

## PROMOTING FAMILY POULTRY PRODUCTION THROUGH A KNOWLEDGE NETWORK AND TRAINING OF KEY STAFF

O. Thieme<sup>1</sup> and A. Rota<sup>2</sup>

### ABSTRACT

Many non-governmental and government organisations have recognised small-scale family poultry as a means of alleviating poverty and providing food security for rural families. Experienced technical staff are required to plan and implement effective poultry development programmes, but they are often unavailable. As an income-generating activity, family poultry has been recommended to micro-finance institutions (MFI) all over the developing world. In response to the availability of credit, many families, women and youth, in rural, suburban and urban areas, have taken up small-scale poultry farming. Their activities cover the whole range of poultry production, from breeding, hatching, brooding, to layer and broiler production. This is where knowledge-sharing and

training becomes as important as other inputs such as loans, birds, feed and medicines. To facilitate knowledge-sharing, FAO, in collaboration with the International Network for Family Poultry Development (INFPD) is implementing a Smallholder Poultry Development Programme. This IFAD-funded project has developed information material and decision-making tools and has organised e-conferences to provide staff working in family poultry production with up-to-date information and knowledge that is shared among the members of the network through electronic media for use in poultry development activities of their countries. Young scientists received training as Associate Poultry Advisors (APAs), which included five weeks of classroom instruction and exercises that covered all aspects of poultry production. This training was

followed by a practical field assignment of four months duration. APAs are expected to become the focal points for family poultry development in their countries and the drivers of the network.

**KEY WORDS:** *WOMEN FARMERS, FIELD TRAINING, KNOWLEDGE-SHARING, MICRO-FINANCE*

1 Animal Production and Health Division, Food and Agriculture Organization of the United Nations (FAO), Via delle Terme di Caracalla, 00153 Rome, Italy.

*The views expressed in this information product are those of the author(s) and do not necessarily reflect the views or policies of FAO.*

2 International Fund for Agricultural Development (IFAD), Via Paolo di Dono 44, 00142 Rome, Italy



## INTRODUCTION AND OBJECTIVES

Small-scale and backyard poultry production provide meat and eggs for rural resource-poor households, a small and fairly regular source of cash, manure for crop production, feathers, items for traditional rituals and gifts for friends. Over 80% of rural households in sub-Saharan Africa and in Afghanistan, Bangladesh and Cambodia keep backyard poultry. The term ‘family poultry’ was created to describe the variety of small-scale poultry production systems that are found in rural, urban and peri-urban areas of developing countries. Rather than defining the production systems *per se*, the term is used to describe poultry production that is practised by individual families as a means of achieving food security, income and gainful employment for women and children (Sonaiya, 1999). In rural areas it is often almost exclusively a women’s activity. In the context of increasing food cost in developing countries, rural poultry keeping and marketing offer one of the few opportunities for people to enhance household food security and create income-generating activities, especially if they lack access to land, training and capital (Dolberg, 2008). This situation has attracted many national and international institutions to plan and implement projects for poultry production and development in accordance with international and national efforts to achieve the Millennium Development Goals (MDGs). Such poultry production projects range

from the simple distribution of birds with brief instructions about their management, to comprehensive large-scale projects with development of poultry health measures, flock management, breeds and marketing. While the commercial poultry industry has created professional support services and skilled staff in many developing countries, the expertise available for developing the family poultry sector is often very limited. This deficiency has meant that the design and implementation of activities have not been well-targeted to the specific conditions of family poultry producers. Over the last decade ‘adapted technologies’, good practices and knowledge have been generated and their effectiveness in improving productivity and reducing vulnerability of resource-poor households is now widely demonstrated. Simple, affordable interventions based on good husbandry practices can have a substantial impact on productivity, primarily by reducing mortality and losses. To ensure that these technologies and good practices are widely adopted, there is a need to:

- create opportunities and platforms for sharing knowledge and build capacities on such adapted technologies and good practices;
- support further adaptation and adoption of technologies and good practices in order to respond to specific needs of smallholder poultry producers according to their capacity to access services and markets;

- build the capacity of decision-makers, project designers and technical staff to enable them to develop effective policies, incentives and development programmes;
- build the capacity of rural poultry keepers, especially women, youth, indigenous and tribal peoples, to adapt and adopt innovative technologies;
- implement effective poultry development programmes with the embedded capacity to generate further knowledge and data, to capitalise on relevant learning generated and to facilitate up-scaling of appropriate innovations in other projects.

The International Network for Family Poultry Development (INFPD) was established to:

- (i) document results and disseminate information;
- (ii) co-ordinate training programmes for research and development personnel;
- (iii) identify research and development priorities, funding sources and cooperative opportunities; and
- (iv) develop research and development protocols on rural poultry development. The INFPD has more than 800 members and is in the centre of the IFAD-funded Smallholder Poultry Development Programme, which addresses the need for better knowledge-sharing across and within countries and training of technical staff in family poultry development. It builds on the earlier works by the INFPD and of the former Danish Network for Smallholder Poultry Development.



