



**Food and Agriculture  
Organization of the  
United Nations**



## **DESK REVIEW OF LIVESTOCK-RELATED EMERGENCIES AND RESPONSE IN EASTERN EUROPE AND CENTRAL ASIA**





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# ABBREVIATIONS

FAO	Food and Agriculture Organization of the United Nations
FFS	farmer field schools
FSC	Food Security Cluster
GDP	gross domestic product
IDPs	internally displaced persons
LEGS	Livestock Emergency Guidelines and Standards
MDL	Modovan leu
NGOs	non-governmental organizations
OSRO	The FAO Office for Special Relief Operation
TCP	Technical Cooperation Programme
UNDP	United Nations Development Programme
USAID	United States Agency for International Development
WFP	World Food Programme
WHO	World Health Organization

# METHODOLOGY BACKGROUND

The review presents cases of each of the three types of emergency listed above (slow onset, rapid onset, complex) according to the impact on livestock farming, responses, and effectiveness analysis, and then presents some general conclusions based on LEGS Core Standards.

The documents and literature considered for review primarily belong to FAO, with a few additional documents accessed from other agencies that were of relevance to the prioritized emergencies. The format of the review and the effectiveness analysis of interventions used a case-based approach and tried to draw links to LEGS Core Standards where possible (see Annex B). The review covered specific lessons learned as documented in various published documents and literature.

Any emergency intervention should align with and contribute to the organizations' strategic framework. The outcome and output framework of FAO Strategic Objective 5 helped to review the effectiveness of the FAO interventions (see Annex C). The review focused on results as they were presented in the documents, which usually followed the FAO tool for Beneficiaries Results Assessment (FAO, 2021), due to the limited amount of information available on the impact of the interventions.

Natural and human-made disasters take various forms, but all of them can severely affect people's livelihoods through the loss of assets, including livestock. Agriculture (crops, livestock, fisheries, aquaculture and forestry) accounts for 23 percent of all damage and losses caused by medium to large-scale natural disasters (FAO, 2019). In Eastern Europe and Central Asia, livestock is an integral part of the household economy and contributes significantly to family subsistence, livelihoods, and well-being. In emergencies, specific livestock-targeted interventions help households survive the immediate crisis, and also support communities in rebuilding their livelihoods. Livestock interventions typically cover animal health services, emergency feeding, water supplies, shelter provision, destocking (marketing, slaughtering), and restocking.

In 2019, FAO programmes aimed to protect and improve the livelihoods of around 35 million people worldwide. By 2023, FAO aims to assist 60 million people annually with emergency and resilience interventions and investments in anticipatory action that will reduce humanitarian needs in the future (FAO, 2021). LEGS was working with the FAO Regional Office for Europe and Central Asia to increase the technical capacity of national governments, non-governmental organizations (NGOs), FAO country offices, and extension services to prepare for and respond to livestock-related emergencies in the region through the preparation of this desk review, followed by a short series of capacity-development webinars covering LEGS tools and guidance.

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<sup>1</sup> The extent to which the development intervention's objectives were achieved, or are expected to be achieved, taking into account their relative importance. Source: Effects of European Union Accession, Part 1: Budgeting and Financial Control, OECD SIGMA Paper No. 19, March 1998, Appendix 3: List of Useful Terms + businessdictionary.com.



# EXECUTIVE SUMMARY

This review covers three types of emergency: slow onset (such as drought); rapid onset (flooding, earthquakes, hurricanes, volcanic eruptions, tsunamis; and complex (mostly war or conflict-related). It considers natural disasters and protracted crises only and covers all of these categories of emergencies within Eastern Europe and Central Asia over the past 25 years, based on a set of crises prioritized by the FAO regional team (see Annex A for the list of countries and emergencies). Food chain crises – due to animal disease outbreaks – are beyond the scope of the study.

The review aims to record the impact of the emergencies on livestock smallholders, the scope, scale, and type of any FAO intervention, and where possible, look at the effectiveness of the interventions for these farmers, trying to draw links to LEGS Core Standards. Cases of each of the three types of emergency are presented.

The review concludes that timely humanitarian assistance combined with a medium to long term development and resilience-building approach is essential for sustainability. A conscious effort is needed to identify potential opportunities and logically build on the foundation created by an emergency intervention. The review indicates a wide spread of responses within the region, which have been categorized using the LEGS Core Standards to demonstrate how and where they align. FAO Strategic Objective 5 (Increase the resilience of livelihoods to threats and crises) is also referred to where relevant to show how the responses conformed to FAO organizational outcomes and outputs.





# EMERGENCIES AND RESPONSES

Slow onset emergencies  
Rapid onset emergencies  
Complex emergencies





# SLOW ONSET EMERGENCIES

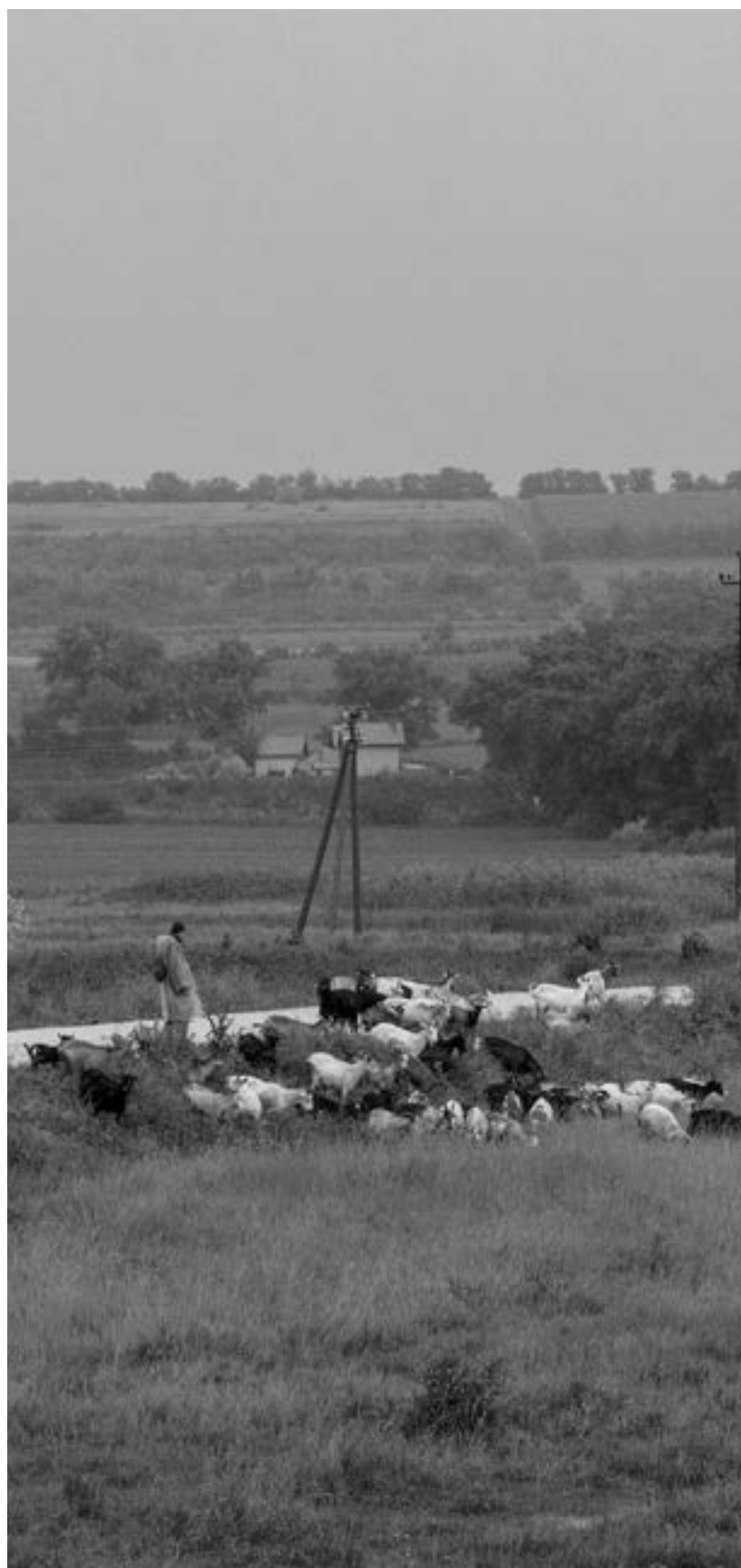
# DROUGHT IN THE REPUBLIC OF MOLDOVA

Agriculture is a big contributor to the Moldovan economy and plays a vital role in employment, exports and food security. Maize is one of the staple food crops, which is also extensively used for livestock feed, along with sunflowers and soybeans. The livestock sector represents around 30 percent of the total value of the agricultural output, with livestock reared mainly by smallholders. Approximately 10 percent of livestock herds are with “leader” businesses, which are usually made up of large livestock farms. These businesses produce feed on rented land and often use privatized kolkhoz (collective/cooperative) infrastructure. Farmers use grazing opportunities to the maximum extent possible. Animal feed complements grazing by between 10 percent – in the southern rayons (districts) – to 40 percent in the northern rayons during the grazing season.

According to the widely used Notre Dame Global Adaptation Index (ND-GAIN) vulnerability assessment methodology, the Moldova ranks as the most climate-vulnerable country in Europe, with drought being a significant problem. Since the 1980s, drought events have increased in intensity and persistence (Potop and Soukup, 2009), and the extreme droughts of 2007 and 2012 sharply reduced agricultural production. The 2015 drought was also an important event considering its severity and impact on the farming population (FAO, 2015a). In 2020, the Republic of Moldova was again hit by a severe drought, causing a drop in agricultural production of almost 30 percent, with significant spillover effects felt throughout the Moldovan economy (World Bank, 2021).

<sup>2</sup> The “leaders” consolidate land into large plots by leasing the usually idle land from rural residents. They pay lease fees to the rural population mostly in kind by providing agreed-upon quantities of crops (Mehrabyan, 2020).

