmers throughout the process connecting farmers to other supporting services, such as care takers, vets, feeds suppliers, medical suppliers, hatcheries and marketers.

The support from the caretakers is very a very critical part of the project as it enables farmers to receive sufficient attention and customized training to meet their individual needs. There is also an open channel of communication that enables the farmers to know who to go to for information and support.

The local chicken project has lead to significant institutional changes in development projects within Rufiji. Most projects failed in the past because they only used to train farmers in classrooms for a few days or even a few hours, only to later leave the farmers to fend for themselves. The RIU project is different because it nurtures farmers through every step made and allows them to make mistakes so that they can learn from them.

Expanding into contract farming

In 2010 contract farming was introduced. This was received with a lot of joy and enthusiasm in Rufiji. We were excited by the prospect of keeping more than a 100 chickens because to us this was

unheard of and seemed to be a farfetched dream. We started by expanding the pens and forming a platform to unite the people of Rufiji who were engaged with indigenous poultry keeping. We met often and this helped us keep our aspirations alive.

Where there is success there must also be challenges. The challenges that we faced were getting vaccines and medication for our chickens on time and of good quality. There isn't a vet shop close by and there is only one in the entire Rufiji District. Now, with the increase in indigenous poultry keepers, the shortage is more acute due to the higher demand. We started with 92 keepers in 2009 and now that number has grown to 170 in 2011. Like vaccines, we also face the challenge of getting feeds.

No matter what the challenges are the number of people who want to join the program is growing steadily because of the success of the program and the fact that the promotion strategy in the Ward has stimulated interest. There are now about 1000 people who are waiting in line to join the program. We have grown from just 5 wards to 12 wards that now want to get involved. This has really encouraged me as the champion, I have become more confident and bold because I see the results of my efforts in encouraging more people to engage with the project.

Rufiji is a good example that others can learn from. I have done this wholeheartedly without an allowance or salary because I truly believe in the RIU project. The way I have personally benefitted from the project is by being one of the indigenous chicken keepers through the contract arrangement that RIU organises. I am proud to say that I have increased my income substantially. At first I sold 180 chickens and got 680,000 Tanzanian Shillings (US \$431), which I used to fix my house, build a chicken pen, pay school fees for my children. The remainder I kept as savings. I am 59 years old and for the first time in my life I have opened a bank account where I keep my savings. I now tell other women that I meet in women groups, on a one to one basis, to look at me and the success I have acquired through this program. They have truly been inspired, especially those who in the past and according to our culture would wait for their husband to be the sole bread winner and provide for them.

I want this story to encourage the government and other non state actors to realize that small scale farmers are not born or made for poverty, because this is not true, just like the stereotype that coastal people are lazy is not true. What we need is the right approach to educate and empower us and we will slowly transform our conditions ourselves. Historically, people from the coast are renowned for being lazy, uneducated and backward, but RIU demonstrates that it is not that the people are the problem but rather the approach. We small scale farmers have as much right to contribute to development.

I would like to close with the message that the government should be supporting us rather than putting up more challenges. For example the Ward should re-examine the tax on chickens sold, because it is too high and depletes the profit margins we are striving to get. We are still small and so the taxes should reflect our scale. Taxing us rather than nurturing our growth is not the way to encourage growth of the local chicken industry.

Section 3: Knowledge 2

My knowledge works: Confessions from a certificate holder level working with indigenous chicken keepers in coastal region in Tanzania

Leah Kimiro, *Household Poultry Farmer Advisor*

Certificate Holders should be used to impart knowledge to farmers

My name is Leah, I graduated with a certificate in Agriculture from the Folk Development College in Kibaha, Coastal region in 1977. I began working with commercial indigenous poultry keepers under the RIU project in 2009. The practice of using diploma level rather than certificate level agriculture officers for the provision of extension services is common in the country. This is due to the belief that we, those with a certificate, are not qualified to impart knowledge to poultry keepers. However, as the number of small poultry keepers increases, so has the demand for more knowledge. This is where our value as service providers has now been realised. Extension officers are overwhelmed and more and more villages have to do without one. An example of this comes from an experience I had in July 2010 when I went to Kisanga village, Kisarawe District, Coastal Region and wanted to meet the extension officer. I was told that the village did not have an extension officer for many years.

There are few extension officers and those who are available are already stretched by the numerous responsibilities they have, especially if they also double as village executive officers. Having two important responsibilities in the village means the villagers need them, and similarly, the poultry keepers demand their services.

I do not understand why this has to be the case. The government has built colleges that churn out certificate level agriculture officers annually and has incurred the cost of educating us. I understand that there is an acute shortage of funds to hire us but I still propose that they consider using us to support extension officers especially in places where there is a demand for agriculture expertise. Use us to impart knowledge to farmers and let us take part in accelerating development. We have not been used in the past because the Ministry does not believe we have enough knowledge to impart but that is not entirely true. If you look at the way RIU has utilised our skills and expertise then you have enough evidence to show that we are capable of providing quality service. RIU contracts us for 30 days to support poultry keepers. We are in essence the caretakers of the project because we protect the investment that RIU and the poultry keepers have made by ensuring that the keepers get the right knowledge at the right time.

RIU values our expertise and they have used us to support small poultry keepers. There have been good results in the project because of the role we have been playing. In the past there were many poultry keepers but they did not succeed because they did not know where to start. However, after RIU linked us to them to provide agriculture advisory services we have enabled them to start keeping as many as 100 to 300 chickens. This is contrary to the past where they only kept a smaller number of 3 to 10 chickens for household consumption. Indigenous chickens now contribute a significant portion of their household income, even more than other animals such as cows or goats. Poultry

keeper's incomes have increased and they are now able to afford school fees for their children and food for their families. They now even have the money to build better housing.

The reason that makes RIU an outstanding project is the way in which we pass knowledge to poultry farmers. We give hands on skills and we stay with the farmer for a period of 30 days, helping them along the process of learning how to nurture small chicks without the mother hen. As household caretaker I teach poultry keepers how and when to vaccinate their flock, the importance of keeping records and the early detection of symptoms of diseases. They also learn how and when to feed the chickens, especially how to achieve the right nutrient balance by mixing locally available food such as cassava, millet, maize, salt, banana and potato peels.

I visit 1 to 15 households per day ensuring that they get personal one on one coaching. I cannot over state how the one on one coaching has been the key to RIUs' program success. Farmers absorb the knowledge better because they learn as the challenges emerge and can witness the solutions in their own stock. Furthermore, this has been a very dynamic method of imparting knowledge because people in the household learn together; knowledge is shared with the father, mother and children. Farmers who are illiterate are assisted by their children to keep records which are imperative in tracking progress of the chicken's growth, thus ensuring inter-generational knowledge transfer. I have supported poultry keepers in Chalinze, Kisanga, Kirege, Ikwiriri, Mkuza, Rufiji, Bagamoyo, Mkuranga, Kibaha and Kisarawe Districts. I am proud of the success of poultry keepers and I have enjoyed watching them grow in confidence and in their ability to take care of more chickens.

A good example of this that I can remember one poultry keeper in Kibaha in a place called Picha ya Ndege. He now bought his own kerosene incubator and they now have more than 500 chickens. This is coming from a farmer who used to keep 3 to 10 chickens for subsistence.

