

GOVERNMENT OF KARNATAKA

**Department of Rural Development
& Panchayati Raj**

Karnataka Nutrition Mission

Japan Social Development Fund

Supported

Karnataka Multi-sectoral Nutrition Pilot

**Integrated Environment & Social Assessment and Management
Plan**

(includes Tribal & Vulnerable Groups Development Plan)

30 April, 2014

Abbreviations

Abbreviation	Full form
BCC	Behaviour Change Communication
BMI	Body Mass Index
BPL	Below Poverty Line
CBO	Community based Organization
CIG	Common Interest Group
EDF	Energy Dense Food
EG	Environmental Guidance
EMP	Environment Management Plan
FSSA	Food Safety & Standards Act, 2006
GMP	Good Manufacturing Process
GoI	Government of India
GoK	Government of Karnataka
GP	Gram Panchayath
IESA	Integrated Environment & Social Assessment
JSDF	Japan Social Development Fund
KAP	Knowledge Attitude Practice
KCNM	Karnataka Comprehensive Nutrition Mission
KSRLPS	Karnataka State Rural Livelihoods Promotion Society
MGRD&YW	Mahatma Gandhi Rural Development and Youth Welfare Centre (MGRD&YW)
MIS	Management Information System
NGO	Non-governmental Organization
OP	Operation Policy
PD	Project Director
PDO	Project Development Objective
PDO	Panchayath Development Officer
PMU	Project Monitoring Unit
RDPR	Rural Development & Panchayathi Raj
SC	Scheduled Caste
SHG	Self-help Group
SMP	Social Management Plan
SOP	Standard Operating Procedure
SPM	State Project Manager
ST	Scheduled Tribe
TDP	Tribal Development Plan
TP	Taluk Panchayath
TVGDP	Tribals & Vulnerable Groups Development Plan
VNV	Village Nutrition Volunteers
ZP	Zilla Panchayath

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1 Introduction

1.1 Project Overview

The Government of Karnataka (GoK) is preparing the Rapid Response to the Food Price Crisis and Malnutrition in Karnataka State Project (henceforth referred to as the Project) with proposed funding from the Japan Social Development Fund (JSDF) which is managed by the World Bank.

The project development objective (PDO) is to increase access to nutrition-improving services by under-three children, adolescent girls and pregnant and nursing women from poor households in the target areas. This is intended to mitigate the impact of high and volatile food and fuel prices by providing direct nutritional support to vulnerable women and children who have had their access to nutritious foods curtailed by the reduced purchasing power of their families. The project will also address gaps in existing government programs that contribute to mitigating the crisis, including through improving the access of groups that are poorly covered by current services.

The project has three components to achieve the PDO, namely:

- **Component 1: Increase consumption of nutritious foods and improve household nutrition-related knowledge and behaviours.** This component will help increase consumption of nutritious foods and improve household nutrition-related knowledge and behaviours.
- **Component 2: Improve access to multi-sectoral interventions with an impact on nutrition.** This component will leverage interventions and services that have an impact on the nutritional status of poor families in the target areas, notably in the health, livelihoods, water and sanitation and livelihoods sectors.
- **Component 3: Project management and monitoring and evaluation.** This component will support program management, monitoring and evaluation.

The project is proposed to be implemented in Chincholi block of Gulbarga district and Devadurga block of Raichur district covering all 421 villages in these blocks. The project will target and directly benefit 41,713 vulnerable and poor (Below the Poverty Line- BPL) under 3 year-children, adolescent girls (11-18 years), pregnant and lactating mothers in these two blocks. The project will be operational for a period of three years.

The project is proposed to be implemented by the Karnataka State Rural Livelihoods Promotion Society (KSRLPS) with technical support from the Karnataka Comprehensive Nutrition Mission (KCNM). At the block level, the project will partner with an NGO to implement the project. The NGO (non-governmental organization) will identify, mobilize and work with the project beneficiaries with support from Village Nutrition Volunteers (VNV) who will be appointed for each village.

The project activities consists of identification and registration of project beneficiaries, capacity building of existing SHGs (Self-help groups) or formation and nurture of SHGs from the project beneficiaries, local procurement and production of energy dense foods¹ (EDF), packaging and delivery of the EDF to project beneficiaries, regular behaviour change communication and follow up to ensure correct and regular use of the EDF by intended beneficiaries. In addition, the project will also leverage existing schemes and programs being implemented in the target area, especially in the areas of health, livelihoods, water and sanitation.

¹Energy dense foods consist of roasted ragi, wheat, soya bean, green gram powdered and mixed with jaggery or sugar.

1.2 Need for Integrated Environment & Social Assessment

The proposed project has simple activities that are clearly targeted to reach specific beneficiaries drawn from among the poor and vulnerable sections of the 421 villages in the project area. Individually and collectively, the project has no significant environmental impacts that are negative in nature. However, the project area has a substantial tribal population (Scheduled Tribes).

Therefore, as a matter of adequate caution and due diligence, the GoK has carried out an Integrated Environment and Social Assessment (IESA) of the project.

1.3 Objectives and Methodology of IESA

Objectives

The main objective of the IESA is to identify the key environmental and social issues related to the proposed activities under the project. The IESA is expected to both identify opportunities to enhance environmental and social benefits as well as mitigate any potential concerns.

Specifically, the IESA was conducted to:

Identify and assess the potential environmental and social impacts and risks of the interventions proposed under the project, and recommend mitigation measures;

Identify opportunities for enhancing environment and social benefits;

Assess the applicability of i) World Bank's Operational Policies (OPs) on Environmental Assessment (OP 4.01), Pest Management (OP 4.09), Forests (OP 4.36), Indigenous Peoples (OP 4.10), Natural Habitat (OP 4.04), Involuntary Resettlement (OP 4.12); and ii) Government of India (GOI) and GoK legislations and policies on environment and social issues which would apply to the project; and,

Prepare Environmental Management Plans (EMPs), Social Management Plan (SMP) including Tribal & Vulnerable Groups Development Plan to manage adverse impacts of the project, if any.

Methodology

Broadly, the methodology included desk review of relevant environment policies, legal and regulatory provisions of the World Bank, Government of India and Government of Karnataka. This was followed by field visit to an existing pilot project of the GoK in Gubbi block of Tumkur district and stakeholder consultations in 3 Gram Panchayaths each in the two project blocks. The following is a summary of the key findings from the field visit and the stakeholder consultations (See Annex 4 & 5 for more details):

Environmental Issues:

- No significant adverse environmental impacts were reported or observed during the field visit to the existing pilot project in Gubbi block.
- However, the need for Good Manufacturing Process (GMP) covering safety, health and hygiene aspects was noticed
- Requirement of registration of EDF manufacturing unit under Food Safety and Standards Act, 2006 and compliance with its provisions was observed

Social Issues:

- No significant adverse social impacts were observed during the field visit to the Gubbi pilot or from the stakeholder consultations
- However, in the Gubbi pilot, some communities (especially Gollas) were found living in separate community specific hamlets where they usually did not permit members of SC (Scheduled Caste) to freely enter and access homes.