<sup>3</sup> Notre Dame Global Adaptation Index: <https://gain.nd.edu/our-work/country-index>



## Impact on livestock farming

Drought in the Republic of Moldova disproportionately affects smallholders. The reduced grazing on communal pastures results in a reduction in milk yields and deterioration of animal body conditions, predisposing animals to disease. The reduced feed availability triggers livestock destocking to minimize expenditure, support food security, and boost income. As a result of the 2007 drought, the proportion of households without cattle has increased from 10 percent to 25 percent. The estimated impact is a culling of 25 percent of the livestock inventory, at a cost of an estimated USD 305 million (MDL 3.7 billion) (European Commission, 2008). Destocking usually starts with the less productive animals, as households typically try to hold on to their most valuable assets for longer. The destocking further erodes their income generating capacity, their nutritional intake, and the sustainability of their farms. Farmers who decide to keep their animals provide feed of reduced quality (wheat or maize straw) during the winter, resulting in reduced nutritional intake, which usually overlaps with pregnancies and the calving season, further affecting the livestock population.

Through destocking, farmers oversupply the market – thereby lowering livestock prices – and ultimately have to sell their animals for only a portion of their actual value. A drastic increase in meat prices usually follows destocking, as supply decreases after the peak in destocking, a factor recorded in the impact evaluations of 2015 and 2020 (FAO, 2015a; Mehrabyan, 2020). These reports also documented an increase in the cost of concentrate feed (grains), which may have been due to short supply or speculation. As a result of distress sales brought on by the drought in 2020, meat production and sales initially increased. Beef prices decreased from MDL 30/kg to MDL 21/kg, while pork prices declined by even more, from MDL 36/kg to MDL 20/kg. However, once destocking peaked, meat prices began to rise in most markets (leading to a fall in supply), and most households have tried to save whatever livestock is left. Unlike poultry and other faster-reproducing animals, restocking of ruminants to pre-calamity levels takes years.

## Responses

As a component within the broader multi-agency Relief and Technical Assistance Drought Response programme, the United Nations Development Programme (UNDP) provided immediate support following the 2007 drought through a project called Emergency Assistance for the Victims of the Drought in Republic of Moldova. The Government of Italy also contributed and helped the FAO project, Emergency assistance to drought-affected livestock smallholders in southern and central regions. A concurrent agricultural sector response, titled Emergency distribution of maize seed to drought-affected farmers in Moldova, and coordination of agriculture assistance, supported the livestock sector indirectly as maize is also a source of livestock feed (FAO, 2007a).

The immediate response objective was to prevent vulnerable families with meagre resources from selling or slaughtering their last cow due to a lack of feed or forage, thus preserving their food security. The UNDP project supplied sufficient animal feed and forage for 15 000 heads (one cow per household). The supply complemented the limited resources of the most vulnerable population from the rural areas to keep cows and future young calves during the critical winter period (around 80 days) (European Commission, 2008). FAO's project assisted 800 vulnerable farming families in ten of the most drought-affected rayons (approximately 80 families per rayon) that had lost their cereal and feed crops, and were therefore unable to feed their animals over the winter (FAO, 2007b).

## Effectiveness analysis

According to the independent post-distribution impact assessment (European Commission, 2008), 84 percent of all the beneficiaries fully fulfilled the selection criteria. The following changes were observed and recorded by the farmers: better health (72 percent); more milk production (70 percent), with a 51.9 percent increase in milk per day generating additional income; stronger animals (68 percent)



as characterized by faster growth or shinier skin; 65.7 percent of beneficiaries questioned declared that without UN forage assistance, they would have had to slaughter or sell their animals due to a lack of feed and forage (European Commission, 2008). Some of the documented (European Commission, 2008; FAO, 2007b) initiatives and practices with the potential to contribute to effectiveness include:

- Detailed needs assessment and targeting of areas through FAO and WFP (World Food Programme) conducted Crop and Food Supply Assessment Mission (CFSAM).
- Designed beneficiary selection criteria based on rapid field survey: farmers owning one or a maximum of two cows, priority for households with the most children, families having the lowest ratio of area cropped/number of cow(s).
- Standard procedure for feed input quality testing before distribution.
- Real-time transparent monitoring of distribution in collaboration with local contracted NGOs.
- Independent impact assessment of input distribution and their uses by beneficiaries.
- Investment in communication to provide timely and consistent information to beneficiaries, media, authorities, and partners involved in the project, ensuring maximum transparency.
- In addition to FAO and government technical staff, the UNDP project contracted international and national livestock consultants to support the intervention.
- The broader programme supported the formation of a national project Steering Committee and special commissions at the rayon and community level to ensure field coordination. Community (village) counsellors, the mayor, social assistant, head of political parties and representatives of local NGOs were members of the commissions.
- The broader programme initiated a process for investment in a feasibility study to address mid and long-term consequences of emergencies in rural areas to build upon the stakeholder platform formed during the emergency assistance.

## Key learning

- It is helpful to explore synergy among funded emergency projects to benefit from the economies of scale and prevent overlap in beneficiary targeting.
- Decisions on selection and procurement of feed locally and regionally amid drought can be protracted and difficult. The early initiation of procurement is helpful.
- Shortlisting alternative input quality testing laboratories to address possible disputes on an adverse finding of a primary laboratory can help enhance supplier trust in the procurement process.
- A beneficiary country with a disputed, or differently administered region, requires extra effort to implement an assistance project, ensuring that all agreements are acceptable to the relevant country (based on lessons learnt from project implementation in the Transnistrian region, Republic of Moldova).<sup>4</sup>
- Constant monitoring of identified project risks is vital for any emergency project, which faces the challenge of a very narrow window for the full distribution of assistance following the delayed arrival of the beneficiary list, the approach of seasonal holidays, and the onset of winter and potentially heavy snowfall.
- The type of feed selected for distribution is vital from a logistics point of view. It is helpful to identify a single class to use per aid package and avoid large-volume feed types such as alfalfa (*Medicago sativa*). Refer to minimum requirements described in the Livestock Emergency Guidelines and Standards Handbook.

<sup>4</sup> Transnistria is an unrecognized breakaway state located in the narrow strip of land between the river Dniester and the Moldova-Ukraine border that is internationally recognized as part of the Republic of Moldova.





## Impact evaluation of drought responses

Two FAO-Technical Cooperation Programme (TCP) projects (Ministry of Agriculture and Food Industry, 2015; FAO, 2012) supported an impact evaluation of drought responses in the Republic of Moldova during 2012 and 2015 to inform investment for rebuilding. The evaluation highlighted that the absence of a system for disaster risk preparedness prevented improved management of the crisis, including the reduction of destocking. Similarly, improved knowledge and awareness of producers could have contributed to a reduced impact on yields. An FAO TCP project funded an impact evaluation of the 2020 drought – published in March 2021 (Mehrabyan, 2020) – that suggested linking emergency assistance to technical assistance for the government, and planning methodological capacity development of beneficiary institutions for upgraded food security monitoring and early warning tools and systems.

## Impact of TCP projects, country initiatives, and future interventions

As drought causes emergencies with slow onset, there is sufficient time for the government and the private sector to react and implement appropriate food insecurity and poverty preventive measures. Consistent preparedness-related actions by the national government based on detailed analysis can help manage adverse effects in the future proactively and effectively. The investments through TCP projects help to raise the awareness of government and rural populations of the need to have systems and measures in place to increase the country's adaptive capacity to natural disasters and crises.

In 2014, the government approved the Climate Change Adaptation Strategy (CCAS), a national strategic framework with an overall goal to advance the resilience of the country's social and economic development

processes. The next steps involved endorsing and communicating transparently – at national and international levels – the voluntary Land Degradation Neutrality (LDN) target of the Republic of Moldova “to achieve by 2030 no net loss of productive land/soils and increase drought resiliency, adaptation capacity and biodiversity services of agricultural ecosystems”<sup>5</sup>. In 2019, collaborative efforts between the United Nations Convention to Combat Desertification (UNCCD), the State Hydrometeorological Service of the Ministry of Agriculture, Rural Development and Environment of the Republic of Moldova, and the Research and Project Centre Eco Logistica, resulted in the publication of the National Drought Plan of the Republic of Moldova (Daradur et al., 2019).

In recent years, the Integrated Drought Management Programme (IDMP) – a joint initiative of the Global Water Partnership (GWP) and the World Meteorological Organization (WMO) – has provided targeted drought management support to the Republic of Moldova along with seven other countries (Global Water Partnership, 2019). A focus note published by the World Bank during May 2021 (World Bank, 2021) highlighted that drought could significantly impact the Moldovan economy. The document suggests that the country needs to implement a comprehensive reform programme focused on strengthening disaster risk preparedness, investing in risk reduction and strengthening disaster response. In March 2021, FAO launched a new project (funded by the Green Climate Fund) to mainstream climate change adaptation into the country's national planning processes to reduce vulnerability to climate change at local and central levels (FAO, 2021b).

<sup>5</sup> LDN is a state whereby the amount and quality of land resources, necessary to support ecosystem functions and services and enhance food security, remains stable or increases within specified temporal and spatial scales and ecosystems.



# RAPID ONSET EMERGENCIES

# SOUTHEAST EUROPE FLOODING, 2014

## Serbia flooding

Agricultural production in Serbia is comprised primarily of privately owned farms, and 77 percent of farmers own less than 5 ha of land. The sector employs more than 25 percent of Serbia's labour force (or two-thirds of its rural population of 3 167 188). Around 43 percent of these farms are livestock farms. Most livestock farming is small-scale – 49 percent of all cattle, 56 percent of pigs, and 74 percent of sheep are kept in holdings of less than ten animals (UN, EU and World Bank Group, 2014). Livestock production makes up about 30 percent of the agricultural sector (FAO).

## The impact on livestock farming

The heavy rain and flooding in September 2014 affected 80 000 ha of arable land, and thousands of livestock died. Following the loss of reserves, the

remaining livestock faced a survival crisis due to the non-availability of feed and forage. Families did not have sufficient means to purchase the feed, and livelihoods were at significant risk as they had to sell their livestock at significantly lower prices. This further jeopardized family food security, leaving many women and children without essential daily nutrition. The flooding also caused severe damage to pastoral areas, which needed a long time to recover. Fortunately, there were no major post-flood animal diseases. Freezing temperatures and sleet in December 2014 caused additional heavy damage to agriculture.