The project is also growing beyond the RIU farmers. As the success of household caretakers work has grown, so has the demand from non-RIU poultry keepers who are seeking our expertise in nurturing indigenous chickens. The approach that is used in RIU has enabled us to forge stronger relationships with poultry keepers. They trust our advice and feel confident that we can help them solve problems. We live with one poultry keeper during the 30 days contract and we become part of the family. This intimate relationship has made it possible for caretakers to cultivate commitment from poultry keepers who feel at ease to express their anxiety and thus we are able to confront challenges that they face before they grow beyond our capacity to mitigate them. Working with poultry keepers has also enabled us to build a partnership relationship where we are not merely advising but that the farmers themselves. Taking part in the process allows them to feel a sense of ownership because of the intense level of engagement.

It would be untrue if I said this success came easy. I have encountered many challenges, some of which are tied to culture and tradition. Some tribes along the coast do not believe in joint property ownership and as a result you would need to persuade both the father and mother to collaborate in selling the chickens so they can fetch a better price. However, once they realise the benefits of selling wholesale versus retail, they have increasingly overcome this entrenched tradition. They keep chickens in batches and sell in wholesale. This way they are able to plan and have the assurance that they will have a lump sum amount and it makes it easier to purchase new stock and organise their lives.

Another big challenge has been poverty. Most of the small poultry keepers are peasants. However, RIU has made it possible for them to join the program and provide them interest free loans in the form of chicks, vaccines and food for one month thus enabling those who are most in need to take part in this program.

Although we provide good quality service there is a challenge with the quality and availability of vaccines. This has really jeopardised the poultry keepers' profits. Sometimes the vaccines come late or not at all. Others arrive when they are expired because they have not been preserved in the right conditions. So although we vaccinate, we are not always guaranteed of the results. If this challenge is responded to, then I am sure that the farmers will be able to afford paying us in the future once the RIU project is phased out, or through KukuDeal (the commercial portfolio of RIU project).

In all, the RIU project has dispelled the belief that certificate holders are not qualified to provide advisory services to poultry keepers. We are now valued and sought after and, in turn, we are able to help transform the lives of poultry keepers that we serve. Certificate holders are a resourceful pool of experts, we are committed, we are affordable and we ready to serve.

Section 5: Public private partnerships 1

Public private partnership stimulates commercial farming of local chicken in Tanzania – A case of Chamwino District Dodoma

Agustino C Kibaya, Principle Livestock field officer grade one, and project co-ordinator Chamwino District Council

‘When there is good cooperation between the private and public sector, quick gains and a sustainable impact can be realised. This has been evident in Chamwino District Dodoma region. Public private partnership is delivering positive results in commercialization of indigenous chicken’

Public private partnership (PPP) is an idle resource that can facilitate the delivery of tangible impact in terms of poverty alleviation. That is if efforts are directed to create deliberate partnerships between the Government and the private sector. Chamwino District Council has taken an active role in cooperating with the private sector through the Research Into Use project and is creating tangible business opportunities for small scale poultry keepers.

RIU connects important players in the indigenous poultry subsector from hatchery owners, veterinary product suppliers, poultry feeds producers, small scale indigenous poultry keepers and the district council. The actors were brought together to unveil solutions to bottlenecks that hinder commercialisation in the indigenous poultry subsector. Chamwino District Council shared interest with the private sector in transforming the lives of small scale indigenous poultry keepers and this has driven the success of the project.

Our involvement ensures that the private suppliers provide indigenous poultry keepers with quality services and products by promoting compliance to government regulations and quality standards in the sector. On the other hand it builds more confidence in the market in terms of the quality of chicken sold by the small scale indigenous poultry keepers. We also distribute inputs such as chicks, medication and feeds from private suppliers to the indigenous poultry keepers. The council deploys extension workers to provide advice to poultry keepers on chicken rearing, vaccination, early detection of diseases and treatment. This arrangement developed organically without any contractual regulation.

The RIU program started less than a year ago and already the results of this joint effort is becoming evident. More indigenous poultry keepers want to join this project. In a period of 5 months the number of indigenous poultry producers has more than doubled from 130 to 390. The District has also seen an increase in demand for supporting services such as drugs and feeds on a commercial basis. This has prompted the district council to include the subsector in its priorities. Plans are underway to include the sector in the council budget, which will enable the Council to ensure sufficient support to the sector to compliment the private sector efforts.

The interaction has also brought new insight in other poultry projects which have operated in the district but with little success. The RIU model of engaging multiple stakeholders and ensuring ownership of indigenous poultry farmers has challenged government thinking. RIU program has also been promoting use of inputs available locally to improve poultry keeping. Technology uptake is very affordable and practical to the poultry keepers. There is a discussion to implement the existing

council project funding to methodologies used by RIU. The partnership with private sector is important because it challenges government practices and institutional culture. Even though it is early in the program, the RIU experience has created exciting prospects for the people of Chamwino District. The government sees the value of this project and endeavour to continue supporting RIU. This is because in the few months that it has operated we can see the benefits it has created and the way it has transformed the peasant indigenous poultry keeper into profit making entrepreneurs.

The key to the public private partnership success in Chamwino is that, this has been a juncture where creativity, shared interest, commitment and good communication meet. RIUs' efforts of linking stakeholders and opening communication between different stakeholders triggered this cooperation. The responsiveness of indigenous poultry keepers to the RIU program stimulated government's interest to channel our resources to support this endeavour. The focus of the partnership is to genuinely address challenges with practical solutions. RIU role as an innovation broker smoothes relations between actors and facilitates the growing demand for the project to continue.

There are numerous challenges that have yet to be addressed. Chamwino Council has very few workers who currently cannot meet the growing demand from the farmers for extension services. The Government has had to deploy some of the retired extension workers to meet the demand. The private sector can help to fill this gap. Chamwino District lacks a poultry inputs supplier on site and therefore most supplies are purchased outside the district. Furthermore, the council lacks sufficient funds and vehicles to cover the whole district and the council has to rely on funding from other council programs to cover the costs of supporting indigenous poultry keepers.

It is becoming evident to the government that public private partnership can actually work and make a positive difference in the communities that we serve. Sustaining relations with actors such as RIU and exploring new avenues for cooperation can stimulate further economic growth. The obstacles that threaten to reverse the gains realised from the RIU program must be tackled so that the progress we have made is sustained and extended to reach more indigenous farmers.

Section 6: Input suppliers 1

Incubating innovation: Indigenous hatchery owners emerge as key players in the poultry sector

Festo Balegle, hatchery owner

In 1997 my chicken flock increased to about 50 hens and I became frustrated by the way the hens were mismanaging their eggs. The hens were fighting for the nests and in the process breaking almost all the eggs. I bought what I then thought was a big incubator, with the capacity to incubate 576 eggs and a hatching capacity of 192 eggs. Whenever I wanted to rear chicks, I would incubate the eggs, usually about two to three times a year. In between, I was selling the fertilized eggs as table eggs to nearby shopkeepers. My hatchery was a domestic appliance that I used very much like the way fridges are used in homes. I never thought that my incubator could one day be used to produce local chicks for selling to other poultry keepers.

Before 2009, poultry keepers in and around Dar es Salaam were only involved with foreign breeds, namely broiler chicken and layer chicken, but change came when I read an advertisement in a local Kiswahili daily called *Nipashe*. A company I had never heard of, Muvek Development Solutions Tanzania Ltd under a program called Research Into Use, was calling a meeting of producers of day old local chicks. I attended this meeting and it transformed the way I used the incubator. I changed from a domestic hatcher to a large, commercial supplier of day old chicks.