- The NGO partner mentioned that of all the communities, their survey showed high levels of malnutrition and poor health and hygiene in this community.
- In the project blocks, where there is a significant ST (Scheduled Tribe: Beda, Valmiki & Nayaka) population in Devadurga, significant SC population in Chincholi, muslims being the largest minority community, stakeholders which included Asha and Anganwadi workers apart from the various communities reported no such problems.
- However, in terms of the actual EDF, there was clear and unambiguous rejection of a ragi based preparation. All stakeholders reported that ragi based preparations were not liked and were usually being fed to cattle.
- In both the blocks, migration was reported as a common feature especially during summer months.
- In both the blocks, the intended beneficiaries as well as Panchayath Development Officers, Gram Panchayath Presidents, Asha and Anganwadi workers were not aware of the details of the project. Asha and Anganwadi workers were well aware of the issues related to malnutrition and measures to address the same.
- Members from all communities welcomed the project and felt that its activities would be of benefit to them. They expressed their willingness to participate in the project.

Thus, overall no significant adverse environment and social impacts were reported during the field visit and stakeholder consultations.

2 Project Area – Key Features

The project area comprises Chincholi block of Gulbarga district and Devadurga block of Raichur district in northern part of Karnataka and is close to Andhra Pradesh² border. Chincholi is situated in the north eastern part of Gulbarga district and shares borders with Sedam block in the south, Tandur Mandal of Rangareddy district (Telangana state) on the east, Bidar district in the north and Chittapur block in the west.



Devadurga is bounded by Yadgir district on the north, Raichur block on the east, Manvi block on the south and Lingsugar block on the west.



Both blocks have an undulating terrain with an average height above mean sea level (MSL) of 465.58 meters for Chincholi and 378.5 meters for Devadurga.

Table 2-1 shows information on key indicators for the project area:

Table 2-1: Key indicators for project area

Sl.	Indicator	Chincholi block	Devadurga block
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²Now in Telangana state

No.			
1	Area in sq.km	1552.2	1509.8
2	No. of Gram Panchayaths	32	28
3	Total population (2011 census)	254287	280606
4	Scheduled tribes population (%)	3.78	34.4
5	Scheduled caste population (%)	36.11	21.55
6	Area under forests ha.	19622	5301
7	Agroclimatic zone	North-eastern transition zone	North-eastern dry zone
8	Major soils	Shallow to medium black clay in most areas and lateritic in some area	Deep to very deep black clay in major areas and shallow to medium black in minor pockets.
9	Average rainfall (mm)	1003 (during 1941-1990). Ranged from 608-1365 in last decade	736(during 1941-1990). Ranged from 428 to 1086 in last decade
10	Major crops grown	Pulses, especially red gram, jowar, cotton, oilseeds (safflower), sugarcane	Rabi jowar, Bajra, Pulses, Oilseeds & cotton. In areas of canal irrigation paddy is the major crop
11	% of Net irrigated area to Net area sown	5.79	56.72
12	% households with tap water connection	36.85	39.66

Source: District at a Glance of Gulbarga and Raichur districts

In addition, Chincholi has a wildlife sanctuary with an area of 134.88 sq.km., which is home to hyena and wolves. This is south India's first dry land wildlife sanctuary. The final notification which came in November, 2011 states that this sanctuary is the only area in Hyderabad-Karnataka region with features of Western Ghats and is therefore of importance from a biodiversity point of view also.

In contrast, Devadurga has a little area under forest but is covered by two irrigation projects viz., Tungabhadra dam and Narayanpur dam. All Gram Panchayaths in the block have some areas under irrigation. While the Tungabhadra dam has been irrigating areas in the block for the last 15-20 years, the areas under the Narayanpur dam are more recent.

2.1 Social Composition & Its Features

34% of the population in Devadurga block belongs to Scheduled Tribes (Beda, Valmiki and Nayakas) while in Chincholi block Scheduled Tribes constitute 4% of the population. Scheduled caste population in Devadurga and Chincholi blocks are 22% & 36% respectively (Census, 2011). Chincholi has a large concentration of lambanis (classified as Scheduled Caste in Karnataka) who live in exclusive hamlets called thandas. Devadurga too has a sizable lambani population, but has a high concentration of Scheduled tribes (Beda, Valmiki and Nayakas). In both blocks, Muslims are the largest of the minority communities.

The three dominant tribal groups namely, Beda, Valmiki and Nayaka do not speak different dialects. They all speak the state's official mainstream language, Kannada. Religious practices, rituals, customs, festivals, shared burial grounds, shared water sources do not distinguish the ST population from the rest. None of the tribal groups in the project districts are living in exclusive clusters/habitations.

Historically, the Nayakas were hunter-warriors and ruled large parts of Bellary, Raichur, Chitradurga and adjoining parts of Andhra Pradesh (Kalyandurga, Mayakonda) during the 14-17th centuries. Although hunting is their ancient profession, now they indulge in it only ritually and symbolically on Ugadi (Hindu New Year Day). Today, most are farmers and follow similar livelihood patterns as the mainstream communities.

SCs and Muslim communities are also well integrated into the social fabric of the blocks and have agriculture and agriculture labour as their main livelihood. Migration is a common feature for all communities during summer³. Dairying as a livelihood is very limited, with most households having only non-descript, indigenous cattle. Despite being an irrigated area, Devadurga has less than 1% of its cattle as cross-breed cows.

2.2 Human Development Index of Scheduled Tribes & Scheduled Castes

Although the tribals and scheduled castes are mainstreamed and do not have a distinct identity their performance in terms of the Human Development Index lags behind the rest in the state. The Karnataka Human Development Report (HDR), 2005⁴ conducted a special sample survey in 2004 of the STs and SCs. The results indicate that the attainment in human development of the Scheduled Castes (0.575) is higher than that of the Scheduled Tribes (0.539), but much lower than that of the total population of the State (0.650). The gap is of the order of 11% for the SCs and 17% for the STs. The HDI of the SCs and the STs is closer to the HDI of the total population in 1991 (0.541). The HDI for SCs in 2004 is about 6% higher than the state HDI in 1991 while the HDI for STs in 2004 has still not caught up with, and is 0.55 per cent below, the HDI of the total population in 1991.