FAO led the agricultural sector team in the post-disaster needs assessment with the UN, World Bank, and the European Union. As per the Rapid Needs Assessment (RNA), the overall estimated losses in the agricultural sector amounted to EUR 120 million,<sup>6</sup> with a large share related to the agricultural production subsector<sup>7</sup>, accounting for over 97 percent of the total figure (according to United Nations data). According to a report published jointly by the United Nations, European Union, and World Bank, livestock losses were valued at EUR 2.61 million (UN, EU and World Bank Group, 2014). The European Union supported Serbia, and its flood affected population, by allocating EUR 172 million for recovery and reconstruction efforts under different assistance programmes.

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*A villager escaping from flooding waters, domestic animals found their shelter on dry land, even under old cars and tractors. Sheep at Jamena near Sremska Mitrovica, North-West Serbia.*





## Immediate response

FAO implemented a UN CERF (Central Emergency Response Fund) grant through a project called Emergency assistance for immediate food security by providing critical livestock inputs in the flood affected areas of Macvanski and Kolubarski districts and the municipality of Obrenovac, Serbia. The project's overall objective was to provide time-critical emergency livestock assistance for ensuring immediate food and nutrition security for flood-affected vulnerable small-scale farmers. The project provided urgently needed livestock feed to ensure the survival of essential livestock assets and reduce the risk of distress sale of livestock or death. The project supported 2 383 small-scale farming households with three to seven heads of livestock, directly benefitting 10 149 people. Each family received 320 kg of animal feed of standard quality, which mixed with locally available hay allowed the beneficiary families to feed two cows for about two months.

(10 149, against 12 500 planned), the UN report indicated the following:

There was a delay in getting approval of the proposal. In the meantime, the priority of municipalities changed. The government requested FAO to focus only on cattle feed instead of the original proposal of providing four different types of livestock feed. The field assessment showed that a standard package of 320 kg per family was enough to cover two months. Due to the standard and uniform package size and the reduced total budget of the project, the total number of individuals was slightly less than planned (UN, p. 16).

There was no immediate attempt (ex-ante evaluation) to quantify the project's technical, economic and social impact, primarily due to additional funding FAO had for a more extensive assessment under a different project of the same nature, combined with various complementary interventions planned for a later date.

## Effectiveness analysis

The immediate response was crucial to bridge the feed-forage availability gap until the next harvest. At the same time, FAO initiated mobilization and successfully secured more donor funding for the next level of Office for Special Relief Operation (OSRO) and TCP projects. The timely intervention ensured trust-building and provided psychological support and relief to the people in more extensive need of housing, food and medicines, and reassurance of the long-term viability of family farming in Serbia. As per the resident humanitarian coordinator report on the use of CERF funds, the assistance provided was crucial given the scale of damage the families suffered. The report quoted beneficiary comments such as: "Given the tremendous requirements in every aspect of their life, we need to spend every Serbian dinar carefully. The assistance in the form of livestock feed was highly critical to keep our livestock alive."

While explaining the reason behind the discrepancy between the planned and reached beneficiary numbers

## Continued response

With the increased mobilization of donor funds, FAO implemented various other agricultural and food security emergency assistance projects for small-scale farmers in central, western and eastern Serbia between 2014 and 2017. The specific objectives of the responses were to protect the livelihoods of flood-affected households and maintain the health and nutrition of their livestock, enabling restocking of lost animals, re-establishment of forage production, and maintenance of animal production capacity.

<sup>6</sup> Agriculture losses included land rendered useless for production for a season, land requiring removal of debris, damage of farm housing, farm machinery, destruction of greenhouses, irrigation and agroprocessing industries.

<sup>7</sup> For example, land rendered useless for a season, land requiring removal of debris, etc.

An FAO–TCP project, Emergency assistance to restore the productive capacity of vulnerable small scale livestock holders and farmers affected by floods and resilience-building, was also implemented from July 2014 to August 2015. The agricultural production recovery package included livestock components such as animal distribution, feeds (for cows, pigs, and for layers), and equipment such as milking machines. Farmers receiving assistance had the benefit of FAO experts being present at the distribution or at their farms, which gave them the opportunity to participate in on-the-spot training and instructions in proper and optimal use of packages (improved practices for livestock rearing and forage cultivation, conservation, and so on). The project also supported 63 professionals to attend LEGS three-day training sessions organized to deliver skills and tools on how to provide veterinary services, water, food, and shelter for affected animals, controlled destocking, and rebuilding of livestock herds after disasters. Training participants from local government agricultural departments and agricultural extension services were encouraged to transfer essential LEGS Core Standards to farmers. Another FAO–TCP project, Response to Floods in Serbia, supported the organization of workshops covering emergency response, planning, funding, implementation, and coordination.

## Effectiveness analysis

Some of the documented FAO initiatives and practices with the potential to contribute to effectiveness include:

- Local purchase of inputs through a transparent, competitive bidding process (support to local enterprises and economy).
- Engagement of certified quality control laboratory for testing of inputs (quality assurance).
- Environmental and economic sustainability analysis for various investments and purchase decisions.
- Planned identification of distribution points (logistics, convenience for beneficiaries, and so on) and enforcement of standard operating procedures for distribution; for example, counting the number of bags and checking the recipients on the beneficiaries list, to ensure each beneficiary receives an equal amount of support.
- Close collaboration and constant dialogue with the government and other local partners to support the sustainability of the interventions.
- On-the-spot and other capacity-development training to support sustainable production using inputs donated in the assistance.
- Funding of activities to ensure local professionals' exposure to LEGS to build local institutional capacity and resilience.
- Suggestions to local government on critical gaps – for example, a separate contingency plan for the livestock sector covering issues such as improved carcass disposal.
- Emphasis on coordination among multiple projects to achieve the required synergies to handle large emergencies.
- A participatory and transparent beneficiary selection process with criteria such as families with remaining livestock at risk due to the lack of feed, single women-headed households, elderly or disabled members in homes with young children and unemployed dependents, etc.



## **Bosnia and Herzegovina flooding**

Agricultural production in Bosnia and Herzegovina is dominated by crop production, with livestock production representing less than one-third of the total output. As in Serbia, the 2014 southeast Europe flooding severely affected the country. Livestock husbandry was an integral component of most of the traditional farming systems in the flood-affected area, with two predominant primary livestock production systems – namely cattle dairy production, and beef and pork production. On average, farmers had 3.6 animal units of livestock.

### **Impact on livestock farming**

Around 4 500 pigs and sheep, and 700 cattle, drowned as people scrambled to protect the most valuable animals. Up to 10 000 heads of livestock were evacuated, with some being moved to collective centres where the local municipality arranged for feeding, based on donations. The majority of the evacuated animals were given shelter by neighbours and relatives. Stress from the flooding, together with animals and feed-stocks coming into contact with contaminated water, resulted in diseases such as pneumonia, diarrhoea and mastitis. The immediate loss of production due to health issues and stress came to over 30 percent. Cereals such as wheat and maize provided livestock keepers with concentrated animal feed and roughage. The flooding affected the country just a month and a half before the wheat harvest (during grain formation), and immediately after the planting of maize.

### **Immediate response**

FAO implemented both OSRO and TCP projects. The objective of the OSRO project was to protect and restore the livelihoods of flood-affected small-scale livestock farmers through the preservation of animal health and productivity. Antibiotics, disinfectants,

vaccines and syringes, and motor sprayers (for disinfection) were distributed to a total of 97 veterinary stations. Veterinarians conducted awareness-raising sessions on animal health management for beneficiaries while conducting vaccinations and during delivery of animal health services or disinfection of shelters (FAO, 2015<sup>b</sup>). The TCP project distributed locally procured animal feed to small livestock holders in the worst affected areas. It also provided training to beneficiaries on animal health issues associated with flooding (FAO, 2014).

### **Effectiveness analysis**

Based on post distribution assessment, FAO's final report (FAO, 2015) documented that the distributed inputs contributed towards the prevention and successful management of contagious and zoonotic diseases threatening the animals of flood-affected families. The training increased beneficiaries' knowledge of good hygiene practices, animal welfare, proper nutrition and controlled use of antibiotics to achieve good animal health management.



## Earthquake in Albania

Agriculture and related industries play a vital socio-economic role in Albania, providing food security and employment. Smallholders dominate the agricultural sector, with an average holding size of approximately 2 ha. The livestock sector accounts for more than half of the agricultural gross domestic product (GDP), with livestock products constituting a leading food source. A high share of production still serves subsistence purposes. Cattle production is dominant in the plains, while hill and mountrain pastures and meadows are more suitable for sheep and goat production (Gjeci, Shytaj and Bicoku, 2018).

On 26 November 2019, a devastating earthquake with a magnitude of 6.3 on the Richter scale hit the country. According to national authorities, the earthquake was the strongest to hit Albania in 30 years. As a result of the disaster, a total of 222 778 people were affected, with 51 fatalities, at least 913 people injured, and 17 000 people losing their homes.

## Impact on livestock farming

The principal livestock in the affected areas are cattle, sheep and goats, and pigs and poultry. According to the post-disaster needs assessment report (Republic of Albania Council of Ministers, EU, UN and World Bank, 2020), livestock was the primary source of income for 79 percent of the affected farmers. The poorest farmers engaging in livestock production were expected to experience reduced income and face high recovery costs. With reduced production and revenue, many would face challenges investing further for the following season, as they needed to produce food for livestock. Smaller and subsistence farmers were likely to become more impoverished, as they would have few assets to sell, and formal credit was not viable for them. The assessment estimated losses in the agricultural subsector of EUR 222 000 (ALL 27.3 million). Livestock production losses accounted for 80.5 percent of this loss, with crop production losses making up 19.5 percent. The most significant losses were related to the reduced productivity of animals in relation to, for example, milk and egg production.





## Response

FAO began implementing a TCP project in December 2020 called Earthquake recovery support through the UN SDG Acceleration Fund. The project aimed to respond to the earthquake by meeting the affected municipalities' recovery needs and addressing underlying vulnerabilities. Farmers and agroprocessors have received support to rehabilitate their livelihoods and enhance their resilience to future shocks.