Once I joined the RIU programme, I met local organizers of peasant farmers in Rufiji, Kisarawe, Kibaha and Bagamoyo Districts, who were called “champions”. The champions mobilized several farmers to rear indigenous chickens commercially, however, the farmers, who were willing to participate, faced the challenge of chick supply. I learnt from the RIU Programme Coordinator about an efficient supply and payment system that was already put in place by RIU Tanzania and I immediately saw a business opportunity in the program.

The high demand of day old local chicks through the RIU program encouraged me to expand my hatchery both the stock and the use of the incubator. I increased my incubation capacity to 54,000 eggs by buying four incubators with a capacity of 13,500 each. Although I have not fully utilized this capacity to date, I have put into action a plan to increase parent breeder flock size so that in the near future, the incubation capacity is fully utilised.

The plan of fully utilising the incubation capacity presently available, involves using other small to medium scale poultry keepers who I have entered agreements with out-growers to produce fertilized eggs for my hatchery. I am currently working with five out growers. Four are located in and around Dar es Salaam and the fifth is in Mbeya Region, approximately 1,000 km from Dar es Salaam.

Currently I produce more than 2,000 chicks per week. 30% of the eggs come from my own breeders while the other 70% comes from my out-growers. Although I do not have formal contracts with the out-growers, they have agreed to sell all their fertilized eggs to me. I pay them Tanzanian Shillings 300 per egg (US \$0.19).

Commercialization of the indigenous poultry sector business through several small players comes with a lot of challenges. Chicks have to be stronger, and of higher quality to withstand the long

distances they have to travel before reaching their final destinations. The quality of chicks is a direct reflection of the management of both our poultry farms and our hatcheries. In order to meet the higher standards the business as usual attitude that I had practised for the past 10 years had to change. Better and scientific methods insuring bio security had to be learned and instituted. For this to take place, experts in the field of poultry keeping and incubation, who are very few indeed, had to be sourced and contracted to train us about vaccinations and acceptable hygiene levels. The poultry farm and hatchery management system had to undergo improvements. Together with 12 other hatchery owners, I received training, as part of the RIU programme. The 13 hatcheries are now producing 7,500 chicks per week. We sell chicks to RIU Tanzania which in turn supplies them to the small holder farmers in the regions as RIU has good linkages with them through the network of district champions.

KukuDeal is now taking over this role from RIU and we hope they will continue buying our chicks after the RIU programme ends.

The demand and supply of day old local chicks created by RIU made the Government, for the very first time, take notice of the existence and importance of poultry farms and hatcheries producing indigenous chicks. These enterprises are owned and managed by indigenous farmers. Officials from the Ministry of Livestock Development, in a meeting organised by RIU, informed the poultry farmers and hatchery fraternity in the RIU programme that all farms and hatcheries have to be registered by the Government.

Initially we were all overjoyed! Recognition from the Government means a great deal. However, our enthusiasm was short lived as the Government introduced stringent regulations that we are unable to meet. We therefore were not registered. The biggest obstacle in the regulations is the site and design of hatchery or breeder farm whereby it is specified that it has to be “located one kilometre radius for hatchery and five kilometres for a breeder flock away from other buildings housing livestock and poultry in particular”. The land appropriate for this type of venture has got to have adequate clean and safe water. In addition, the availability of power is essential. Such land is of such prime value for a small to medium indigenous entrepreneur to acquire that the intervention of the Tanzania Government is required.

The advantage of working together under the umbrella of RIU programme gave us the power of numbers. We have adopted a strategy of engaging the Government instead of confronting it, through the Ministry of Livestock Development, to help us acquire land for our poultry farms and hatcheries. Good relations that exist between the Government, indigenous poultry farmers and hatchery owners has come around as a result of RIU working as an innovation broker. Despite very stringent conditions set out by the Government in the registration process of poultry farms and hatcheries, indigenous farmers and the Government continue the dialogue to constructive alternatives.

Even the existing commercial foreign breed farms and hatcheries could not meet the new requirements. RIU Tanzania has enhanced our confidence. We, the indigenous chicken farmers, are now taking the lead in organising all chicken breeders and hatcheries, including the foreign breed farms. The aim is to create a strong organization representing the chicken sector and engage in dialogue with the Government.

This new found confidence has gone a long way in making us indigenous farmers and hatchery owners create new ways of improving our businesses so that they are more profitable. We have sat down as a team and looked into ways of improving the quality of our breeder flocks while making the whole business more profitable. With the increased scale of production, the need for improved feeds emerged for local breeders, which was not available at the time. Together with RIU and KukuDeal, we are looking into ways of getting appropriate and affordable feeds. This will go a long way in increasing the eggs laid per hen and improve hatching rates.

Before, such plans and program were unthinkable for the small and medium indigenous poultry farmer or hatchery owner. A member of our hatchery fraternity is now producing improved chicken feed for himself and 12 other hatchers and the out-growers who are producing eggs for me.

Personally, it was and still is more than just a business opportunity. I consider myself a social entrepreneur and have inner satisfaction that I can make money while doing business with indigenous farmers. This is a very rare opportunity in this part of the world, where we are often bombarded with ideas that our poverty and conditions are beyond our control and that we do not have the ability to overcome it. Usually it is the peasant selling her /his produce to urban business broker at a poor price and the urban broker selling the produce with a big profit in town. With the RIU approach, everyone wins.

‘With the RIU approach, everyone wins’

The chicken sub-sector dominated by big foreign-owned hatcheries, catering only for foreign breeds of chicken, was suddenly opening doors to indigenous medium and small farmers catering for local breeds that can be raised in every corner of our country, by people of all walks of life, women, men, retirees, the physically handicapped, youths etc.

For the first time, opportunities were being created for the small and medium indigenous farmer to start a breeder flock without importing parent stocks from outside the country. And better still the demand of day old chicks has been increasing exponentially. The indigenous hatchery owner is now a key player in the poultry sector in the country.

Section 6: Input suppliers 2

The hidden business opportunity for veterinary drug dealers in Tanzania

Dr Charles E Mgya, *Manager of Animal Health Division, Bytrade Tanzania Ltd*

My name is Dr Charles E Mgya. I am a professional veterinarian who has been working with Bytrade Tanzania Ltd., for the past 10 years. Before joining Bytrade I worked with the Ministry of Livestock Development for 27 years. The experience I gained by working with Bytrade is mainly importation and distribution procedures of drugs to stockists and training of farmers on good husbandry practices, drug administration, bio security and other disease control measures. I am currently the only veterinarian representing Bytrade Company in dealing with poultry medicine in the country.

Since 2009, I have been representing the Bytrade Company in the Research into Use (RIU) programme. Through this relationship, for the first time, our company started supplying drugs for local chicken farmers in the coastal region. It all began when we had an informal meeting and dialogue between RIU and Bytrade Directors during the Participatory Agricultural Support Sector board meeting (PASS). This was followed by negotiation of terms for collaboration and by late 2009, it all began, I received the first order of antibiotics and multi-vitamins from RIU.

From day one, I was personally confident that RIU was using the right approach of commercializing local chickens. My directors, on the other hand, could not understand the concept quickly, but eventually concurred with me after they saw drug orders from RIU itself and RIU farmers increasing steadily day after day.