In effect, the human development status of the Scheduled Castes and the Scheduled Tribes in Karnataka is about a decade behind the rest of the State. Overall, the status of the STs is poorer compared to both the SCs and the total population. The health index of both the SCs and the STs is below the State health index for 1991, while the education index of the SCs is above, and that of the STs is below, the 1991 index for the total population. The income index of both the SCs (0.475) and the STs (0.442) falls in between the State average for 1991 (0.402) and 2001 (0.559). The largest gaps are in income and education, with the SCs being 15% and the STs being 20% below the State income index in 2001 and 11% and 21% respectively below the State education index for 2001. In general terms, the human development of the SCs and the STs in 2004 is comparable to the State's human development status in 1991. This finding throws up challenges for policy makers. Yet, the status of the SCs and the STs in Karnataka is usually better than the comparable figures nationally.

Implication for SMP (Social Management Plan)

- Ragi is not grown in both blocks, while there is limited area under groundnut in Chincholi
- Any EDF that needs to be mixed with milk would require the household to make a cash purchase

³Even in Devadurga where irrigation is available, people migrate because water is sufficient only for 1 crop season

⁴Karnataka Human Development Report, 2005, Govt. of Karnataka

- Although, there is a wildlife sanctuary in the project area, there will be no likely impact on it since the project activities are limited to the households of the target population
- Though, all communities interact and work freely with one another, presence of a large ST population and lambanis (SCs) who tend to live in separate habitations called thandas means the project would have to make efforts to ensure that these communities are involved in the project.

3 Policy, legal & regulatory framework

This section analyzes various policies, acts and regulations of the GoI and GoK that are relevant to this project and address environmental and social concerns. In addition, this section also assesses the applicability of World Bank safeguard policies in the context of the project.

3.1 Policies, acts & regulations of GoI&GoK

3.1.1 Environment

Table 3-1: Environmental Policies/Acts/Regulations

Policy/Act/Regulations	Provisions	Applicability to the project
National Environment Policy 2006	To protect and conserve critical ecological system and resources and to ensure equitable access to these resources for communities which are dependent on these resources for their livelihood.	
The Environment (Protection) Act, 1986 <i>Amended: 1991</i>	EPA (1986) is an umbrella Act that provides for introduction of various regulations aimed at environmental conservation and protection. It empowers the Central Government to establish authorities charged with the mandate of preventing environmental pollution of all kinds.	<i>Not applicable</i> , since the project does not have any activities that require the permission of the Karnataka State Pollution Control Board
The Water (Prevention and Control of Pollution) Act <i>Amended: 1988</i>	Provision for prevention and control of water pollution and maintaining or restoring of wholesomeness of water in the country. Laying down the permissible limits/ standards of pollutants likely to be emitted, collection of samples of effluent and analysis and provisions for penalties.	<i>Not applicable</i> , since the project does not have any activity that produces liquid effluents.
Food Safety & Standards Act, 2006	An act to consolidate the laws relating to food and to establish the Food Safety and Standards Authority of India for laying down science based standards for articles of food and to regulate their	Applicable , since the project activities deal with production of energy dense food, its packaging and distribution to project beneficiaries.

	manufacture, storage, distribution, sale and import, to ensure availability of safe and wholesome food for human consumption	
Food Safety and Standards (Licensing and Registration of Food Businesses) Regulations, 2011	Provides for registration and licensing of food operators and defines ‘General Hygienic and Sanitary Practices’ to be followed by Food Business Operators	Applicable. All EDF producing units in the project will have to register with the Food Safety & Standards Authority of India and also comply with hygiene and sanitary practices listed in Schedule 4, Part I of this regulation.
Food Safety and Standards (Food Products Standards and Food Additives) Regulations, 2011	Provides details of standards for various food products and ingredients that go into it.	Applicable.
Food Safety & Standards Rules, 2011	Provides details of relevant officers and procedures to be adopted by them to enforce the regulations of the FSS Authority	Applicable.

3.1.2 Social

Table 3-2: Social Policies and Acts

National Policy on Tribal Development – 1999	The policy seeks to bring scheduled tribes into the mainstream of society through a multi-pronged approach for their all-round development without disturbing their distinct culture.	Applicable The need is to ensure that tribal communities participate in the project activities and there are no adverse impacts on local tribal groups.
Tribal Sub-Plan (TSP)	In Karnataka, under the TSP, all funds from various programmes are pooled and used strategically to support, housing, education and irrigation infrastructures in tribal areas.	Not applicable. The project does not invest in creating infrastructure.
Child Labour (Prohibition & Regulation) Act, 1986	This Act prohibits the employment of children below the age of 14 in factories, mines and in other forms of hazardous employment including construction, and regulates the working conditions of children in other employment.	Applicable. The project invests in setting up unit to produce EDF which would employ workers.
Minimum Wages Act 1948	This Act provides for fixing minimum wages to be paid to unskilled temporary workers. It also provides for equal wage payment to men and women labourers for the same work	Applicable. The project invests in setting up units to produce EDF where workers would be employed. The project needs to ensure that minimum wages are paid and that wage parity is

maintained for men and women workers for doing the same work.

3.2 World Bank Safeguard Policies

Table 3-3: Applicability of World Bank Safeguard Policies		
World Bank Operational Policy	Details	Relevance/ Applicability
Environmental Assessment (OP4.01)	It is an umbrella policy through which potential social and environmental impacts are identified and mitigation measures proposed. Assessment process determines whether other safeguard policies apply	Applicable.
Forestry(OP4.36)	Establishes maximum standards on the types of forest projects that the Bank will finance. Provides for financing of commercial logging and plantations under restricted conditions.	Not applicable.
PestManagement (OP4.09)	Promotes the use of biological or environmental control methods and reduces reliance on synthetic chemical pesticides and sets conditions on the acquisition and use of pesticides.	Not applicable.

Table 3-3: Applicability of World Bank Safeguard Policies

World Bank Operational Policy	Details	Relevance/ Applicability
Indigenous Peoples (OP 4.10)	Ensures that the development process fully respects the dignity, human rights, economies, and cultures of Indigenous Peoples.	Applicable. Tribal peoples living in the project area are culturally and socially not distinct from the mainstream communities. They speak the same language (Kannada) and have similar religious and cultural practices. Their livelihoods are also similar to mainstream communities. However, as development outcomes as evidenced by HDI shows that they lag behind the rest of the state along with the SCs the OP is being triggered. A Tribal & Vulnerable Groups Development Plan has been prepared to ensure that the project brings greater focus on them.
Natural Habitats (OP4.04)	Establishes limits on Bank financed projects that may impact areas with high degrees of plant and animal species and that have not been essentially modified by human activity.	Not applicable, even though the project area has a wildlife sanctuary since the project activities are limited to villages and households of targeted beneficiaries and will not have any impact on the wildlife sanctuary.
Involuntary Resettlement (OP4.12)	Establishes standards and procedures for projects that displace people from their homes or cause economic displacement due to loss of land, buildings, or sources of income.	Not applicable. The project involves no resettlement
Physical Cultural Resources (OP 4.11)	Requires Bank projects to avoid damage to and assist in the preservation of cultural property, such as sites having archaeological, paleontological, historical, religious and unique cultural values	Not applicable.
Safety of Dams (OP/BP4.37)	Establishes procedures and safety requirements for construction of new dams and for projects that depend on safe functioning of existing dams. Requirements apply to large dams (15 m or more in height)	Not applicable.