The project covers two components: direct beneficiary grants (cash-based transfer), and technical assistance. For the grants, the eligible investments are construction and reconstruction work, equipment purchase and live assets (for example, purchase of livestock). The grant operational manual (FAO, 2021<sup>8</sup>) of the project specified the eligible investments cost terms (see Annex D). The technical assistance focuses on capacity development training of farmers and agribusinesses (agroprocessors), women and men, to develop agribusiness plans to access financing opportunities for broader and more resilient activities. The project intends to engage with financial institutions to develop financing products that could meet the interests and needs of producers and small and medium enterprises in the agricultural sector. The project also intends to support long-term resilience building in Albania by strengthening the national disaster risk reduction (DRR) system.

- Co-creation of financing products suitable for smallholders and the popularization of such products among farmers.
- Focus on ensuring at least 30 percent of training participants are women.
- Focus on constant engagement to ensure local stakeholder ownership of project results.
- Disaggregated data collection as part of monitoring to allow an assessment of the project's performance with respect to different target groups.
- Engagement of a national technical livestock specialist to suggest measures and investment for livestock farm recoveries, organization of consultation workshops on the small scale investment needs in the livestock sector, and selection of livestock breeds (purchased by beneficiaries under grant assistance).

## Effectiveness analysis

Some of the practices that may contribute to project effectiveness are as follows:

- A reassessment of the needs of affected farmers covering viability of their business and financial adequacy of the grant (note the focus on giving appropriate grant amounts to make the investment successful).
- Specific details as established in a grant operational manual (during inception) alongside a robust grievance redressal mechanism and monitoring of grant uses.

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<sup>8</sup> The investment will be provided to the beneficiary for the priorities that they established in the grant proposal and will be executed in accordance with the conditions set out in the grant agreement.



# COMPLEX EMERGENCIES

# ARMED CONFLICT IN THE NAGORNO- KARABAKH REGION

The armed conflict in the Nagorno Karabakh region is an ethnic and territorial conflict between Armenia and Azerbaijan over the disputed territory of Nagorno-Karabakh. The conflict started in 1988, and by the 1990s had reached the point of being a “frozen conflict”, but insecurity continued. In late September 2020, war flared up again, and an estimated 6 000 people died in fighting (The Wire, 2021).

## Impact on livestock farming

The armed conflict led to severe looting and destruction of livestock – for example, firing at herds of livestock, to harass people or deprive them of their livelihood (Human Rights Watch, 1994). For many inhabitants of the area, livestock is practically the only source of income. People became afraid to shepherd their cows and sheep to their usual pastures. Recording women’s experiences of the conflict, a report published in 2019 (Kvinna till Kvinna Foundation, 2019) quotes a woman farmer saying that “families have lost communal grazing rights for their livestock and had to rent land, even if animals are for domestic consumption”. Following the escalation of conflict in September 2020, many people fled from Nagorno-Karabakh to Armenia, taking with them between 12 000 and 55 000 cattle, and between 60 000 and 90 000 small ruminants.

The families displaced in September 2020 who took their livestock to Armenia faced difficulties feeding and grazing their animals during the winter season. They were also unable to provide shelter and proper health care for their animals. With poor forage production in 2020 and limited market access due to

currency fluctuation, the host farming families in rural areas face challenges to cope with the increased farming requirements due to the influx of high numbers of livestock.

## Response

Early in 2021, through a TCP project called Emergency humanitarian assistance to conflict-affected vulnerable groups in Armenia, FAO helped vulnerable people in Armenia who were affected by the conflict. The intervention (FAO, 2021) targets displaced and host communities in fragile environments. The objective of the emergency assistance project is to provide protection and restoration of critical livelihood assets and includes animal feed, agricultural equipment and materials for building temporary shelters for displaced livestock. The project also intends to help selected smallholder beneficiaries to make and reconstruct chicken coops. The support aims to improve birds’ housing and management conditions. Another project component addresses training in animal husbandry best practices to increase smallholder beneficiaries’ knowledge and skills.

## Effectiveness analysis

The expected outcome of the response programme is “vulnerable households keep their livestock alive over the winter season and generate some income to maintain food security, and FAO has developed a medium-term support programme for sustainable livelihoods and food security”. For the initial assessment, which prioritized particular geographical areas, FAO Armenia assessed the food security and livelihood situation of about 400 conflict-affected and displaced families, covering 1 708 people in 42 rural communities. The assessment collected essential information on

<sup>9</sup> In international relations, a frozen conflict is a situation in which active armed conflict has been brought to an end, but no peace treaty or other political framework resolves the conflict to the satisfaction of the combatants (Wikipedia, 2021b).

the characteristics and demographics of the displaced and host families, their food security, livelihood and engagement in agriculture, and identified their short-term priority needs. The project document (FAO, 2021e) highlighted the following areas which are likely to contribute to effectiveness:

- Development of clear criteria for eligibility of project beneficiaries (transparency in selection) with particular attention paid to women (gender mainstreaming).
  - A survey on livestock feeding needs, particularly the availability of grazing areas, their quality, and estimation of their carrying capacity, while considering local livestock needs (long term sustainability focus).
  - A system of concurrent evaluation through detailed reports from field teams and random visits to households. This is a risk management step as the project identified and considered the assumption that there may be mass mortality or selling of animals by beneficiaries.
  - Procurement of inputs from the local market on time.
  - Farmer field schools on good animal husbandry practices (capacity-development support along with access to assets).<sup>10</sup>
  - Investment in the appropriate selection of beneficiaries (ensuring that only those beneficiaries for whom the support can deliver results are selected).
  - Supply of vaccinated poultry along with materials for housing (measure for the protection of distributed assets).
  - The project is in alignment with the country strategic framework (likelihood of continuous support).
  - Stakeholder mapping, engagement (participation), collaboration with country government office at target sites, and coordination among stakeholders
- receive due importance.
  - Provision made for recruitment of subject matter national consultants for livestock and animal health activities (refers to standard technical support and agency competencies).
  - Provision of partnership with local NGOs within targeted areas to facilitate implementation.
  - Security and protection of project staff ensured.
  - Defined project governance structure and mechanism for grievances redress.

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<sup>10</sup> Farmer field schools (FFS) is a group-based adult learning approach that aims to teach farmers how to experiment and solve problems independently. Sometimes called “schools without walls”, in FFS groups of farmers meet regularly with a facilitator, observe, talk, ask questions, and learn together.



# WAR IN DONBAS

(Donetsk and Luhansk oblasts, eastern Ukraine)

The political crisis that began in 2013 and resulted in unrest in the Donetsk and Luhansk regions of eastern Ukraine (collectively known as Donbas) evolved into a war between the post-revolutionary Ukrainian government and pro-Russian insurgents:

Despite the formal truce declared in 2015, shelling and sporadic firing have been an everyday reality for the local population, and there are indications that both Ukraine and Russia are preparing for a potential escalation of the conflict (Mikovic, 2021).

Though the Donetsk and Luhansk regions are considered industrial areas, many people, especially in the western part of Donetsk and northern part of Luhansk, are dependent on agriculture. Of the 95 percent of house-

holds in Donbas having access to land, 91 percent are involved in plant production, and 66.4 percent in livestock production. Poultry is the most commonly owned type of livestock (around 60 percent of livestock-owning households have poultry), followed by cattle. Animals are produced extensively with relatively low feed conversion and productivity, and with livestock mortality and disease being common. Many rural residents (not registered as farmers) practise subsistence farming on tiny land plots and in their back gardens, keeping a few heads of livestock (mainly cattle, pigs, goats, and poultry). Improved access to animal protein is vital for preserving food security and nutrition levels among these conflict-affected populations.

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*A destroyed house in the village of Lugansk. FAO project TCP/UKR/3502 - Emergency assistance to restore the livelihoods of vulnerable small-scale farming families affected by conflict in the Donetsk and Luhansk regions.*



## Impact on livestock farming

The FAO Socioeconomic impact and needs assessment report (FAO, 2015b) recorded formal reporting of the killing of 10 034 heads of cattle and 160 000 heads of poultry. Many more animals were killed but these deaths were not reported, especially in rural areas with limited access to veterinary services. The report recorded that 43 percent of livestock-owning households (65 243 out of 151 207) resorted to destocking, mainly due to a lack of animal feed resulting from increased prices, cropping patterns, reduced yields and limited market access. The destocking rate was higher for cattle and pigs than for sheep, goats, poultry or rabbits.

The main difficulties faced by livestock-owning households as recorded in the report are, in decreasing order of frequency: lack of cash, lack of food and access to pastures, lack of herders (workforce), lack of surplus production for selling, and disadvantageous terms for selling live animals. According to the assessment, animal feed was the most needed support for maintaining and improving livestock production, followed by restocking lost animals. The conflict affected livestock enterprises, which consequently failed to pay rent on land leased from smallholders for whom this rental income was a significant amount of their annual income. See Annex E for the livestock sector response plan proposed by the report.

## Response

In 2015, the Government of Belgium supported FAO to implement a project titled Emergency assistance for immediate food security and nutrition through provision of critical livestock inputs in the conflict affected areas of Donetsk and Luhansk regions. The project provided livestock feed to small-scale livestock holding families to reduce the risk of livestock mortality, slaughtering or distress sale of animals. During the same year, FAO supported the Government of Ukraine through an emergency TCP project, Emergency assistance

to restore the livelihoods of vulnerable small scale farming families affected by conflict in the Donetsk and Luhansk regions, which also supported beneficiaries with livestock through the distribution of animal feed.

Against the backdrop of the conflict, the Food Security Cluster (FSC) was activated in Ukraine. Co-led by WFP and FAO, the global Food Security Cluster (gFSC) is committed to saving lives by coordinating appropriate, efficient and well-resourced food security responses in significant emergencies).<sup>11</sup> As per the TCP agreement (FAO, 2016a), FAO committed to use the FSC to roll out LEGS training, supported by other awareness-raising activities in Ukraine. However, the review could not find any reference to confirm that any training had been undertaken, nor the number of trainees.

The conflict has resulted in the displacement of over one million people of different ethnicities, nationalities, religious and cultural backgrounds. Displaced persons from the Roma community are among the most disadvantaged groups. The World Health Organization (WHO) supported the FAO project, Support to agricultural livelihoods and food security for internally displaced Roma communities, from 1 October 2015 to 30 June 2016 (FAO, 2016b). Based on the needs assessment, the selected beneficiaries received support for backyard poultry production, which incorporated training sessions and the distribution of handouts and brochures about the topic. The project included the provision of cash for the self-purchase of chicken feed and applied conditions for receiving small amounts of money in several rounds based on the actual performance of raising chickens over time.