The drug business in Tanzania includes drug importers and distributors who supply local stockists, who serve farmers directly. A major part of the veterinary drug business, around 85%, comes from larger animals, such as cattle, sheep and goats. Hybrid commercial poultry (broilers and layers) represent about 10% of business and the remaining 5% is for domestic pets.

Until recently we had never considered supplying drugs for local chickens as a viable business opportunity for our company. Mostly because there was no clear value chain established that presented interesting economic potential. This began to change in 2009 when RIU Tanzania started commercializing the local chicken industry. Through their interventions they increased the numbers of chicks provided per household. This commercialization involved rural farmers who were given a loan of 100 day old local chicks. The farmers were supposed to rear them for four months before selling them with an “all-in, all-out” principle (meaning that all the 100 chicks were raised and sold at one time to make room for the next batch of chicks). This approach raised the demands of disease control and treatment, feed supply and chick supply.

In the beginning in Bytrade we thought we had the ability to supply and distribute sufficient quantities to the new emerging markets of local poultry keepers. As the days went by we realized that our distribution network was not well connected to the villages to satisfy their demand for drugs. Our network only reached as far as Regional and District towns. This is a traditional attitude of drug importers, to work with stockists and not directly with farmers.

In order to address this challenge we had to try and change our operational arrangements and drug ordering style to meet the new market demands which increased by 25%. One of the initial changes was my appointment to work directly on poultry issues. We then selected stockists at the district level. We however could only select a few because we could not get reliable stockists in the district towns who could act as our sales outlet and distributor to the poultry farmers.

In order to solve this bottleneck, we tried to go around with a van, organising seminars on drug use and at the same time selling drugs to farmers. We made seminar arrangements with district champions in the Coast Region and managed to conduct five seminars in Rufiji, six in Kibaha and two in Mkuranga Districts. The seminars were conducted at ward level with farmers residing in those wards.

While the seminars are considered good and interesting they do not solve the farmer's immediate problems, which is local availability and constant supply of drugs. At the moment, farmers have to either wait for the next visit by our van, which is not predictable, or travel long distances to stockists so they can buy drugs and vaccines. This is a challenge we are still struggling to address to date.

Another challenge was imposed by our product manufacturers. Manufacturer programmes and production schemes are planned to serve large farmers in developed countries and not subsistence farmers of Africa. They could not agree to change the products packaging size because production costs on smaller packs is higher and poses a higher risk of adulteration. Large packs of 100g, 500g and 1kg were available in the market but smaller packs of 50g and 30g for powders and 50mls and 30mls for liquids were not available to accommodate small farmer's requirements.

These sizes do not fit with small farmers who have only 100 chicks and grow gradually, to 200, 300 and even 500 chicks. Logically, these farm sizes call for use of smaller product packaging sizes. You don't sell a farmer a 1kg pack of antibiotics because there is a chance the medicine will expire before they can use it. Thus poor farmers and the RIU programme are forced to spend large unnecessary amounts of money for purchase of drugs.

One solution to this challenge could be for Bytrade and other importers to establish temporary re-packaging factories. This calls for rescheduling of importers plans, capital investment, technology upgrade, more personnel and more recurrent expenditure. But importers are not ready for this because they believe that the problem is temporary as small farmers are expected to grow into larger scale in a few years.

Another core problem is with the distribution of drugs and vaccines to farmers in the villages. We can try and solve the problem with RIU/KukuDeal if they are willing to help facilitate the formation of local chicken societies at the Ward level, these societies can later on act as agents of suppliers. In the meanwhile, an interim solution will be for Bytrade & RIU/Kukudeal to select one trustworthy stockist at district level to be the distributor in the whole district. This stockist should also be voted in by the farmers to avoid conflicts. We have experienced conflicts between farmers and stockists before. In order for these stockists to get supplies from Bytrade on consignment basis, RIU/KukuDeal should guarantee the stockist on payment to Bytrade. The letter of guarantee is sufficient to get the ball rolling. This system will work better with RIU/KukuDeal local chicken societies if we invested in them.

Societies themselves are interested parties in the innovation and, in case they fail to pay, the said amount can be deducted directly by RIU/ KukuDeal from their sales. Therefore, the option of a local

chicken society being drug/vaccine agents is the best option. On the question of constant drugs/vaccines supply, we will continue to liaise with RIU/ KukuDeal to get the required quarter requirement and forward them to manufacturers for the planning of their production. This will prevent us from being out of stock when they need to be supplied, which occurs from time to time.

Another obstacle encountered is the literacy level of the farmers. Most farmers in villages did not go to school and therefore cannot read and write. This means the proper use of drugs and vaccines is not always certain. In order to solve this RIU has placed veterinary certificate holders in every village, who are taken care of by the farmers themselves in order to help them. Bytrade from time to time visits and train both extension workers and farmers on drug use and management.

Currently, there is only one person (myself) from Bytrade working with poultry and the volume of work for field seminars is more than we can handle. This calls for better organization by Bytrade if we want to keep up with the expansion of the poultry sector.

RIU has helped us and other stakeholders to realize new business opportunities. Bytrade came to know so many other stakeholders which we did not have contact with before. Some of the new ones we are now in contact with are feed manufacturers, hatcheries, local poultry farmers (core customers), extension workers, different facilitators and donors. Most important, RIU created new business opportunities for us and other stakeholders. Besides drug supply we were able to start a few new businesses, doing business in enzymes, acidifiers and premixes with feed manufacturers and disinfectant supplies to hatcheries and farmers. Our sales on poultry products have doubled and in other areas, such as vitamin sales, it has tripled.

To conclude, RIU has been our eye-opener to indigenous chicken industry and we are thankful to the RIU team for the opportunity. In my experience working closely with RIU, implementing interventions at farmer level, I would like to suggest that the RIU programme working with local chickens continue for another two years to strengthen what they have started and to scale-up to other regions of Tanzania. It will give the chance to villagers to get out of poverty as has happened with farmers in Coast Region. Other stakeholders need RIU to continue with the linkages and advise provided through the program so that they can stand on their own when the program ends.

In general, RIU made the hidden business opportunity to become true to us and other stakeholders. This business has increased our income through sales and now our products are known everywhere the RIU project is. If I am asked about the future and sustainable poultry value chains, I would say we should first solve the distribution issues. We should think of quickly organising farmer's societies at ward level which can later put up an input shop run by farmers themselves under the supervision of a caretaker and the village extension worker if available.

Bytrade understands that education to farmers on disease control, treatments and husbandry are important ingredients towards success of KukuDeal. Bytrade is willing to invest on training and seminars if we are assured by signing contracts that we are the sole distributors of vet inputs to the project areas. Otherwise we can invest on training and other players get the chance of selling his products instead of us. The question issue is how to guarantee on returns after investment. KukuDeal has contract farmers and through this contract farming is where Bytrade can come in and guaranteed by KukuDeal.

Section 7: Mechanisation

Bridging supply and demand: A brighter future for Morogoro farmers through agricultural mechanisation

Felix Temu, *District Subject Matter Specialist for Agricultural Mechanisation, Mvomero District Council*

Thabit Waziri, *District Subject Matter Specialist for Agricultural Mechanisation, Kilosa District Council*

Morogoro Region has high potential for agriculture production in Tanzania with vast arable lands for cultivation. Unfortunately, the land is underutilized because the farming practices for most of small scale farmers in Morogoro region is characterized by the use of hand tools such as hoes, machetes, and slashes. The use of hand tools has led to poor agricultural productivity among the farmers year after year. However, through the RIU approach of forming mechanization platforms in the Morogoro region, farmers and other stakeholders were brought together to address the challenges and identifying solutions to the underutilization of land and low agricultural production. Through stakeholder engagement in this platform, there has been improved mechanization and smallholder farmers have seen an increase in their production.