Table 3-3: Applicability of World Bank Safeguard Policies		
World Bank Operational Policy	Details	Relevance/ Applicability
Projects in Disputed Areas (OP/BP/GP7.60)	Establishes minimal rules for Bank-financing of projects in areas disputed by two or more states.	Not applicable.
Project on International Waterways (OP/BP/GP7.50)	Seeks to reduce potential conflict between states that border an international waterway over projects that may affect the use or pollute the waterway.	Not applicable.

The above analysis shows that only two OPs (OP4.01 Environment Assessment and OP 4.10 Indigenous Peoples) are triggered by this project.

4 Assessment of Environmental and Social Impacts of the Project Components

The project seeks to increase access to nutrition-improving services by under-three children, adolescent girls and pregnant and nursing women from poor households in the target areas. This is intended to mitigate the impact of high and volatile food and fuel prices by providing direct nutritional support to vulnerable women and children who have had their access to nutritious foods curtailed by the reduced purchasing power of their families. The project will also address gaps in existing government programs that contribute to mitigating the crisis, including through improving the access of groups that are poorly covered by current services.

4.1 Project Components

The project has the following components to achieve the PDO, namely:

Component 1: Increase consumption of nutritious foods and improve household nutrition-related knowledge and behaviours. This component will help increase consumption of nutritious foods and improve household nutrition-related knowledge and behaviours.

More specifically, the project will:

- **Identify & register beneficiaries to be covered under the project:** A door to door survey of all BPL families in the project area will be carried out that will assess the extent of malnutrition in the family among the target groups⁵ that the project seeks to serve.
- **Identification, capacity building and deployment of Village Nutrition Volunteer:** Women from among the local community would be identified to render services to the project beneficiaries in terms of mobilizing and organizing them, providing information and behaviour change communication to ensure that project beneficiaries take better nutritional care, delivery EDF to beneficiaries and carry out appropriate follow-up to ensure that is used as intended and by intended beneficiaries only. In addition, the VNV will be responsible for

⁵Children below the age of 3, adolescent girls (11-18 years of age), pregnant and lactating mothers

maintaining a regular record of nutritional and health indicators of the identified and registered project beneficiaries throughout the duration of the project.

- **Mobilization, organization & delivery of behaviour change communication to project beneficiaries:** The partner NGO will mobilize and organize beneficiaries into SHGs or Common Interest Groups (CIGs). It will design and deliver behaviour change communication (BCC) to help change perceptions and practices related to nutrition for the target groups in the project area. In doing this it
- will not only work with the direct beneficiaries but also with other members of such families.
- **Establishment & operation of EDF production unit:** A unit to produce energy dense food that is based on formulae provided by the Karnataka Comprehensive Nutrition Mission will be set up in each block⁶. The unit will comprise of various machineries to clean, roast, pulverize, mix, pack and store the EDF. The unit will be operated by women drawn from project beneficiaries with management support from the partner NGO.
- **Distribution & use of EDF:** The packed EDF will be distributed to beneficiaries on a weekly basis at their doorsteps. The EDF packages will be transported from the EDF unit and delivered to VNVs who will in turn deliver to the final beneficiaries. The VNV will also ensure that the beneficiaries store the EDF in air-tight containers and use it as directed. EDF packages will be sized such that they are sufficient to meet the requirements for the beneficiary for only a week. This will ensure that the EDF is used well before its expiry date which is 30 days from the date of manufacture.
- **Monitoring of progress and follow-up with beneficiaries:** The partner NGO with help from the VNV will monitor the progress of the beneficiaries in terms of their nutrition and health on a regular basis and record the details in a register. They will vigorously follow-up with beneficiaries that lag behind.

Component 2: Improve access to multi-sectoral interventions with an impact on nutrition. This component will leverage interventions and services that have an impact on the nutritional status of poor families in the target areas, not only in the health, livelihoods, water and sanitation and livelihoods sectors.

At the field level, the project will work closely with Asha and Anganwadi workers to help leverage their support and activities related to health and nutrition. It will also work through the Panchayathi Raj system to leverage other programs. At the state level the Rural Development and Panchayathi Raj department anchors this program and thus it will help dovetail with this project several of its programs in the areas of livelihoods, total sanitation, etc.

Based on the above discussion, the key interventions of the project may be grouped as:

- **Identify & register beneficiaries to be covered under the project**
- **Identification, capacity building and deployment of Village Nutrition Volunteer**
- **Mobilization, organization & delivery of behaviour change communication to project beneficiaries**
- **Establishment & operation of EDF production unit**
- **Distribution & use of EDF**
- **Monitoring of progress and follow-up with beneficiaries**

Of these, establishment and operation of EDF production unit and distribution and use of EDF have implications for environmental impact, while the rest are relevant to social issues.

⁶Depending on the quantity to be processed and packaged, more than 1 unit may be set up in a block. In the current pilot at Gubbi, there are 3 EDF unit each producing about 12-15 tons/month of packaged food.

4.2 Project Interventions: Assessment of Environmental Impacts

4.2.1 Establishment & operation of EDF production unit

Figure 4-1 presents a process flow of the operation of EDF production unit⁷

Figure 4-1: EDF Production Process Flow



In addition, the EDF unit has a storage space for raw material, a room for housing a 30hP generator that provides back-up power and a toilet for workers. Since the unit is following a weekly cycle of procurement, production and distribution, storage of raw material and finished goods is very limited. This reduces chance of spoilage during storage and possibility of contamination of EDF.

Chaffy grains, small stones and sand particles from cleaning process and husk during roasting of some grains such as ragi are the main wastes generated in the EDF unit. All these waste material are collected separately during the respective processes and are disposed. Chaffy grains and husk are used in poultry units, while small stones and sand particles are disposed off locally. Thus, the environmental impact of the EDF unit is not adverse and not significant.