<sup>11</sup> The gFSC was created in 2010 and has over 40 partners including NGOs, donors and UN agencies – with the International Committee of the Red Cross (ICRC) as an observer. It provides support to 27 countries. (<https://www.wfp.org/food-security-cluster>)

From 2016 to 2018, the Government of Canada supported an FAO project, Emergency food security assistance through providing agricultural inputs in Donetsk and Luhansk regions (FAO, 2018).<sup>12</sup> The project distributed one-day-old poultry, including chicks, ducklings and turkey poults, along with concentrated poultry feed to beneficiary households. Other support included young rabbits (with rabbit cages) and hives (with essential apiculture tools). The distribution of educational leaflets on sustainable poultry breeding, apiculture, sustainable rabbit breeding, an overview of the most common diseases affecting poultry and rabbits and disease prevention information, accompanied all activities. The project trained farmer groups on cooperative creation, accounting, business planning, marketing, fundraising and food safety to build their capacity to register as cooperatives. The trained groups received additional advisory help for accessing funding sources (from the state, regional and other humanitarian partners). A few groups also received dairy self-priming pumps with tank coolers, grain quality analysers, milk analysers, and so on. The members of new cooperatives attended exposure visits to selected successful cooperatives, and an agricultural conference.

## Effectiveness analysis

The responses aimed to contribute to safeguarding the food security and livelihoods of small-scale farming families, preventing economic losses from the effects of the conflict. In the following years, responses focused more on development and strengthening resilience. The various project documents highlighted the following points which are likely to contribute to effectiveness:

- The focus on the synergy of multiple responses (ensuring maximum use of any multiplier effects arising from the intervention) and strong collaboration between government agencies, civil society, and communities.
- One Health approach in implementing the project for Roma Internally Displaced Persons (IDPs) – the

project livestock sector intervention coordinated closely with WHO health care services for the same group of IDPs. The project implemented joint activities for nutrition education.

- Promotion of joint activities involving both local population and IDPs for a reduction of social tension.
- The practice of taking help from and training of local community or farmer leaders who were better aware of the communities' humanitarian and recovery needs and who also had a stake in maintaining service to their communities beyond the project lifetime.
- Focus on building institutions and enterprises of smallholder livestock farmers to assist members and communities in adding value to their products and improving their access to markets.
- Promotion of gender equality in the membership of the established cooperatives, encouraging women to be engaged at higher management positions.
- Planned marketing linkage of beneficiary farmer groups to successful regional projects outside the conflict area.

# KOSOVO CRISIS 1998-99

The Kosovo war was an armed conflict between the Federal Republic of Yugoslavia forces and the rebel group known as the Kosovo Liberation Army, which ran from 28 February 1998 to 11 June 1999. The war resulted in Yugoslav forces withdrawing from Kosovo to make way for an international presence – the United Nations Interim Administration Mission in Kosovo (UNMIK). In September 2012, international supervision ended, and Kosovo became responsible for its own governance. An FAO–WFP crop and food assessment mission to Kosovo (1999) recorded that the conflict resulted in the widespread looting and slaughter of livestock, leading to the loss of 50 percent of cattle, 65 percent of sheep, and 70 percent to 80 percent of poultry and pig populations (FAO, 2000a).

Under a multidonor-funded project, the Emergency Farm Reconstruction Project (EFRP) implemented by FAO, in-calf heifers were imported from Austria and Germany to Kosovo to help poor farmers restock the local cattle herds. The project also distributed breeding bulls to farmers in the most remote areas that lacked artificial insemination services. The beneficiaries also received concentrate animal feed (400 kg per animal beneficiary). As per the final project report of 2003, the project distributed 4 395 in-calf heifers and 92 breeding bulls. To qualify for a cow, each family had to have experience in livestock production and have access to at least one hectare of pasture for grazing. The farmers were allowed to keep the first-born calf, but they were obliged to give the second-born calf to other needy families or village

## Response

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*Local veterinarian making a house call to examine heifers. The livestock were donated by the project to help farm families rebuild their herds.*





members. If they sold or slaughtered their animals, they had to pay a fine.

Working with local veterinarians and NGOs, FAO ensured that the recipients received whatever help they needed to care for their animals. They were encouraged to breed the imported heifers with advice from veterinarians. In addition, the project organized training in animal care, feeding and forage conservation. The project supported private veterinarians through the provision of veterinary kits with drugs and equipment for artificial insemination, which they paid for by donating their services. The project supplied equipment and trained staff of the central veterinary laboratory to assist in animal disease surveillance.

## Effectiveness analysis

The import of live animals as an emergency response from outside a country or region is generally not encouraged. Such a practice is associated with disease risk, problems in adaptation, and threats to local breed conservation, as well as undermining of local markets. An enhanced capacity of local farmers is also needed to feed and productively manage such animals. However, the devastating livestock losses from this conflict may have reduced the options for using local breeds for restocking. The various project documents highlighted the following points which are likely to contribute to effectiveness:

- According to one reference (FAO, 2000b), the imported breeds Simmental Fleckvieh and Brown Swiss are very hardy and particularly well adapted to the climate and small-scale farming in Kosovo. The project ensured mandatory quarantine of all imported animals in a designated facility to prevent the possible entry of disease with the imported animals.
- The heifer beneficiaries received obligatory training on animal care and production before distribution. The project supported training courses on artificial insemination throughout the life of the project. In total, 65 veterinarians and 63 veterinary technicians received training. They ensured the availability of appropriate breeding services, thus leading to an expansion of the artificial insemination market.
- The final project report (Airey, 2003) stated that local capacities were not undermined by the project activities, with the possible exception of semen importers. The project imported the required semen for insemination.
- The project ensured that the imported cattle were all pedigree recorded animals, well grown and pregnancy tested and, overall, typical of the respective breeds. They were likely to serve as a bank of quality animal genetic material with the potential to upgrade the local herd.
- As a part of advocacy, the project engaged with the European Agency for Reconstruction funded Animal Identification and Registration Project for a separate database facility for pedigree animal registration. The project recommended that the local authorities adopt a well-designed breeding policy and appropriate regulation to ensure breed development.

Veterinary assistance aimed to support the establishment of private veterinary practices by donating drugs, equipment and ensuring new clients. However, the final report documented that investment in rehabilitation, the latest equipment, and staff training on behalf of the Central Veterinary Diagnostic Laboratory did not lead to a functioning entity.

The final project report documented that a small minority of livestock beneficiaries disposed of animals in breach of the agreement. They sold the animals due to a lack of feed and replaced them with native local cattle (Buša cattle). The heifers under the care of the various contracted veterinary practices took varying amounts of time to get pregnant after parturition. However, most were eventually successfully rebred (an average 14.7 month calving interval). The calf mortality was around 3.5 percent. The milk production levels assessed from the imported heifers averaged more than 12 litres per day across all breeds (Brown Swiss, Simmental, Grauvieh).

# GEORGIA–SOUTH OSSETIA CRISIS

The Georgia–South Ossetia conflict is an ethno-political conflict over the former Georgian autonomous region of South Ossetia, which evolved in 1989 and developed into a war. Despite a declared ceasefire and numerous peace efforts, the conflict remains unresolved (Wikipedia, 2021b).

Agricultural production in Georgia contributes to 12 percent of GDP, and livestock production represents 60 percent of the total value of agricultural production (2008–2009). Diversified small-scale farm holdings dominate the farming system. Their primary source of cash income is fruit and vegetables, while cereal and livestock production activities are for home consumption. Livestock provides small but regular income through the sale of dairy products.

## Impact on livestock farming

The livestock of small-scale farmers was severely affected by the conflict, with a large number of animals killed. For those that survived, their health deteriorated as they could not graze or move around freely. There was no winter feed in stock as thousands of hectares of farmland and pastures was damaged by aerial bombing and fighting on the ground (FAO, 2009).

## Response

After the August 2008 escalation of the conflict, FAO worked with the Government of Georgia and international partners to conduct a comprehensive agricultural sector needs assessment. From 2009 to 2012, FAO implemented an EU-funded project titled Restoration and improvement of agriculture based livelihoods and food security for new IDP settlements

and returnees in the area adjacent to South Ossetia (AASO).

Several IDP households in various settlements received livelihood packages (see Annex E) to support livestock production. The assistance included feed and construction materials for animal shelters. Since many IDPs were granted plots unsuitable for cultivation, the livestock-related livelihood support package was popular in many locations. Many homes also received assistance through cost-sharing interventions, through which around 20 percent of beneficiary families invested in livestock (particularly in cattle). The cost-sharing component of the project was designed to provide customized support to displaced people and returnees from the area adjacent to South Ossetia by providing them with a partial contribution to procure inputs of their choice from suppliers of their choice. The project contributed up to 60 percent of the total eligible and approved cost (to a maximum of USD 500) for farming investments made by the beneficiaries (see Annex D for the procedure used).

The Government of the Republic of Cyprus funded another project called Improvement of agriculture based livelihoods and food security in newly established IDP settlements in Georgia. The project provided fencing of animal pens for families residing in apartment-type accommodation. During the same period, with the help of the United States Agency for International Development (USAID), FAO also implemented the project, Emergency supply of animal feed to conflict-affected small-scale farming households and support to the agriculture sector and Food Security Cluster coordination in Georgia. The project aimed to assist small-scale farmers in Georgia in keeping their livestock alive and in good health by distributing concentrate animal feed, treating cattle against endoparasites, vaccinating them, and installing water troughs. In addition, the farmers benefitted from specialized training on silage production for their cattle.

## Effectiveness analysis

The following points are likely to contribute to effectiveness:

- The practice of paying particular attention to ensuring that the different livelihood packages had a similar monetary value.
- Selection of suitable breeds for the target locations and due consideration for the age, productivity and conditions of the procured animals (most of the distributed livestock, except pigs, were from local breeds, preferred by the beneficiaries. The majority of the animals were reproductively active at the time of distribution).
- The practice of following a detailed procedure to ensure a rigorous screening and quality control of the cost-shared investments.
- Provision of training on the cost-sharing facility, including training-of-trainers sessions (this enabled delegated persons from each settlement to compile the cost-sharing documentation).
- Provision of market linkages for beneficiaries (particularly for rabbit farmers).