Prior to introducing RIU program many bottlenecks existed that hindered mechanization of Agriculture in Morogoro. With assistance from RIU, a series of meetings were organised for agricultural stakeholders in four districts of Morogoro region, which included Mvomero, Kilosa, Kilombero and Ulanga districts. One of the important causes of the underutilization of land identified in this meeting was the low availability of labour. Most farmers were dependent on labour intensive methods for agriculture production. The stakeholders found this to have many limitations that were difficult to overcome since the supply of labour force was very limited in their districts.

The stakeholders were also concerned over the high costs of mechanization especially among small holder farmers. For example, it is relatively expensive for a tractor owner to prepare a smallholder farmer's plots of a few acres because the costs of moving between two small farms located in different areas are too high. In addition, costs of tractor maintenance are high because it is expensive to bring in mechanics from the urban centres located many kilometres from the farmers. Most of the tractors are very old and in poor condition and need close attention in terms of services. Besides old tractors, the low quality of newer tractors manufactured under license results into poor field performance and high maintenance costs.

Furthermore, there was a lack of field support services from tractor suppliers and mechanics. Spare parts were also not available locally and were very costly. As a consequence, tractor owners could not guarantee good services and most tractor owners had difficulties meeting farmers demand. In case the tractor breaks down they are not able to timely prepare the land or finish what they started. For farmers, this is a major constraint, as the timing of land preparation is very important.

Another bottleneck was that revenues for tractor owners were limited while costs remained high, especially with increasing fuel prices. For smallholder farmers, the costs would be too high to operate a tractor. Access to credit from Banks and other financial institutions is limited as small holder farmers don't have the assets to put up as collateral for the loan. In addition, interests on

loans at commercial banks are not suitable for the agricultural sector. This is why majority of farmers prefer to use traditional ways of preparing their land.

Furthermore, there was no enterprise in terms of tractor renting with most tractor owners using their tractor for own use first before serving others and were not operating the tractor as a business. The major reason for this was that most tractor owners had limited entrepreneurship skills and knowledge. The poor linkages between machinery owners and farmers were identified as another related problem.

In addition, farmers had limited technical know-how on the use of farm machinery and inputs such as fertilizers, improved seeds, herbicides, etc. The lack of extension services in some areas was identified as a major constraint to increase skills and knowledge.

To address these challenges, RIU brought together the different stakeholders in the sector. The process was done in two steps. First was forming groups of machinery owners and farmers' groups. The second step was bringing these groups together so they can come up with a workable arrangement that will enable them to work together. Several meetings were held in different Wards in the Districts between the tractor owners and the farmers' groups to identify the major problems that contributed to poor use of mechanization in agriculture in the Region. During the meetings, stakeholders also aimed to find solutions to the problems faced by machinery owners and farmers. The stakeholders also agreed that the mechanization of agricultural practices, i.e. land preparations, could help farmers to increase their productive area as well as the production itself. Mechanization also allows the use of improved varieties and more efficient use of farm inputs, such as fertilizer. In order to get most out of their investment in mechanization, farmers would also want to increase their use of improved seeds and agricultural inputs.

On the part of machinery owners, they held open discussions and exchanged ideas with other stakeholders. They also worked with them to identify problems that needed to be addressed. After several discussions tractor owners came up with several ideas for easing the provision of services and communication with farmers and other stakeholders. They decided to form farm machinery owners groups so as to be identified by farmers, spare part suppliers, machinery dealers and regional and district authorities. They also decided to start operating on a commercial basis. The groups could also function as a supporting organ to solve their legal and others problems. During this meeting tractor owners were trained on how to make tractor cost analysis so as to operate on better commercial way. Most of the tractor owners were operating their business without proper financial records which led most of them to fail in their business. To address the bottlenecks in offering proper hiring service at reasonable cost to small holders, tractor owners requested farmers to form groups so they can bundle their farms to allow easy tractor operations and to reduce costs. This would also allow for easy tractor services and maintenance by mechanics or tractor suppliers.

On the farmers' side, meetings were also conducted as an open discussion and exchange of ideas where by farmers selected from various wards within the districts attended. On this meeting several stakeholders such as input suppliers, machinery suppliers, district extension staff, and so forth, were invited. After farmers got more information on the potential of mechanized farming and the use of proper inputs they identified several issues which were tabled for discussion. From the discussion farmers came up with several ideas to ease the acquisition of services and communication with tractor owners. They decided to form farmers' groups to facilitate the provision of extension services

and for improving access to mechanization services. In order to access input supplies they need access to credit with favourable terms, which is facilitated by regional and district authorities.

The formation of tractor owner and farmers' groups was successful and the modalities on how to implement their activities were set. Through RIU facilitation, meetings were made to link farmers group and tractor owners group so as to exchange ideas and come out with solutions for implementation. Now the two groups have managed to work together. By using the tractor cost analysis, a tool learnt from RIU, farmers groups and tractor owners groups are able to negotiate on prices for tractor hiring services that have now gone down significantly.

In cases where farmers bundled their area of cultivation but still couldn't raise sufficient cash to pay for tractor services innovative solutions were devised. In these cases, two different arrangements were developed. The first arrangements are made between the farmers and tractor owners to pay the services in terms of material, e.g. two bags of paddy or maize per acre after harvesting. In other cases, farmers within the group offer soft loans to their fellow members which would be repaid mostly after harvest. This has been an important additional incentive for formation of groups.

Outcomes of the cooperation

Through the formation of groups, the demand for mechanization services has increased and therefore the area under cultivation and the productivity has also increased. With the RIU approach of creating awareness through different stakeholders, such as input and agricultural machinery suppliers and extension workers, farmers slowly start changing their farming practices. There is increase in use of farm inputs and improved seeds. For example, SARO high-yielding rice variety and TMV1 maize variety. Currently the demand of mechanization in Morogoro Region is increasing faster than the available supply and the productivity has increased, such as in Kilosa District where paddy has increased from 1.9 tonnes per year 2008 to 2.2 tonnes year 2010.

In the year 2009 to 2010, 22 tractors were acquired through different credit institutions, such as Tanzania Investment Bank (TIB) and The Agriculture Input Trust Fund (AGITF) in Mvomero District. AGITF is a Government based financial institution that offers credit for acquiring farm machinery and inputs to farmers. The condition of accessing this loan is to have a collateral of land or house with lease. For farmers' group to be able to access AGITF, they need to be registered and have a registration certificate. In addition, all application forms have to be approved by District Council of the applicants. The AGITF interest rate is 8% to be paid in 7 years time (against 15 to 20% for commercial loans). Some of the farmers' groups are in the process of registration so as to access loans and operate on commercial bases.

Since RIU phased out from mechanisation in 2009, the coordination of the activities of the mechanization platform in Morogoro region have been successfully taken over by the District authorities, but the district authorities were not immediately accepting the responsibility of continuing the activities. Their reluctance was based on their experience with many other projects and programmes that have been implemented in the district in the past without leading to significant changes. By exposing the district authorities to practical experiences of groups of farmers and tractor owners and reports, their resistance was reversed and they gradually took ownership of the programme.