However, from a safety, hygiene and sanitation point of view, care needs to be taken. These are presented in Environmental Guidance 1 (EG1). It is recommended that EG1 be made a part of the contract for the partner NGO which will operate or train SHGs to operate the EDF unit. This will ensure that EG1 is mainstreamed into the working of the EDF unit and is not seen as an additional environmental requirement.

4.2.2 Distribution & use of EDF

The packaged EDF is distributed to beneficiaries on a weekly basis. The size of the pack is such that a beneficiary gets only a week's dosage of EDF, if taken as per the VNV's advice. This ensures that the EDF that is given to the beneficiaries is consumed well within its expiry date, which is 30 days from date of manufacture, which is clearly mentioned on the packaging.

⁷This is based on the current pilot EDF unit running in Gubbi block, Tumkur district

While there are no adverse environmental impacts in the distribution and use of EDF, care needs to be taken to ensure that the EDF is used within a week or well before its expiry date and the EDF is stored in air-tight containers and kept away from moisture. As a matter of precaution, the project could give every beneficiary home an air-tight container (preferably with a screw-on lid) to store the EDF along with a spoon to measure out appropriate quantity for consumption. The VNV could be asked to regularly check whether the container is being used to store EDF and whether it is being kept clean and dry. This will reduce the chances of any contamination of the EDF at the user end.

Overall, the environmental impact of the project is not significant, however, guidance has been provided on safety, hygiene and sanitation aspects of operating the EDF.

4.3 Project Interventions- Assessment of Social Impacts

The project involves working closely with several stakeholders which include apart from the direct beneficiaries, their immediate family members, Community-based Organizations (CBOs), SHGs, Village Nutrition Volunteers, Asha and Anganwadi workers, staff of line departments at the block and Panchayath levels, Panchayath Development Officers (PDOs), etc.

While the project itself does not have an adverse social impact, the following issues need to be addressed adequately to ensure that social impacts are beneficial and enhanced:

Table 4-1: Social issues and suggested mitigation measures		
Social issue	Potential impact	Suggested mitigation measure
Adequate consultation with all stakeholders, especially direct beneficiaries is needed in designing, implementing and monitoring of the project	Inadequate consultations may lead to: <ul style="list-style-type: none"> Inappropriate EDF ingredients being used. E.g., ragi is not liked in the project area Potential for leveraging with other programs may get limited 	<ul style="list-style-type: none"> Conduct consultations with stakeholders in the project area to identify the right EDF composition. Launch the project with a multi-stakeholder workshop in each of the two blocks
Marginalized groups may not be able to access project benefits or participate in project activities.	Although, during the IESA, this did not emerge as an issue, some groups such as lambanis (SCs) tend to live in separate and distinct hamlets and may not participate in the project if meetings are held in places that are far off from their dwellings.	<ul style="list-style-type: none"> Ensure that meetings and other project activities are held in places that are convenient for all communities to access. Where this is not possible special meeting may be held in lambanithandas, etc. VNVs could be appointed from SCs and minority communities, especially in villages where they are in large numbers. Preference could be given to SCs, STs and members of minority communities while selecting people to work at the EDF unit.

<p>The project area, especially in Devadurga block has a substantial tribal population</p>	<p>In general, STs in the country tend to have a distinct and unique world-view and way of life as compared to the mainstream community. However, the ST community in the project area is well-integrated with other communities in the area and shares a similar livelihood and way of life.</p>	<ul style="list-style-type: none"> • Despite the good integration of STs with other communities, the project should make special and specific efforts to involve STs in all aspects of the project implementation. • This could be done by ensuring that in ST dominated areas, VNVs could be exclusively drawn from STs. In other areas, preference could be given to STs. • Preference could be given to STs to work in the EDF unit • If community monitoring of the project is carried out, then adequate representation of STs should be ensured in the monitoring committee.
<p>Women-headed households and disabled persons</p>	<p>Women-headed households and families with disabled members from among BPL families are usually more vulnerable than other BPL families.</p>	<ul style="list-style-type: none"> • If malnutrition exists in such families, then the project should ensure that such families are not left out • Preference should be given to members of women-headed households and disabled persons to work in the EDF unit

5 Environment & Social Management Plan

This section presents an Environment and Social Management Plan that takes into account environmental and social issues and measures suggested in the previous sections.

5.1 Environment Management Plan

The Environment Management Plan (EMP) has three sections:

- Environmental Guidance for establishment and operation of EDF Production Unit and Distribution & Use of EDF.
- Screening tool for new activities that may be taken up in the project.
- Implementation plan for the EMP

5.1.1 Environmental Guidance for establishment and operation of EDF Production unit

This EG gives detailed guidance for establishing and operating the EDF production unit. It provides details for locating, designing the layout, facilities to be provided, health, hygiene and sanitation requirements to ensure that the EDF produced is free from contamination and fit for use by the beneficiaries. The detailed EG 1 is presented in Annex 1. In addition, the following safety guidance shall be followed at all EDF units:

- Fire extinguishers shall be provided and displayed prominently in the EDF unit. Staff shall be trained in using the extinguishers and measures to be taken in case fire breaks out
- Equipment supplier will provide detailed instruction and training on safe handling of every equipment. The training shall include safety measures to be adopted for routine operations as well as maintenance
- Workers shall wear aprons, masks and head covers and ensure that there are no loose clothes or hair that could get entangled in the machines
- All equipment, especially the roaster will be cleaned only after it has been unplugged from electric supply and the heater has cooled down.

5.1.2 Environmental Guidance for distribution and use of EDF

This EG provides guidance on care to be taken in transporting, distributing and use of EDF to prevent contamination. The partner NGO shall comply with the following measures

Transportation of EDF Packages

- The vehicle used to transport EDF packages is thoroughly cleaned, washed and dried before it is loaded for despatch.
- The driver and the helper maintain the same personal health and hygiene standards that have been listed in EG 1 for the EDF Unit
- The vehicle is exclusively used for transporting only food items. If it is used for transporting other items then it should be thoroughly cleaned and washed with a suitable cleaning agent and disinfectant and dried before it is loaded with EDF packages.
- Unused packages should be taken back from VNVs and kept in separate box and returned to the EDF unit.