The project used the FAO tool for Beneficiaries Results Assessment (FAO, 2008), and this tool underlined that project beneficiaries displayed a different attitude towards free distributions versus cost-shared investments. Large numbers of animals received through free livelihood packages were either eaten, lost or sold. On the other hand, the percentage of eaten, lost and sold cost-shared livestock was significantly lower, and the income per household generated from sales was relatively higher (See Annex F). The immediate impact of the intervention for IDPs who received livestock assets was the high number of offspring. There was a 16 percent increase for cattle, 90 percent for poultry, and 250 percent for rabbits from cost-shared animals by the end of the project (FAO).

The FAO final report quoted an independent output and outcome survey conducted towards the end of the project, which said that the feed distribution under the USAID-funded intervention contributed to increased average milk production, from 6.48 L to 9.8 L per day per household. The report also stated that the treatment against endoparasites contributed to local cattle's general health, reducing their susceptibility to disease. As a lesson learned, the report suggested giving endoparasitic treatment before the distribution of animal feed. The installation of the troughs ensured sufficient access to and availability of water for all targeted cattle. Training on silage production was completed during the peak of the silage production season, allowing farmers to replicate the production for the upcoming winter. More than half of the people who received training reported preparing and feeding silage to their animals.

# TAJIKISTAN COMPOUND CRISES, 2008

Over two-thirds of Tajikistan's population derives its livelihood from agriculture. It is estimated that more than 90 percent of the livestock is owned and managed in small numbers by rural families. The country is prone to numerous natural disasters such as earthquakes, flooding, avalanches and drought, which continually jeopardize the food production levels, purchasing power and food security of the country's rural and often most vulnerable communities. Many families suffered from agricultural production losses caused by natural disasters in 2006 and 2007, coupled with marked increases in the cost of food and other basic needs. The severe cold weather and related energy crisis in Tajikistan during 2008 compounded

acute levels of underlying poverty and human suffering resulting from a combination of natural, economic and social shocks. According to FAO, atypical snowfall, which was 245 percent above the national average for December, and freezing temperatures, caused extensive damage to water and electrical supply systems, leaving urban areas with as little as two hours of electricity per day and many rural areas with none.

## Impact on livestock farming

Following the natural disasters in 2006 and 2007, many people had to sell productive assets, including livestock, to feed their families. The first consequence of the 2008 severe winter was a general reduction in the quality and quantity of animal feed and the unavailability of winter pastures. This situation resulted in increased mortality of livestock at a significant rate. It decreased animal productivity, including milk

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*Support to Animal Health Sector in Tajikistan. The Development Objective is to increase household food security by enhancing the productivity of family livestock whilst strengthening national private sector capacities to respond to animal health concerns.*



yield and egg production (of approximately 20 percent to 30 percent), severely impacting households' food security and cash incomes. Maintaining the livestock population had tremendous repercussions for many families, and a surge in destocking, to critical levels, was imminent (FAO, 2009).

## Response

FAO implemented a project called Emergency supply of animal feed to weather-affected livestock farmers in Tajikistan. The specific objective was the re-establishment of livestock production capacity and enhancing livestock reproduction in the spring. The project provided feed, vitamin and mineral additives, and de-wormers to the poorest livestock farmers and female-headed households. Other emergency projects also facilitated pasture management activities and distribution of seeds, minerals, vitamins, stock feed, de-wormers and vaccines. Brochures and leaflets in Tajik containing technical advice on a balanced diet for livestock (proper feeding practices) were prepared and distributed along with the animal feed. The projects also facilitated the organization of women's milk processing groups. All field training programmes followed the FFS concept.

however, the review could not find any focused study on this. According to the final report (FAO, 2019a), the training enabled the beneficiaries to improve animal feeding based on their area's available agricultural by products and forage crops. The project strengthened the links between local NGOs, veterinary services and other local stakeholders.

The general evaluation (FAO, 2019b) raised critical questions about how the farmers used the distributed vitamins and minerals since poor farmers had no grain or oilseed cake with which to mix minerals and vitamins to feed their animals. In the project related to stock feed distribution, beneficiaries received a fixed amount irrespective of the number of animals any individual owned. Therefore, the quantity provided was not enough to carry the animals through the whole winter. The report also highlighted that training on various livestock farm inputs would have been more beneficial if done at the same time as distribution of the inputs, to ensure that they were available in the localities through local agri-shops soon after the intervention.

## Effectiveness analysis

The following points are likely to contribute to effectiveness:

- Tajikistan has the highest rate of female-headed households due to labour migration, exacerbating the hardships of disproportionate poverty and discrimination faced by Tajik women. An essential factor for effectiveness was the focus on female-headed families. Women make up 41 percent of the beneficiaries.
- The simultaneous distribution of animal health-related inputs may have increased the effectiveness of the distributed compound feed on livestock recovery, growth, and productivity;



# KYRGYZ REVOLUTION OF 2010, KYRGYZ REPUBLIC

The Kyrgyz Revolution of 2010, officially also known as the People's April Revolution, began in April 2010 with the ousting of the Kyrgyz president, Kurmanbek Bakiyev, in the capital Bishkek. It was followed by increased ethnic tension involving the Kyrgyz people and Uzbeks in the country's south, which escalated in June 2010. Humanitarian needs were high in southern Kyrgyzstan as 400 000 people struggled to recover from the severe outbreaks of violence in Osh (10 June 2010), Jalal-Abad (13 June 2010), and surrounding districts. The crisis caused devastating losses to human life, property, and livelihoods. The violence ultimately led to the consolidation of a new parliamentary system in Kyrgyzstan (Wikipedia, 2021a).

Kyrgyzstan is a predominantly agrarian country. The major source of employment is agriculture, with smallholders the major producers. Livestock plays a crucial role in their food security and as a safety net. However, livestock communities' livelihoods are fragile, with very few assets and limited economic opportunities in remote mountainous pasture areas. Nearly half of the country is pastures – some 9 million ha – and herding plays a key role in its economy, society and culture (IFAD, 2021). Even before the civil unrest of June 2010, the country faced a persistently high level of food insecurity and significant challenges related to agricultural development.



## Impact on livestock farming

Although the civil unrest directly impacted urban areas, the repercussions for rural areas proved to be deeper and longer-lasting, affecting the entire agricultural sector, livestock management, cross border trade, household economies and labour markets. Rural families displaced by the violence in the south were among the most severely affected, as they found the basis of their livelihoods in ruins upon return, with houses fully or partially destroyed, farming machinery and tools looted or burned, and livestock stolen or dead. An estimated 5 200 head of cattle and other ruminants, and over 22 000 chickens, were reported lost in the Osh and Jalal-Abad regions (FAO).

## Response

From May to November 2010, FAO implemented the project, Support to the most vulnerable farming households to protect their livelihoods and to restore agriculture production. The project's overall objective was to support crop and forage production to sustain wheat, milk and meat production during 2010, thus enhancing the nutritional intake of food-insecure farming households. The project distributed fertilizers (ammonium nitrate and superphosphate) to households for food and forage production on private land. The beneficiaries also received training on fertilizer use, improved plant nutrition management, and increased crop production. The project assisted the most vulnerable and food-insecure farming households in select areas, specifically those with small landholdings dependent on small-scale livestock production.

## Effectiveness analysis

The following points are likely to contribute to effectiveness:

- The completed report, based on consultation with agronomists in project areas, highlighted the project's contribution to increased soil fertility, leading to improved production of food and feed crops for the supported vulnerable households. It helped beneficiaries regain their means of livelihoods without becoming dependant on food aid.
- The distribution of fertilizers and the training of beneficiaries (including training of local trainers) was relevant to the country context as significant parts of the farmland in Kyrgyzstan had not been enriched with mineral fertilizers since the disintegration of the state farm system.<sup>12</sup> The government prioritized fair and safe use of fertilizers.

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<sup>12</sup> After the breakup of the former Soviet Union in 1991, the Kyrgyz Republic implemented a number of rapid market oriented reforms, resulting in the disintegration of state supported farms.





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# CONCLUSION

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A combination of timely humanitarian assistance with a medium to long-term development and resilience-building approach is essential for sustainability. A conscious effort is needed to identify potential opportunities and logically build on the foundation created by an emergency intervention. The review indicates a wide spread of response within the region (see Annex A for summary typology of response).

The project responses in the reviewed document have been categorized using the LEGS Core Standards to demonstrate how and where they align. FAO Strategic Objective 5 (Increase the resilience of livelihoods to threats and crises) is also referred to where relevant to show how the responses conformed to FAO's organizational outcomes and outputs (see Annex C for FAO Strategic Objective 5 with outcome, output, and areas of work).

### **LEGS Core Standard 1: Participation**

All the responses considered for review have a vital component related to the participatory and transparent selection of beneficiaries. Though not highlighted explicitly in all the reviewed documents, ensuring the selection of various excluded groups based on the country context is essential. Most project documents consulted highlighted efforts towards gender mainstreaming and information gathering to capture gender-segregated indicators.

### **LEGS Core Standard 2: Preparedness**

Constant investment for strengthening aid agencies' internal preparedness at the regional and national levels is imperative. For example, the review indicates that the timely local procurement of quality inputs for assistance has always been critical during or following a disaster. Similarly, there can be a substantial delay in drafting and signing the letter of agreement with local implementing partners. Only preparedness can help address this constraint. By strengthening the capacities of national authorities and stakeholders in crisis response, all interventions aligned themselves to FAO organizational outcome 504 (Countries and regions affected by disasters and crises prepare for and manage effective responses) and output 50403 (Strengthened national authorities and stakeholders in crisis response).

FAO maintains a database of animal feed producers and manufacturers with whom they have previously worked. There are also good practices of maintaining prototypes and templates of various agreements likely to be required in different contexts. Farm premises registration, mapping of the livestock value chain infrastructure, animal movement routes, critical logistics facilities, country investment in real-time data systems, and GIS-based analytics, greatly support operational planning for disaster response and rehabilitation. The review did not find any record of disaster response (excluding animal health-related disasters) within the region that used an IT-enabled decision support system.