Since, regional and district authorities have been using the groups for efficient implementation of '**kilimo kwanza**' (Government programme prioritising agricultural sector development). Also, the

focus of the government is to encourage formation of Farm Service Centres by the use of private sector. Registered groups will be considered for credit to start a Farm Service Centre. For example, the Kilosa tractor owners and mechanics group (UMAGE), which was created under the RIU programme, has now fully registered and is now operating mechanisation services. Currently it is in the process of accessing loans to start a Farming Service Centres.

District authorities in collaboration with the groups and extension staff have invited several machinery dealers (e.g. Farm Equipment, Savoy Farm, Noble Motors, Tractor Limited) to come and conduct training and demonstration to create awareness to farmers related to the opportunities of mechanization. Recently, a very big machinery demonstration of a rice trans-planter, power tiller and land scraper was conducted at Dakawa Rice Farm by a Farm Equipment Company and was attended by farmers, regional and district authorities.

Section 8: Lessons 1

Poultry contract farming: From project to business

Dennis Mbangula, RIU Tanzania, Programme Officer – Innovation

Poultry contracting farming was designed by RIU in Tanzania as an innovative approach to enable farmers to continue with their poultry projects after RIU program phases out. Stakeholders required an outlet to sustain the investments they have made through the RIU project. RIU has successfully mobilized, sensitized and created new markets for indigenous chicken keepers, hatchery owners, drugs suppliers and feed producers. As farmer's energy and enthusiasm gained momentum, they were convinced that rearing indigenous chickens is a viable business that can improve their livelihood.

With the phasing out of the RIU project farmers, who had now scaled their chicken keeping to reach 100 chicks, would not be able to continue to buy chicks and other necessary inputs as they had no money as capital to take them into the next cycle. Moreover, farmers would not be able to access loans from financial institutions as they could not meet the tough credit conditions defined by financial institutions. As these challenges emerged it became increasingly evident that a long term solutions, that would outlast the RIU project, must be created. KukuDeal was therefore created as a business entity within Muvek as a solution to these challenges.

KukuDeal deal operates contract farming. This is a special way of contract farming because the main aim is to nurture farmers who would like to become entrepreneurs in poultry business to overcome start up hurdles. The contract involves giving farmers capital investment (an interest free loan) in the form of 100 chicks for starters and feeds drugs and vaccines required for the first month. The contract also provides technical expertise through hired extension services who support the farmers in their own homes, thus assuring practical one-to-one learning. The investment capital for the 100 chicks is Tsh 160,000 (around US \$100) The contract assures farmers of a reliable market once the chickens have reached 4 months and have acquired the weight required by the market (1.3-1.5kg). KukuDeal buys them at an agreed amount stated in the contract and then it sells them to consumers.

The KukuDeal contract farming arrangement started with farmers who had already kept the first cycle of 100 chicks. The contract was drawn by KukuDeal considering lessons obtained from the first cycle. Those lessons influenced a great how the contract should be, which included low income (lack of capital investment) for farmers to invest in poultry enterprises despite their eagerness. The high demand of farmers to grow in their poultry businesses (to 200-500 chicks) influenced the

arrangement as it provide an opportunity for farmers to increase the number of chicks they want to raise. The chicken market also influenced the arrangement. As farmers acquired skills and managed to raise larger flocks of chickens they also started demanding more chicks. Terms and conditions of the contract were negotiated by RIU and farmers prior to instituting them.

Most farmers wanted to start with 300 chicks but we had to agree to start with 200 so that they gain experience gradually at the same time we reduce risks.

The distinction of this project is that we urge farmers to operate their poultry projects commercially ensuring that the chicks mature so they can fetch a good price in the market and thus make profit.

KukuDeal provides technical skills from the very first day the farmer receives their chicks.

Entrepreneurship training is provided when farmers have already started keeping chickens. The aim is to reduce and mitigate the risk of managing chicks and to enable them to run the business profitably. For an interested farmer to qualify to join the contract, one has to build a shed where the chicks could be kept, have drinkers and feeders in place and contribute Tsh. 40,000 (US \$25) as commitment to the program. This amount is deducted from the loan after the chickens are sold.

Household caretakers play an important role in providing extension services to farmers. Caretakers assist the famers to raise their chickens to meet market expected standards while reducing the number of deaths by vaccinating them on time, detecting early symptoms of disease; they are also responsible for imparting chicken management skills such as the appropriate temperature for keeping chicks. There are also Champions who mobilize and sensitize farmers and also coordinate the program at the district/ward levels.

The contract requires farmers to raise their chickens (feeding and treatment) by themselves for the next three months as a way of learning different feeding methods using locally available raw materials and thus reduce feeding cost that would have incurred by buying industrial feeds. The KukuDeal arrangement also aims to increase profit margin to farmers by enabling to sell wholesale and get lump sum payments. The Lump sum amount enables farmers to budget and implement their plans including saving capital for the next cycle of chicken keeping, afford big investment in improving their housing and pay school fees for their children. Ms. Maimuna Mkongea, a 52 year old farmer from Rufiji District, Coast Region, said after receiving her lump sum payment totaling Tsh 680,000,(US \$431):

“This is unbelievable! With the money I managed to renovate my house, have bricks to build new toilet and kept some to take care of the next cycle of poultry keeping.”

The arrangement convinced farmers to open bank accounts where their payments are channelled. This helped a great deal in safe guarding their money and also gave them an opportunity to fully participate in deciding how the money is spent in the family.

The arrangement enabled farmers to meet market demands by raising chickens that have the weight and age that satisfies market needs. KukuDeal provides linkages between big chicken consumers in cities and local farmers in the villages. This linkage was not there before the program started; it is a good example of local farmers taking part in a business cycle. It has transformed farmers from being participant to being partners in the system and along the value chain. Farmers now know that they are important stakeholders in the value chain and this has given them confidence as entrepreneurs.

Mr Godfrey Mwaipopo, a 51 years old farmer from Kibaha District, said:

“I feel good that my chickens have entered big markets through KukuDeal, I know if I was out of the contract I would have not reached that market. I will continue to enter into contract farming with KukuDeal as I am assured of a reliable market and growth”.

Mr Festo Balegele, a chick producer in Dar es Salaam said:

“I know that without small farmers like Ms. Maimuna my business will collapse, I try hard to improve the quality of chicks I produce so that small farmers can benefit from their chicken business and continue working with me. They are the people my business depends on for survival”.

On the other hand, big input suppliers, like Bytrade Tanzania Ltd, have now started working with small farmers by providing inputs, technical guidance on the use of drugs and disease diagnosis. Bytrade now visits small farmers in the villages and capitalise on the growing understanding that small indigenous farmers are a potential business partner.

Dr Charles Mgaya a Vet Doctor with Bytrade said:

“There are two issues that I am seeing here: one is that, contract farming assures Bytrade of sustainability of our business i.e. supplying volumes inputs to farmers through KukuDeal. The second is that as a Vet Expert it has given me a new experience of working with small farmers in the villages, training and giving them advice on drugs use and poultry management. I have never dealt with small scale farmers before, so this has been a new experience”.