## **MATERIALS, METHODS AND DATA SOURCES**

Skilled staff, appropriate material and information for planning and implementation of interventions, and an efficient exchange of experiences through a well-functioning knowledge network of technical staff are essential for improved planning and implementation of family poultry development activities in developing countries.. The Smallholder Poultry Development Programme addresses the development of human capacity at different levels in order to support the further development of smallholder poultry production and use it to improve the household economy of the poor.

### **Strengthen national expertise on family poultry development**

The project implementers believe that young scientists and poultry development workers will be a key human resource in the future to ensure that household poultry can be exploited to the benefit of the world's most vulnerable sectors of society. Many developing countries already have more than adequate academic facilities and can provide competent science graduates. The difficulty is for them to acquire development experience and broaden their horizons. Organisations such as FAO and IFAD have a wealth of institutional, technical and field development experience that could be exploited more fully to develop the capacity of poultry development workers from developing countries. A training programme was therefore

developed for young staff who have a minimum of a primary degree in animal or veterinary sciences – called Associate Poultry Advisers (APA). The programme integrates the technical, social and operational aspects of family poultry development with the opportunity to apply this knowledge and acquire practical experiences by working in an IFAD or FAO field project. The theoretical part of this training includes a five week training programme, with lectures and practical exercises taught by persons with personal experiences in family poultry development. It includes components on:

- family poultry research and information;
- experiences from development projects;
- identification of location-specific development options;
- socio-cultural aspects of family poultry production;
- poultry breeding including incubation;
- poultry nutrition;
- poultry health and vaccination;
- economics of family poultry production;
- poultry production and human nutrition;
- project planning;
- policies for family poultry;
- design of an investigation programme for the field period and group discussions.

This classroom training is followed by a four-month assignment to a field programme where the APAs learn about the environment and conditions of project

implementation and where they implement their own investigation programme that they will document through a technical report or in *Family Poultry Communications* (newsletter of the INFPD). During the field assignment, the project personnel and an individual mentor assist the APAs in their work.

### **Development of technical material and information sharing**

Adapted and effective technologies issued by 'field testing' are available in many successful projects, but they are not sufficiently recorded, described and made available for adaptation and adoption on a wider scale (SA PPLPP, 2010). The project facilitates the documentation and dissemination of successful practices and exchange of knowledge and experiences through the INFPD newsletter, its website, through e-conferences and family poultry related sessions during poultry conferences. The essential requirements for the efficient production of healthy and profitable poultry and eggs are frequently inadequately understood by those who design projects for implementation in resource-poor settings. A package of decision-making tools is, therefore, being developed to assist project designers to:

- have a basic understanding of poultry production systems and the inputs and outputs required for each;
- conduct an initial situation assessment to determine if a poultry project is an appropriate



- option under prevailing local conditions;
- consider an appropriate time frame required to support the implementation of a poultry production programme that has a chance of being sustainable;
- understand the capacity-building and networking activities necessary to support the proposed project objectives.

### **Support for the international network for family poultry development (INFPD)**

The project is supporting the INFPD with a co-ordinator to provide expertise and act as an important focal point for the exchange and dissemination of information on smallholder poultry production. The organisational structure of the network, activities and linkages to other institutions dealing with family poultry production were discussed with members through regional meetings and investigated using a members' survey. The project has strengthened the link between INFPD and the World's Poultry Science Association (WPSA) in order to access a wider audience and share knowledge on family poultry. The WPSA largely represents the scientific community dealing with commercial poultry production. INFPD members should ideally become members of national branches of the WPSA. This will allow them to share technical information with colleagues in their country and to recognise the need to consider the linkages and

relationships between intensive commercial and family poultry production.

### **RESULTS AND DISCUSSION**

Training of APAs was carried out with staff from the following countries: Bangladesh, Burkina Faso, Cambodia, Cameroon, Honduras, Kenya, Niger, Nigeria, Swaziland and Tanzania. They have been posted in field projects in Egypt, Haiti, Lao PDR, Mauritania, Swaziland and Tanzania. The APAs have been well integrated with existing field staff and the first group has completed their assignment and prepared reports and research papers for publication. Overall the theoretical training and field assignment have been rated as satisfactory by the APAs and very useful as preparation for future work in their home countries. Some of the theoretical lessons were given using distant training through either video or audio links. Both methods worked very well and allowed APAs to utilise expertise from distant staff at a very low cost. Training sessions were recorded and will be used to develop training packages for an extended training programme on family poultry. The training programme was carried out in English as the common language of all APAs and trainers. Information on the education levels and former training of APAs was used to form homogenous groups. The experiences of the second group of trainees showed that this was only partially achieved, as their command of English and

technical background was variable and not always sufficient.