Timely mobilization of resources and ensuring continuity of resources for targeted disaster response always remains a challenge. Donor funding is generally for short-term emergency-type projects. In some areas, FAO has explored ways of finding support for a succession of short-term projects for a target area, focusing on the long-term sustainability of the interventions and synergy where possible. The ongoing efforts within the region at disaster risk mapping and prediction can greatly support resource planning and preparedness.

### **LEGS Core Standard 3: Technical support and agency competencies**

The review indicates project-level involvement of sector-related technical experts in the majority of cases. The training programmes conducted as part of the various response projects focused on building the capacity of local communities on improved husbandry practices. There are limited instances of training for the livestock farming community on good practices to reduce the impact of threats and crises (see FAO strategic output 50301 – Improved capacities of countries, communities, and key stakeholders to implement prevention and mitigation good practices to reduce the impacts of threats and crises). In one instance (Serbia flooding crisis), a project conducted a LEGS 3 day training course.

### **LEGS Core Standard 4: Initial assessment and response identification**

A detailed needs assessment and close engagement with the country government at different levels informed targeting of areas for intervention. Several project documents referred to a participatory and transparent beneficiary selection process, targeting vulnerable groups such as female headed households, families and poor households. Where communities were hosting displaced households, interventions were planned for both communities to reduce any tension. Interventions were designed to meet at least one of the LEGS livelihoods objectives (to provide immediate benefits, to protect assets or to rebuild assets).

### **LEGS Core Standard 5: Technical analysis and intervention**

Many of the interventions addressed feed shortages, loss of livestock and the need for animal health support, with the aim of supporting sustainable livestock-based livelihoods and using local services and markets where possible. There were reports of synergy through multiple responses to ensure maximum use of any multiplier effect arising from the intervention. There were instances where the technical intervention required additional planning; for example, feed distribution in Tajikistan, or imported livestock distribution in Kosovo.

### **LEGS Core Standard 6: Monitoring, evaluation, and livelihoods impact**

There are several references to monitoring systems – for example, real-time transparent monitoring of distribution in collaboration with local contracted NGOs (Moldova drought) – though there were few documents available which either provided independent evaluation or assessed the impact of interventions.

### **LEGS Core Standard 7: Policy and advocacy**

There were several instances when emergency intervention reports highlighted the need to adopt and implement legal, policy, and institutional systems for risk reduction and crisis management in alignment with the FAO strategic objective and organizational outcome (see outcome 501, Countries and regions adopt and implement legal, policy, and institutional systems and regulatory frameworks for risk reduction and crisis management).

### **LEGS Core Standard 8: Coordination**

To avoid duplication of effort and for maximization of impact, coordination and collaboration with partners are vital. Similarly, documentation of learning and sharing of experiences can significantly assist in improving project design. The review records one instance in Georgia where a project developed a database, “Who is doing what and where”. The database covered various agricultural interventions carried out in Georgia as a response to the Georgia–South Ossetia crisis. In some interventions, FAO strengthened the coordination capacities by providing co-leadership of food security clusters (see output 50402, Strengthened coordination capacities for better preparedness and response to the crisis). The emphasis on coordination and improved investment programming ensured continued crisis management support (see output 50102, Enhanced coordination and improved investment programming and resource mobilization strategies for risk reduction and crises management). The review records one instance of joint activity involving the health sector where IDP beneficiaries received livestock support and also received health care and nutrition education. Disaster response projects in the region can always explore such opportunities for One Health action.

## Annex A. Typology of observed livestock sector responses (excluding capacity-development support)

CATEGORY EMERGENCY	CRISIS	OBSERVED RESPONSE
Slow onset emergency	Moldova drought	<i>Distribution of inputs:</i> Livestock feed/forage to beneficiary farmers along with concurrent distribution of maize seed to farmers.
Rapid onset emergency	Southeast Europe flooding	<i>Distribution of inputs:</i> Livestock feed, antibiotics, disinfectants, vaccines. <i>Distribution of equipment:</i> Motor sprayers for disinfectant, injectors for vaccines. <i>Distribution of live animals:</i> Heifer, gilts, piglets, kids and lambs.
	Earthquake in Albania	<i>Grant assistance:</i> For construction and reconstruction works (animal shelters/chicken coop/livestock feed storage facility/cow manure settling basin), equipment purchase (livestock feed mixer, cow milking machine, milk cooling tank, etc.), and purchase of live cow. <i>Cost shared assistance:</i> For various livestock sector-related economic activities (mostly purchase of livestock).
Complex emergencies	Armed conflict in the Nagorno Karabakh region	<i>Distribution of input:</i> Livestock feed. <i>Distribution of equipment and shelter materials:</i> Agricultural equipment, and materials for building temporary shelters for displaced livestock (including material to make, reconstruct chicken coops).
	War in Donbas (Donetsk and Luhansk oblasts, Eastern Ukraine)	<i>Distribution of input:</i> Livestock feed, and cash for the self-purchase of chicken feed (focusing on IDPs). <i>Distribution of live animals:</i> Day-old chicks, ducklings, turkey poults for backyard poultry production. Rabbits (with rabbit cages). Hives (with apiculture tools). <i>Distribution of equipment:</i> Dairy self-priming pumps with tank coolers, grain quality analyser, milk analysers, etc.
	Kosovo crisis 1998-99	<i>Distribution of input:</i> Livestock feed, semen straw (for artificial insemination). <i>Distribution of live animals:</i> In-calf heifers, breeding bulls. <i>Other in-kind support:</i> Veterinary kits with drugs and equipment for artificial insemination (for veterinarians).
	Georgia-South Ossetia crisis	<i>Distribution of input:</i> Livestock feed. <i>Distribution of equipment and shelter materials:</i> Construction materials for shelters, rabbit hutch, beekeeper hat with screen, metal frame scraper, metal/wood smoke blower. <i>Distribution of live animals:</i> Poultry, rabbits, small ruminants, pigs and hives.
	Tajikistan compound crises, 2008	<i>Distribution of input:</i> Livestock feed, forage seeds, vitamins/mineral additives, dewormers, vaccines.
	Kyrgyz revolution, 2010	<i>Distribution of input:</i> Fertilizer for forage production on private land.

## Annex B. LEGS Core Standards

- 1. Participation:** The affected population actively participates in the assessment, design, implementation, monitoring, and evaluation of the livestock programme.
- 2. Preparedness:** Emergency responses based on principles of disaster risk reduction, including preparedness, contingency planning, and early response.
- 3. Technical support and agency competencies:** Technical support through agencies having staff with appropriate qualifications, attitude, and experience to effectively plan, implement, and assess livelihood-based livestock programmes in an emergency context.
- 4. Initial assessment and response identification:** An initial participatory assessment of the role of livestock in livelihoods, the nature and extent of the emergency, the operational and policy context to identify the most appropriate, timely, and feasible intervention.
- 5. Technical analysis and intervention:** Livestock interventions based on sound technical analysis and implemented based on transparent and participatory targeting.
- 6. Monitoring, evaluation, and livelihoods impact:** Appropriate monitoring, evaluation, and livelihoods impact analysis to check and refine implementation and draw lessons for future programmes.
- 7. Policy and advocacy:** The identification and addressing of the policy-related obstacles in implementing the emergency response and support to the livelihoods of affected communities.
- 8. Coordination:** Different livestock interventions are harmonized and are complementary to humanitarian interventions intended to save lives and livelihoods.

**Source:** Livestock Emergency Guidelines and Standards, LEGS [51]

The 3rd edition of the LEGS Handbook will be available in June 2023. The Core Standards have been changed to Core Principles as follows:

## LEGS Principles

- Principle 1:** Supporting livelihoods-based programming
- Principle 2:** Ensuring community participation
- Principle 3:** Responding to climate change and protecting the environment
- Principle 4:** Supporting preparedness and early action
- Principle 5:** Ensuring coordinated responses
- Principle 6:** Supporting gender-sensitive programming
- Principle 7:** Supporting local ownership
- Principle 8:** Committing to monitoring, evaluation, accountability and learning (MEAL)



## Annex C. FAO Strategic Objective 5 with outcome, output, and areas of work

### Strategic Objective 5: Increase the resilience of livelihoods to threats and crises

(Adopted from FAO template prepared to support 2014-15 programme of work for the Asia and Pacific region for endorsement of APRC [52] and updated Results Framework 2020-21[53])

Organizational outcome	Organizational output	Areas of work
501: Countries and regions adopt and implement legal, policy, and institutional systems and regulatory frameworks for risk reduction and crisis management	50101 – Improved capacities to formulate and promote risk reduction and crisis management policies, strategies, and plans	<ol style="list-style-type: none"> <li>(1) Advice and technical assistance for the formulation and implementation of national policies, strategies, and plans for disaster risk reduction and management and resilience building for agriculture, nutrition, food security, and food safety, including gender mainstreaming and links with climatechange adaptation and sustainable natural resource management</li> <li>(2) Advice and technical assistance to develop capacities for policy development and implementation, investment planning, and monitoring of achievements and progress in risk reduction and crisis management, with specific consideration of gender mainstreaming and humanitarian-development linkages</li> <li>(3) Strengthened institutional frameworks and advocacy for risk transfer mechanisms, including financial instruments, tailored to the needs of smallholders in agriculture, forestry, and fisheries to mitigate losses caused by extreme events</li> </ol>
	50102 – Enhanced coordination and improved investment programming and resource mobilization strategies for risk reduction and crises management	<ol style="list-style-type: none"> <li>(1) Enhancing and building partnerships and coordination mechanisms at global, regional, and country levels for effective risk reduction and management, including enhanced cooperation between development and humanitarian stakeholders</li> <li>(2) Enhancing the delivery of risk reduction and crises management initiatives and programmes through partnerships at global, regional, and national levels, including capacitydevelopment activities for selected partners</li> <li>(3) Support member countries in mobilizing domestic and external investments and resources for enhanced disaster risk reduction and management through enhanced partnerships</li> <li>(4) Contribution to the risk reduction and crisis management governance at global and regional levels with specific emphasis on guiding principles, capacity development, and institutional arrangements</li> </ol>