Contract farming started in 2010 with farmers who had already kept chickens from the program. During its implementation a number of challenges emerged; the main one however, is the ability of some farmers to feed their chickens after the first month once the feed subsidy is over. This is a big

challenge as underfed chickens have lower immunity and develop diseases related to malnutrition. Another challenge is the poor quality feeds but high prices from feed suppliers. When the suppliers saw that the demand for feeds was growing they exploited the market and increased the feeds with non-nutritional products to meet the volumes and jeopardising the quality of feeds while hiking the prices. This frustrated both farmers and KukuDeal. Prices kept increasing overnight while feed quality was decreasing as the demand grew. KukuDeal worked with experts and other feeds producers to come up with new feed formulas that is cheap, of good quality and uses locally available raw materials that can be supplied to farmers as part of the contract package. This will enable farmers to reduce chicken deaths and raise high quality chickens that will be accepted by the market.

The lack of well researched strains of chicken that are viable for local conditions is another challenge we face as a subsector. This has sometimes discouraged farmers as some of the chickens they raise are naturally a small breed and cannot satisfy the required market weight even if they are raised for a long period. The program has asked the National Livestock Research Institute in Mpwapwa with support from the Commission for Science and Technology (COSTECH) to carry out research and come up with indigenous breeds that that will grow to attain the required weight in a short period.

The reluctance of big input suppliers like Bytrade to open outlets or enter into contracts with village stockists to sell their products is another big challenge. Farmers in the villages are entering into contracts in large numbers hence demand these services at their localities. The suppliers are not interested to give goods on loan because they are afraid that stockist will not pay them back, this is due to bad experience they had previously on similar ventures. On the other hand local stockists cannot access loans from financial institutions due to tough collateral conditions which they cannot meet.

The volume of chickens needed by farmers is the main factor which triggered innovation to work in the entire value chain. The large numbers attracted other stakeholders to be part of the system and in so doing it revealed weaknesses and challenges. Most stakeholders believed that the market for their products was the main problem, but when they were asked to supply to meet increased demand they did have the capacity to do so. Hatcheries, feeds suppliers, drugs and vaccines suppliers alike were challenged.

VETA- feeds supplier in Singida region said:

“We used to produce 1 to 2 tons per week for farmers in Singida, your first order of 18 tonnes gave us a shock, previously we thought we were able to meet any demand because of the

machinery we have, only to realise that we cannot organize sufficient raw materials at once.”

For innovation to work out there must be someone or an agent who is willing to coordinate other stakeholders involved in the process. They must work tirelessly to provide linkages and lobbying with policy makers to ensure that the chain is intact and it keeps moving value along the path. Such an actor has to be an innovation broker, a mercurial, dynamic and solution driven organ in the value chain.

Small farmers have demonstrated through this project that they are capable of doing big business, grow and participate in contributing to the National GDP. If systems that connect their businesses are well organized and risks that surround investment are reduced and shared.

Through contract farming we now see that the chain is moving, hatcheries are assured of markets for their volumes of chicks and they appreciate the role of small farmers in defining their business success. Input suppliers are now visiting farmers in the villages and they provide technical advice so that they perform well and remain in their chicken businesses. Feed producers are coming up with new feed formulas that will not only be manageable for farmers but will also make their businesses profitable. Lastly, farmers who are the key stakeholders are now asking for larger numbers of chicks. They are confident in their ability to raise chickens and have been empowered to want to grow.

Although RIU has worked hard to nurture farmers to turn into entrepreneurs, there is still a lot to be done to take them to a level where they can sustain and operate their businesses independently. It is crucial that risks that surround their businesses are managed. Risks such as the supply of quality feeds, drugs and vaccines as well as an assured market. This means organs that control quality of these items must be able to make sure that poor quality inputs are restricted from entering the value chain.

For the time being there should be an agent or a broker who will continue to nurture these farmers as they have not yet acquired enough skills and financial capital to run their business by themselves. An agent will be coordinating trainings whenever necessary, provide linkages with different stakeholders and with input suppliers who most are currently available in cities. Farmers still need more cycles before they can become independent entrepreneurs. This agent will have to operate as a semi public organization and should be flexible enough to absorb some of the risks at this stage.

Currently KukuDeal is operating under the umbrella of RIU with prospects of becoming an independent company (after RIU is closed) continuing to provide services that are provided by RIU but in a fully business manner so that it can fully sustain and grow to reach other areas as well.

For KukuDeal to run as a commercial entity it will need to come up with a viable and bankable business plan that can be presented to the government, donors, development banks, development partners, investors, etc. to seek for funding. KukuDeal can jointly set up a business deal with hatcheries and Bytrade as these are key stakeholders in the sub sector. However, experience has proved that these business companies are not ready to take risks associated with dealing with small entrepreneurs especially in rural areas. There are many risks in poultry farming, this is due to the nature of the business itself and where it is conducted. Unless they agree to work together on minimizing the risks, business people are very afraid to invest however the business potential is big due to volumes of farmers willing to establish poultry enterprises in the villages.

The challenge is to change the mindset of big business entities such as Bytrade from being responsive to already created markets to participating in stimulating markets for their products, facing challenges and finding solutions.

Section 8: Lessons 2

Lesson learned in institutional change

“The success of the Research into Use programme hinges on its ability to stimulate institutional change and to learn lessons about how such changes can be stimulated and supported. The logic behind this is that the task of putting research into use concerns changing a cluster of habits, practices, rules, norms, routines and policies – i.e. institutions – that govern the effectiveness and direction of a wide range of processes associated with the way information and technology is demanded, created, transited, adapted and put into use.”

Andrew Adwera et al, 2011

The following institutional change domains will be discussed in this concluding chapter: New forms of financing rural innovation: Relevance for poverty reduction; Market-related institutional change; New types of organizations doing new types of roles; Old types of organizations doing new types of roles; New research practices; New network configuration; and Policy change.

New forms of financing rural innovation

The way the activities in the chicken value chain are being financed, plays a critical role in success of the development of the sector. The financing mechanisms provided through RIU, provided security and allowed several stakeholders to invest in their new businesses.

Through RIU, smallholder chicken producers can access flexible and interest free loans to invest in chicks. In addition RIU subsidised feed for a month. The loans are to be paid back after the farmers sell their chickens. At the same time, RIU is guaranteeing to buy all chickens from the farmers, securing their income. The advantage for producers of the all in – all out production system is that:

- they have a guaranteed market for their chicken and that
- they get access to relative large amounts of cash at the time of selling their chickens to RIU.

This allows them to pay back their loan, and to reinvest in a new production cycle (for which no loans are provided) and to make a profit.

The guaranteed sales of chicken to RIU trigger the demand for one-day-old chicks, produced by the hatchery owners. Besides providing soft loans to hatchery owners to invest in increased hatching capacity, RIU buys all chicks of the hatcheries and sells them to farmers, proving the hatchery owners with a guaranteed market.

The ways of financing described above, reduces the level of risks at farmers and other stakeholders in the value chain. As RIU is taking a position as financier as well as chain operator (buying and selling chicks, buying and selling chicken), it absorbs all risks in the value chain. In this way, RIU managed to kick start the sector on a commercial basis. An important issue is how this principle could be sustained after phasing out of RIU. In handing over activities to KukuDeal, a sound risk analysis needs to be done to make KukuDael as viable business. How could the risk be spread over the stakeholders in the value chain?

Also in the mechanization, new financing arrangements have been developed. First of all, by organising farmers and tractor owners, new price setting mechanisms have been developed. In joint meetings, price calculations for different acreage are prepared as a basis for price negotiation. Tractor owners have transactions with individual farmers, but the fact that farmers are organised

provides possibilities to smallholders to access mechanisation services on a credit base: they could either make an agreement with the tractor owner for payment at harvest or the group could provide a credit to the farmer, with his harvest as collateral.