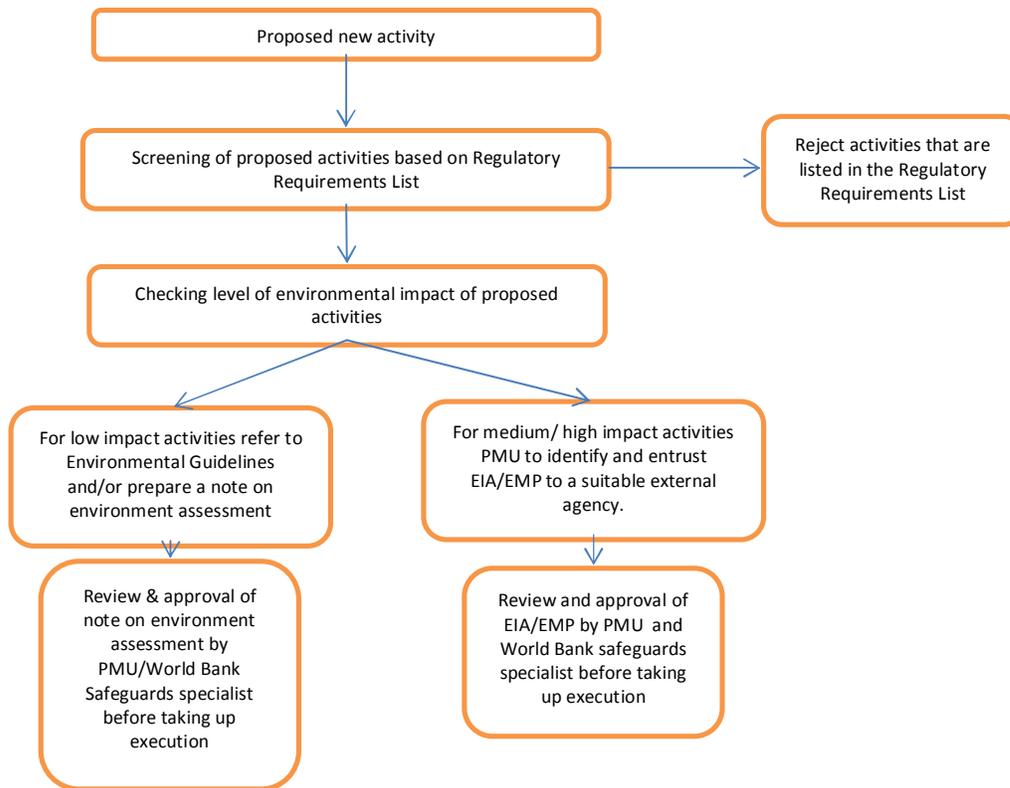
Distribution & Use by Beneficiaries

- EDF packages given to VNVs should be immediately distributed and not later than 1 day after it has been received.
- The VNV should not accept torn and opened EDF packages
- The project should provide each beneficiary an air-tight container with a screw-on lid and the VNV ensure that the content of the EDF package is stored in these containers only.
- The VNV should ensure that the EDF is kept in a dry and clean place and a dry spoon is used.
- Unused EDF at the end of the expiry date (currently, the EDF is being delivered on a weekly basis, therefore at the end of a week would be preferable) should be withdrawn from the beneficiary household and sent back to the EDF unit for disposal.

5.1.3 Screening Tool for any New Activities

Figure 5-1 shows the steps in screening new activities for environmental impacts, the review and approval process to be carried out before the activity is taken up for execution.

Figure 5-1: Screening tools for new activities



5.1.4 EMP Implementation Plan

Implementation responsibility

The Project Director (PD), KSRLPS with technical support from the Karnataka Comprehensive Nutrition Mission and supervisory support from the World Bank Safeguards Specialist will implement and monitor the EMP. The PD may in turn designate anyone from the PMU not below the rank of State Project Manager (SPM) to deal with this task on a day-to-day basis. As a first step, the PMU will prepare a Standard Operating Procedure (SOP) for establishing and operating the EDF unit which inter alia will include steps to operationalise the EG on health hygiene and sanitation that is provided in Annex xx. The PMU shall also ensure that the EDF units are compliant with the FSSA, 2006.

Making EMP compliance a part of performance standard for partner NGO

In order to ensure compliance and mainstream the EMP, the ToR and contract to be signed by the partner NGO will refer to the EMP and make compliance with it a part and parcel of the performance standards for the contract.

Training & capacity building

The project will organize training to partner NGO and staff of EDF unit to comprehensively cover the issues listed in EG1 and also on other aspects of the Food Safety & Standards Act, 2006. It will also organized a on-site training at the EDF units in the existing pilots for partner NGO and staff of EDF units that will be set up in the project area.

Monitoring EDF units for health, hygiene and sanitation performance

The Project Monitoring Unit (PMU) shall carry out regular and surprise checks of EDF units with respect to health, hygiene and sanitation. EG1 may be used as a check-list to verify and record findings. The PMU shall prepare on a quarterly basis a report on health, hygiene and sanitation report on each EDF unit and submit to the World Bank for review.

5.2 Social Management Plan

The project provides for 100% coverage of all those suffering from malnutrition that are children under 3 years of age, adolescent girls (11-18 years of age), pregnant and lactating mothers that are from BPL households irrespective of caste, creed or religion. Thus, the project by design itself ensures an inclusive approach vis-à-vis indigenous people and vulnerable, marginalized and minority communities.

OP 4.10 (World Bank Safeguards Policy on Indigenous Peoples) uses the term "Indigenous Peoples" in a generic sense to refer to a **distinct, vulnerable, social and cultural group** possessing the following characteristics in varying degrees:

- (a) *self-identification as members of a distinct indigenous cultural group and recognition of this identity by others;*
- (b) *collective attachment to geographically distinct habitats or ancestral territories in the project area and to the natural resources in these habitats and territories*
- (c) *customary cultural, economic, social, or political institutions that are separate from those of the dominant society and culture; and*
- (d) *an indigenous language, often different from the official language of the country or region.*

A group that has lost "collective attachment to geographically distinct habitats or ancestral territories in the project area"; (paragraph (b)) because of forced severance remains eligible for coverage under this policy.

However, as described in section 2.1, the major tribal communities (Beda, Valmiki and Nayaka) in the project area are no different from the mainstream communities in terms of language, cultural and religious beliefs, livelihood patterns and social practices. Therefore, these communities do not qualify as "Indigenous peoples" as used under OP 4.1.

On the other hand, these tribals along with other vulnerable communities such as the SCs (Lambanis) and minorities in the project area have lower HDIs indicating that they are lagging behind the mainstream communities in terms of development outcomes. Therefore, there is a need for the project to ensure that greater focus is brought to bear upon these groups in designing, implementing and monitoring the project. In order to do so, a **Tribal & Vulnerable Groups Development Plan (TVGDP)** has been prepared which is an integral part of the SMP. In addition, the SMP provides a **general guidance** on managing social issues in the project.