Organizational outcome	Organizational output	Areas of work
502: Countries and regions provide regular information and early warning against potential, known, and emerging threats	50201 – Mechanisms are set up/improved to identify and monitor threats, assess risks, and deliver integrated and timely early warning	<ol style="list-style-type: none"> <li>(1) Vulnerability, resilience, and risk assessment, including climate-related analysis</li> <li>(2) Setting standards and developing tools together with platforms for partnerships, including sectorally integrated gaps identification</li> <li>(3) Early warning services and delivery of timely alerts linking to early action, including outreach to communities</li> <li>(4) Threat monitoring services including gaps identification at all levels</li> </ol>
503: Countries reduce risks and vulnerability at the household and community level	50301 – Improved capacities of countries, communities, and key stakeholders to implement prevention and mitigation good practices to reduce the impacts of threats and crises	<ol style="list-style-type: none"> <li>(1) Advice and technical assistance in the application of risk-related national and international regulatory frameworks and technical standards and guidelines for agriculture, nutrition, food security, and food safety</li> <li>(2) Identification of indigenous and innovative technologies and practices to support risk reduction</li> <li>(3) Testing, validation, documentation, and sharing of prevention and mitigation related technologies, tools, processes, and good practices for their appropriation, adoption, and wider application</li> <li>(4) Strengthening partnerships for the implementation of strategies and scaling up of good practices at a subnational level</li> </ol>
	50302 – Improved access of most vulnerable groups to services that reduce the impact of disasters and crises	<ol style="list-style-type: none"> <li>(1) Mainstreaming disaster risk reduction into local planning</li> <li>(2) Enhanced communities' access to social protection systems, financial risk transfer mechanisms, and investment in the context of extreme events and crisis</li> <li>(3) Strengthening livelihoods, value chain application (including access to markets), and nutrition education in crisis-prone situations</li> <li>(4) Strengthening capacities of local organizations for disaster risk reduction and management and climatechange adaptation</li> <li>(5) Assistance to vulnerable populations in risk-prone and conflict-sensitive areas on securing access and establishing appropriate rights to natural resources with due consideration to social and gender equality issues</li> <li>(6) Tools for impact assessment of community resilience to disasters and threats to inform policy programmes and interventions across sectors</li> </ol>

Organizational outcome	Organizational output	Areas of work
504: Countries and regions affected by disasters and crises prepare for and manage effective responses	50401 – Improved capacities of national authorities and stakeholders for emergency preparedness to reduce the impact of the crisis	<ul style="list-style-type: none"> <li>(1) Livelihoods, production systems, and hazards/risks baseline and resilience analysis</li> <li>(2) Contingency plan for shocks likely to occur and impact agriculture, nutrition, food security, and food safety</li> <li>(3) Countries and FAO's corporate preparedness for L1, L2 L3 emergencies in line with IASC (Inter-Agency Standing Committee) guidance</li> <li>(4) Emergency readiness measures (for example, strategic food, seed and forage reserves, community's contingency funds, savings, and loans)</li> </ul>
	50402 – Strengthened coordination capacities for better preparedness and response to the crisis	<ul style="list-style-type: none"> <li>(1) Co-leadership of Food Security Cluster and contribution to other clusters, in particular, the Nutrition Cluster</li> <li>(2) Coordination mechanisms integrating gender, nutrition, and accountability in an affected population for better preparedness and response</li> <li>(3) Capacity development of national counterparts and implementing partners on coordination mechanisms and functions</li> <li>(4) Global and regional coordination and strategic partnerships for emergency preparedness and response</li> <li>(5) Communication, advocacy, and resource mobilization for the role of agriculture in disaster and crisis situations</li> </ul>
	50403 – Strengthened national authorities and stakeholders in crisis response	<ul style="list-style-type: none"> <li>(1) Funding mechanisms for FAO immediate response and resources mobilization for quick recovery of production capacity</li> <li>(2) Joint post-crisis needs assessments and response analysis, with a gender perspective</li> <li>(3) FAO surge capacity to rapidly deploy key expertise in response to a sudden crisis and in particular L3 emergencies</li> <li>(4) Response implementation according to technical guidance, international standards, and humanitarian principles</li> <li>(5) Response capacity development of counterparts, partners, and communities for effective and timely responses to a crisis</li> <li>(6) Incorporation of agriculture and livelihoods transition strategies into response programmes</li> <li>(7) Response monitoring, evaluation, lessons learned, and feedback into the preparedness and resilience programming cycle</li> </ul>

## Annex D. Example of implementation guidelines

The list of eligible investments for a grant as per the Grant Operational Manual of the project Earthquake recovery support through UN SDG Acceleration Fund (Ref No. 25)

Investment type	Beneficiary	Preparation of project
<b>Constuction or re-constuction of agriculture facilities</b>		
<b><u>Open and semi-open animal shelter</u></b>		
Animal shelter of different sizes	Profit companies and individual business	by prospective beneficiary
Sheep/goat barn 100 m2	Individual farmer	by FAO
Cow barn 25m2	Individual farmer	by FAO
Cow barn 50m2	Individual farmer	by FAO
Cow barn 75m2	Individual farmer	by FAO
Cow barn 100m2	Individual farmer	by FAO
Chicken coop 30 m2	Individual farmer	by FAO
Chicken coop 75 m2	Individual farmer	by FAO
<b><u>Other agriculture infrastructures</u></b>		
Vegetable warehouse 50 m2	Individual farmer	by FAO
Animal feed storage 25 m2	Individual farmer	by FAO
Cow manure settling basin 21 m2	Individual farmer	by FAO
<b>Purchase of new agriculture machinery and/or equipment</b>		
Animal feed mixer	Individual farmer	Model at the choice of the farmer
Cow milking machine	Individual farmer	Model at the choice of the farmer
Milk cooling tank	Individual farmer	Model at the choice of the farmer
Wine tank (refrigerator)	Individual farmer	Model at the choice of the farmer
<b>Purchase of live animals</b>		
Cow	Individual farmer	Breed at the choice of the farmer

### Implementation guide for cost-shared support in response to Georgia–South Ossetia crisis

*Source:* Final report of the project, Restoration and improvement of agriculture-based livelihoods and food security for new internally displaced person settlements and returnees in the area adjacent to South Ossetia (AASO) (FAO).

An eight-step procedure was established to ensure a rigorous screening and quality control of the cost-shared investments. Each step was supported with appropriate documentation in order to minimize the risk of misuse of the financed inputs. The applications were reviewed by FAO's local procurement committee, verified by field missions and evaluated by experts from FAO and the Georgian State Agrarian University. Under the cost-share mechanism, beneficiaries first paid their share of the investment directly to the suppliers, with FAO covering the remaining share.



## Annex E. Examples of livestock sector response plan

War in Donbas (Donetsk and Luhansk oblasts, eastern Ukraine)

SHORT TERM (Recovery)	MEDIUM TERM (Recovery and rehabilitation)	LONG TERM (Towards development)
Provision of animal feed	Restocking support	
Supply inputs for own forage production	Implementation of good subsidized credit for more commercial farmers and input credits for subsistence farmers	Strengthening producers' organizations
Provision of animal health services and ensure availability of medicaments and vaccines	Promotion and support to the production and storage of high nutritional value feed and silage	Foster added value in agriculture through processing, improved supply chains, marketing, and sales
Provision of start-up kits of poultry and rabbits (animals, animal feed, vaccination, pens, etc.)	Support to processing and adding value to animal products, especially for elderly and women-headed households	Improved technology for larger farms
Cash assistance/vouchers for procurement of animal feed	Promotion and support to producers' organizations and interprofessional organizations. Repair of farm machinery facilities and equipment	

**Source:** FAO. 2015c. Socioeconomic impact and needs assessment, Donbas, Ukraine.

### Livelihood packages for Georgia–South Ossetia crisis

Type of input package	Household package description
Poultry	10 head of poultry; 40 kg of feed; 68 concrete blocks; 1 roofing slate. 5 wooden planks; 150 kg of cement; and 0.2 m <sup>2</sup> of sand.
Rabbit	3 rabbits; 1 rabbit hutch; and 20 kg of feed.
Small ruminant	1 sheep/goat; 100 kg of feed; 145 concrete blocks; 4 roofing slates. 14 wooden planks; 1 door; 200 kg of cement; and 0.5 m <sup>2</sup> of sand.
Pig	1 pig; 100 kg of feed; 145 concrete blocks; 4 roofing slates; 14 wooden planks; 1 door; 200 kg of cement; and 0.5 m <sup>2</sup> of sand.
Beehive	1 beehive; beekeeper hat with screen; metal frame scraper; and metal/wood smoke blower.

Note: The distribution of livestock should follow construction materials and animal feed, allowing sufficient time for beneficiaries to construct the animal shelters (one to two months).

**Source:** FAO. FAO final report (OSRO/GEO/902/EC). Restoration and improvement of agriculture-based livelihoods and food security for new internally displaced person (IDP) settlements and returnees in the Area Adjacent to South Ossetia (AASO). Georgia, FPMIS, FAO.

## Annex F. Example of uses of free distribution versus cost shared distribution

The following was the experience of an FAO project in relation to the Georgia–South Ossetia crisis:

### Use of free distributed animals and income generated

Type of animal	% eaten	% lost	% sold	% of households still rearing animals	Income generated per selling household (Georgian lari)
Poultry	28.8	49.0	1.1	21.1	75
Goats	11.1	22.2	22.2	44.4	105
Sheep	22.9	28.6	14.3	34.3	150
Rabbits	14.3	51.4	8.6	25.70	90
Pigs	N/A	100	N/A	0	N/A
Beehives	N/A	23.3	21.5	55.2	120

### Use of cost shared animals and income generated

Type of animal	% eaten	% lost	% sold	Income generated per selling household (Georgian lari)
Poultry	0.080	0.400	0.113	185
Goats	0.007	0.020	0.031	230
Sheep	0.000	0.000	0.000	-
Rabbits	0.000	0.003	0.000	-
Pigs	0.000	0.022	0.110	1000
Beehives	N/A	0.010	0.000	-

**Source: FAO.** FAO final report (OSRO/GEO/902/EC). Restoration and improvement of agriculture-based livelihoods and food security for new internally displaced person (IDP) settlements and returnees in the Area Adjacent to South Ossetia (AASO). Georgia, FPMIS, FAO.

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