Relevance for poverty reduction

Before 2008, the indigenous poultry sector in Tanzania was not very well organized with no significant commercial value and neither important to the government nor attractive for private sector investment. The number of chickens raised was very small and transactions in the sector were limited, informal and not recorded. RIU transformed the poultry sector to be a viable economic activity boosting local income for men and women and put in place business networks that included rather than excluded local/small producers. Up-scaling of the local poultry production triggered the business sense in the poultry sector and hatcheries, drugs and feed suppliers started to respond to these new business opportunities. The poultry sector now offers income security for a range of stakeholders. Together with RIU support to innovation networks around mechanization which also allowed for increased production and productivity, the revival of the indigenous poultry sector contributes to poverty reduction in the rural areas. Indigenous chickens now contribute a more significant portion to household income in rural areas. Poultry keeper's income has increased and they are now able to afford school fees for their children and food for their families. One of the institutional factors in sustaining this new promising economic reality in the poultry sector is the increasing capacity of farmers to influence the business processes by engaging in partnerships and using their newly acquired negotiation and entrepreneurial skills. This will also help them to find their way out of poverty.

Market-related institutional change

The development of the local chicken sector was possible because of the high demand for local chickens in Tanzania and even surrounding countries. It was a major challenge for RIU to enable rural smallholders to become engaged in urban markets. Local chickens have always been preferred by the majority of consumers. The market is still far from being saturated, so there is an enormous potential for the local chicken sector to increase production. Without the consumer demand for local chickens, the innovations in the value chain would not have been possible. The increased scale of production allowed smallholder producers to access the urban markets and to make local poultry production into a viable business and to develop the required support services.

RIU has made efforts to create demand on different levels in order make the sector more market oriented. This lead to an increased demand for chicken, and consequently for the input supply and services: eggs, chicks, feed, drug, advisory services etc. RIU could do so through the financing arrangements it established and by stepping in as a chain operator. These arrangements include price setting, contracting, providing financial services, among others.

New types of organizations doing new types of roles

In 2008, RIU was a new actor or organization in the poultry sector, RIU has now demonstrated the importance of having an innovation broker equipped with resources and flexibility in the poultry value chain ready to solve different kinds of bottlenecks, all of this coupled with a political will to support and finance solutions needed to establish the infrastructure necessary to stimulate efficient private sector engagement in a particular sector or commodity chain. There is also still a weakness

that needs to be dealt with: RIU is like a spider in a web, taking all the risks in funding and brokering. How dependable is the emerging poultry sector with RIU as the only broker and funder?

Creating Indigenous poultry farmer groups allowed for better organized and more targeted service provision; focused training and capacity development based on expressed needs; and voicing of farmers needs thus influencing the poultry sector business.

Hatcheries for local chicks existed before 2008 but only produced chicks at low quantities to satisfy mostly their own individual needs. They have now transformed into organisations dealing with huge chicks demands and managing large scale transportation networks in wider geographical areas.

The increase of actors in the poultry sub-sector and its commercialization has resulted in the Government engaging stakeholders to promote poultry societies that are organized enough to work with the Government to resolve the challenges of the poultry sector. The poultry stakeholders are underway to register the Tanzania Breeders Association and the Tanzania Poultry Association, these will all be established to lobby and defend the needs of stakeholders in the poultry value chain.

The establishment of local farmers' organisations and organisations of tractor owners has played an important catalysing function in agricultural mechanisation, leading to increased acreage and productivity. The organisation of farmers and the consequent bundling of farms have lead to a significant decrease in mechanisation costs. At the same time, the organisation of tractor owners has lead to improved and more reliable and timely service delivery. In addition, the organisation eased price negotiations (see also New forms of financing rural innovation).

Old types of organizations doing new types of roles

The boost in the local poultry sector required a revitalisation of the extension system in support of poultry farmers. As the number of small poultry keepers increased, so has the demand for more knowledge, but the number of extension officers at district level is too limited to deal with the increasing demand for agriculture advisory services. RIU engaged *caretakers* (agriculture officers) to provide the necessary services under the umbrella of the extension officers; it enabled to reach out to more poultry farmers, staying with them for a longer period of time and satisfying their knowledge and capacity development demands. Veterinary drugs stockists in the past mostly provided drugs for larger animals like cows and goats. With the poultry sector picking up, stockists in district towns were selected by Bytrade to satisfy the increasing need for poultry drugs although only a few could be selected because of a lack of trustworthy, capable stockists who could act as sales outlet and distributor to the poultry farmers.

New research practices

RIU has been collaborating with the National Livestock Research Centre. Unfortunately stakeholders from research were not able to attend the write-shop.

RIU has invested a lot in improving the utilization of existing knowledge by establishing relations between different stakeholders, revitalising and investing in Agricultural Officers, and by providing training to various stakeholders. The increased knowledge and skills of stakeholders is acknowledged to have played an important role in the innovation that lead to the improvement of the sector as a whole.

Policy change

Currently, chicken breeders and hatcheries are aiming to create a strong organization representing the chicken sector and engage in policy development and dialogue with the government. The increased number of actors in the poultry sub-sectors has encouraged the Government to develop policies to monitor and regulate the poultry sector. The Government waived importation taxes on breeding equipment and enforces regulations for operation of hatcheries and breeder flock to minimize the spread of poultry diseases and to ensure smooth transition of the poultry sub-sector. In addition, being aware that the poultry sector is now a promising economic sector the government developed and enforced regulations for manufacturing of poultry feeds, traceability and animal welfare. The Government considers the development of a National Strategic Plan specifically for development of the local chicken sector which will replicate the approach employed by RIU to other areas in the country.

New network configuration

RIU was all about developing new, and strengthening existing network configurations. Its major achievement was the enhancement and creation of linkages between various stakeholders. The case stories provide plenty of evidence of this.

The local chicken sector is a complex system, involving multiple stakeholders. RIU applied a holistic systems approach to developing the sub-sector with a special focus on enhancing or creating linkages between stakeholders. A single focus on one activity or one actor would not have contributed to development. RIU opted for a flexible, holistic and open ended approach, where various stakeholders were interacting with each other to jointly strengthen the sector, addressing various challenges at the same time.

Partnerships were formed on the basis of an existing or emerging need to solve a particular challenge at a particular time. The identification of the right challenge and timely addressing it are key success factors. Often, more challenges emerged simultaneously. This led to an iterative multi-dimensional approach. As the programme was focusing on enhancing or creating partnerships, there was always a need to look for win-win situations. Partnerships included two or more stakeholders. Equality is regarded as an important feature of partnerships in achieving development. In several cases, RIU contributed to capacity development of one of the stakeholders in order to strengthen their position to allow for more equal partnerships. Flexible partnerships were established, based on open ended planning and responsiveness to changing needs. New partners were allowed to join activities anytime and to leave whenever it was seen that their tasks had changed or have been accomplished. RIU played a brokering role between stakeholders, facilitated, communicated, and coordinated activities. It did so with a constant focus on improving the sub-sector, aiming to improve livelihoods of smallholder chicken producers. This requires focus, determination, good timing, responsiveness and a “never give up” mentality.

Further information

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This document is an output from the Research Into Use programme funded by the UK Department for International Development (DFID) for the benefit of developing countries. The views expressed are not necessarily those of DFID.