Thus, Social Management Plan has the following components:

- Tribal & Vulnerable Groups Development Plan
- General guidance on managing social issues
- Implementation plan

5.2.1 Tribal & Vulnerable Groups Development Plan

As explained in the preceding sections, tribal people in the project area are non-distinct from mainstream communities in terms of geography, culture, religion and social practices. However, they share with the SCs a low level of development as measured by the HDI. Therefore, this plan specifically covers tribals, SCs and other vulnerable communities such as minorities, women headed households, beneficiaries that are physically and/or mentally challenged. The plan has been mapped to the six broad interventions listed in Section 4.1 to facilitate ease of implementation. The detailed TVGD Plan is given in Table 5-1 below.

Table 5-1: Tribal & Vulnerable Groups Development Plan				
Sl. No.	Project Interventions	Description of activity	Specific Activities under TVGDP	Output
1	Identify & register beneficiaries to be covered under the project	A door to door survey of all BPL families in the project area will be carried out that will assess the extent of malnutrition in the family among the target groups that the project seeks to serve.	At the time of the door to door survey details of the caste and name of habitation of the identified beneficiaries will be collected. This will enable the partner NGO to identify beneficiaries that are part of tribal & vulnerable groups (TVGs) as well habitations and villages with greater concentration of these groups.	A complete village and habitation-wise list of project beneficiaries that belong to the tribal & vulnerable groups List of village-wise habitations with concentration of TVGs
2	Identification, capacity building and deployment of Village Nutrition Volunteer	Women from among the local community would be identified to render services to the project beneficiaries in terms of mobilizing and organizing them, providing information and behaviour change communication to ensure that project beneficiaries take better nutritional care, delivery EDF to beneficiaries and carry out appropriate follow-up to ensure that is used as intended and by intended beneficiaries only. In addition, the VNV will be responsible for maintaining a regular record of nutritional and health indicators of the identified and registered project beneficiaries throughout the duration of the project.	In general, preference will be given to eligible women from the TVGs in selecting VNVs. <i>However, in villages where the beneficiaries from the TVGs are more than 30%, priority will be given to encourage them to volunteer to serve as VNVs.</i> <i>Special efforts should be made to involve Lambanisin all aspects and activities of the project</i>	Villages with concentration of TVG beneficiaries would have only women from TVGs as VNVs. Overall, the project will have at least 30% of all VNVs drawn from the TVGs

3	Mobilization, organization & delivery of behaviour change communication to project beneficiaries	The partner NGO will mobilize and organize beneficiaries into SHGs or Common Interest Groups (CIGs). It will design and deliver behaviour change communication (BCC) to help change perceptions and practices related to nutrition for the target groups in the project area. In doing this it will not only work with the direct beneficiaries but also with other members of such families.	Partner NGO will hold specific consultations and discussions with TVGs to understand their Knowledge Attitude Practice (KAP) towards nutrition in designing the behaviour change communication strategy and community mobilization strategy so that it addresses issues that underlie malnutrition and assesses their receptivity to communication. In general, meetings or activities to mobilize, organize and deliver BCC will be held in all habitations of a village to ensure that all sections of the project beneficiaries are able to participate effectively. Specifically, in every village at least 1 BCC or any other meeting/activity related to the project will be held in a habitation with concentration of TVGs every month for the duration of the project.	BCC strategy and related IEC material is based on an understanding of the KAP of the project beneficiaries, specifically the TVGs At least 30% of all meetings in the project villages are held in habitations with TVG concentration
4	Leveraging other govt. programmes to deliver benefits to project beneficiaries on health, livelihoods, water & sanitation	Often underlying causes of malnutrition are rooted in lack of information/awareness, poverty, access to health, water and sanitation services in addition to food insecurity. Therefore, the partner NGO with help from the VNV will prepare a list of all relevant existing govt. programmes in the area and match the benefits from it to the	As part of the beneficiary identification and registration survey and in subsequent meetings and discussions, the partner NGO will assess for each beneficiary the reasons for malnutrition. It will identify existing govt. programmes that can help address these reasons, especially in the field of health, water and sanitation and livelihoods. This is the leveraging plan which will be prepared for each village and will address the convergence needs of each project beneficiary.	Convergence needs of project beneficiaries will be taken up on a "TVG First" mode Over the duration of the project at least 50% of all those that receive 1 or more convergence benefits are from the TVGs

		needs of the project beneficiaries.	In implementing the leveraging plan, priority will be given to the needs of TVGs	
5	Establishment & operation of EDF production unit	A unit to produce energy dense food that is based on formulae provided by the Karnataka Comprehensive Nutrition Mission will be set up in each block. The unit will comprise of various machineries to clean, roast, pulverize, mix, pack and store the EDF. The unit will be operated by women drawn from project beneficiaries with management support from the partner NGO.	Preference will be given to eligible candidates from TVGs in hiring workers for the EDF unit	At least 30% of all workers at the EDF units are drawn from TVGs
6	Monitoring of progress and follow-up with beneficiaries	The partner NGO with help from the VNV will monitor the progress of the beneficiaries in terms of their nutrition and health on a regular basis and record the details in a register. They will vigorously follow-up with beneficiaries that lag behind.	Adequate representation of TVGs will be ensured in Community Based Organizations formed/nurtured under the project, in community based committees, community/social audits and monitoring, etc. Specifically, CBOs, community based committees in areas with concentration of TVGs will have more than 50% representation from TVGs Project MIS will be configured to collect and produce data that is disaggregated to reveal	Project performance vis-à-vis TVGs is closely monitored and corrective action taken every 6 months

			issues, progress and performance of the project vis-à-vis the TVGs	
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5.2.2 General guidance on managing social issues

Adequate consultation with stakeholders should be conducted in designing, implementing and monitoring the project. During stakeholder consultations carried out as a part of the IESA, non-preference of ragi as an ingredient in EDF came out strongly. Similarly, before the BCC is designed, adequate consultations should be carried out with all stakeholders to ensure underlying causes of malnutrition are properly identified and addressed.

Often underlying causes of malnutrition are poverty, poor health, sanitation, etc. In identifying project beneficiaries, the project should go identify these causes and identify households that are most vulnerable and need more than just delivery of EDF to have better nutrition outcomes. These lists should be prepared for each village.

Plans to leverage existing programs should be prepared for each village/ Gram Panchayath and should focus on convergence needs of vulnerable households on a priority basis.

Compliance with Minimum Wages Act, 1948 should be ensured and wage parity between men and women workers employed in the project for doing the same work should be enforced.

Children will not be employed to work in any capacity in the project. The project shall ensure that the **Child Labour (Prohibition & Regulation) Act, 1986** is fully complied with.

5.2.3 Implementation of the Social Management Plan

Implementation responsibility

The Project Director (PD), KSRLPS with technical support from the Karnataka Comprehensive Nutrition Mission and supervisory support from the World Bank Safeguards Specialist will implement and monitor the SMP. The PD may in turn designate anyone from the PMU not below the rank of State Project Manager (SPM) to deal with this task on a day-to-day basis.