An interesting example of information exchange that is being promoted by the project is given by the development of 'sand mini-hatcheries' in Bangladesh. Mini-hatcheries or incubators have been used to hatch chicken and duck eggs in China and Egypt for some 3000 years. Mini-hatcheries have been in use in Bangladesh since the 1970s. In 1992, BRAC – a Bangladesh-based non-governmental organisation – started a programme to promote the use of an incubator based on heated rice husks. However, the system was not widely adopted, largely because of poor management of fertile eggs in the supply chain. With financial support from the International Fund for Agricultural Development (IFAD), the Palli Karma-Sahayak Foundation (PKSF) together with poultry producers developed the conventional incubation process into a more efficient and functional system, building on an adapted, comprehensive training programme that covered all aspects of the rural poultry production chain.

In particular, a three-week practical training programme for rural women was developed and carried out by a livestock agent at the village level. The mini-hatcheries developed by PKSF used cheap materials available locally (e.g. rice husks, quilts and sand) to retain heat. The incubators can be easily made using readily available skills and tools. Sand-based mini-hatcheries give the highest



hatching percentages for both chicken and duck eggs (80–85% and 70–72%, respectively, compared with 70–75% and 65–68% for rice husk incubators and 75–80% and 60–62% for rice husk and quilt incubators.) As a result, sand-based incubators are gaining popularity. A manual and a video (posted on *YouTube*) have been prepared to provide more people with the skills and knowledge needed to construct sand-based incubators and to operate them efficiently. A newly funded project will facilitate the adaptation and adoption of sand mini-hatchery technology in African countries.

An e-conference on ‘Opportunities of poultry breeding programmes for family production in developing countries: The bird for the poor’ was organised by the project and attended by 168 persons from 29 countries, who contributed with information or statements. The e-conference clearly showed the diversity of conditions for family poultry production, which generated different views about opportunities to develop it from the different participants. This clearly highlights the need for country and location specific concepts of development.

The history of the INFPD and that of the former Danish Network for Smallholder Poultry Development shows that a viable organisational structure is needed to establish a sustainable knowledge network. Attempts were made in the past to achieve this independently but without satisfactory results. The members’ survey

highlighted the possibility of cooperation with the WPSA, which was further discussed at two regional meetings of the INFPD members. It was concluded that formal individual membership in WPSA national branches and the creation of an INFPD family poultry working group within WPSA would provide the best opportunity to sustain the network and its activities. The process to formalise this cooperation is ongoing and is expected to be completed in mid-2012. In addition to technical poultry experts, the INFPD has members who are more interested in the development aspects of family poultry production. It will be important to ensure that they can further contribute to the network when its organisational structure is linked to the WPSA (which is more poultry science orientated).

### **CONCLUSIONS, RECOMMENDATIONS AND IMPLICATIONS**

The Smallholder Poultry Development Programme has indicated that investing in knowledge-sharing and capacity-building results in increased awareness on the importance of family poultry as an effective tool in poverty alleviation, household food security and the empowerment of women in developing countries. It is possible to identify effective technologies and methodologies to meet the needs of smallholder producers and make family poultry more efficient in terms of productivity, through sharing of knowledge, experience and good practices on a global level. However, there is

need for further support and awareness. Many donors are still reluctant to invest in family poultry development as they are concerned about possible outbreaks of zoonosis, such as HPAI. There are too many small and unco-ordinated activities carried out by developing organisations which design and implement projects and do not consider the lessons learned from past failures. Many development projects still design a ‘blanket approach’ to address the needs of smallholder producers, without taking into consideration a number of variables, such as access to services and markets. Monitoring and evaluation components of poultry projects are not sufficiently developed, so important socio-economic data are not collected and the impact on the livelihood of resource-poor households is not appraised.

It is now evident that in order to develop family poultry production, there is a need for a comprehensive approach that address all components characterising a value chain approach, in particular access to inputs (appropriate birds, feeding systems, equipment), services (breeding, veterinary, extension and credit services) and markets (including transport) (Besbes *et al.*, 2011). In order to facilitate the development of family poultry value chains, an enabling framework, which includes the following, should be established at national level:

- continuing to raise the awareness (with decision-makers in national governments and donor



agencies) about the effectiveness of rural poultry as a tool for poverty reduction;

- developing effective and consistent national pro-poor policies which are crucial to capitalise on the opportunities offered by the increasing demand for livestock products and poverty-focused agendas of several countries;
- supporting the creation of livestock farmers' institutions which can help to voice their needs and facilitate the provision of services and inputs to them
- funding participatory adaptive research needed to identify appropriate technologies/models which are pro-poor, sustainable, economically viable and environmentally sound, including sharing knowledge generated by farmers;
- developing adapted extension and training modules for capacity building, especially for women;
- identifying market-led approaches by producers, supported by effective, accessible, qualitative services (breeding, veterinary services, credit, processing, marketing, extension, training, etc.) and infrastructure;
- supporting knowledge-sharing platforms and networks through which innovative 'field tested' technologies, good practices and lessons learned are widely disseminated.

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