Making SMP compliance a part of performance standard for partner NGO

In order to ensure compliance and mainstream the SMP (especially the TVGD Plan), the ToR and contract to be signed by the partner NGO will refer to the SMP and make compliance with it a part and parcel of the performance standards for the contract. Disaggregated data that will allow for analysis of progress among SC and ST communities will be collected as per the agreed results indicators. A key deliverable will be **vulnerability classification of project beneficiaries and preparation of leveraging strategy** for each village/Gram Panchayath that provides priority to the needs of the vulnerable households.

Training & capacity building

The project will organize training to partner NGOs and other project staff on the methodology for identifying vulnerable households from among project beneficiaries.

Monitoring & Audit

The Project Monitoring Unit (PMU) shall design and implement a Management Information System (MIS) that provides data that is disaggregated to reveal performance of tribals, vulnerable and marginalized groups. A mid-term and end of term audit will be conducted to study the performance of the project vis-à-vis different social groups.

6 Annex 1: Environmental Guidance on Health, Hygiene and Sanitary Requirements for EDF Production Unit (EG 1)

Location and Surroundings

- The EDF Unit shall ideally be located away from environmental pollution and industrial activities that produce disagreeable or obnoxious odour, fumes, excessive soot, dust, smoke, chemical or biological emissions and pollutants, and which pose a threat of contaminating food areas that are prone to infestations of pests or where wastes, either solid or liquid, cannot be removed effectively.
- In case there are hazards of other environment polluting industry located nearby, appropriate measures should be taken to protect the manufacturing area from any potential contamination.
- It should not have direct access to any residential area.
- The premises to conduct food business for manufacturing should have adequate space for manufacturing and storage to maintain overall hygienic environment.
- The premises shall be clean, adequately lit and ventilated and offer sufficient free space for movement.

Layout and Design of EDF Unit

- As far as possible, the layout of the EDF Unit shall be such that food preparation / manufacturing processes are not amenable to cross-contamination from other pre and post manufacturing operations like goods receiving, pre-processing (viz. packaging, washing/portioning of ready-to-eat food etc).
- Floors, ceilings and walls must be maintained in a sound condition to minimize the accumulation of dirt, condensation and growth of undesirable moulds. They should be made of impervious material and should be smooth and easy to clean with no flaking paint or plaster.
- Doors shall also be made of smooth and non-absorbent surfaces so that they are easy to clean and wherever necessary, disinfect.
- The floor of food processing / food service area shall have adequate and proper drainage and shall be easy to clean and where necessary, disinfect. Floors shall be sloped appropriately to facilitate drainage and the drainage shall flow in a direction opposite to the direction of food preparation / manufacturing process flow.
- Adequate control measures should be in place to prevent insects and rodents from entering the processing area from drains.
- Windows, doors & all other openings to outside environment shall be well screened with wire-mesh or insect-proof screen as applicable to protect the premise from fly and other insects / pests / animals & the doors be fitted with automatic closing springs. The mesh or the screen should be of such type which can be easily removed for cleaning.
- The floor and skirted walls shall be washed as per requirement with an effective disinfectant the premises shall be kept free from all insects. No spraying shall be done during the conduct of business, but instead fly traps/flaps should be used to kill stray flies getting in to the premises.

Equipment & Containers

- Equipment and containers that come in contact with food and used for food handling, storage, preparation, processing, packaging and serving shall be made of corrosion free

materials which do not impart any toxicity to the food material and should be easy to clean and/or disinfect (other than disposable single use types).

- Equipment and utensils used in the preparation of food shall be kept at all times in good order and repair and in a clean and sanitary condition. Such utensil or container shall not be used for any other purpose.
- Every utensil or container containing any food or ingredient of food shall at all times be either provided with a properly fitted cover/lid or with a clean gauze net or the material of texture sufficiently fine to protect the food completely from dust, dirt and flies and other insects.
- No utensil or container used for the manufacture or preparation of or containing any food or ingredient of food intended for sale shall be kept in any place in which such utensil or container is likely by reason of impure air or dust or any offensive, noxious or deleterious gas or substance or any noxious or injurious emanations, exhalation, or effluvia, to be contaminated and thereby render the food noxious.
- Equipment shall be so located, designed and fabricated that it permits necessary maintenance and cleaning functions as per its intended use and facilitates good hygiene practices inside the premise including monitoring and audit.
- Appropriate facilities for the cleaning and disinfecting of equipments and instruments and wherever possible cleaning in place (CIP) system shall be adopted.
- Equipment and containers for waste, by-products and inedible or dangerous substances, shall be specifically identifiable and suitably constructed.
- Containers used to hold cleaning chemicals and other dangerous substances shall be identified and stored separately to prevent malicious or accidental contamination of food.
- All items, fittings and equipments that touch or come in contact with food must be:
 - Kept in good condition in a way that enables them to be kept clean and wherever necessary, to be disinfected.
 - Chipped enamelled containers will not be used. Stainless steel/aluminum/glass containers, mugs, jugs, trays etc. Suitable for cooking and storing shall be used. Brass utensils shall be frequently provided with lining.
- Arrangements for cleaning of containers, tables, working parts of machinery, etc. Shall be provided.
- No vessel, container or other equipment, the use of which is likely to cause metallic contamination injurious to health shall be employed in the preparation, packing or storage of food. (Copper or brass vessels shall have proper lining).
- All equipments shall be kept clean, washed, dried and stacked at the close of business to ensure freedom from growth of mould/fungi and infestation.
- All equipments shall be placed well away from the walls to allow proper inspection.

Facilities

Water supply

- Only potable water, with appropriate facilities for its storage and distribution shall be used as an ingredient in processing and cooking.
- Water used for food handling, washing, should be of such quality that it does not introduce any hazard or contamination to render the finished food article unsafe.
- The water used in the manufacturing shall be potable and if required chemical and bacteriological examination of the water shall be done at regular interval at a recognized laboratory.

- Continuous supply of potable water shall be ensured in the premises. In case of intermittent water supply, adequate storage arrangement for water used in food or washing shall be made.
- Water storage tanks shall be cleaned periodically and records of the same shall be maintained in a register.
- Non potable water pipes shall be clearly distinguished from those in use for potable water.

Cleaning Utensils/Equipments

- Adequate facilities for cleaning, disinfecting of utensils and equipments shall be provided. The facilities must have an adequate supply of hot and cold water if required.

Washing of Raw materials

- Adequate facilities for washing of raw food should be provided. Every sink (or other facilities) for washing food must have an adequate supply of hot and/or cold water. These facilities must be kept clean and, where necessary, disinfected. Preferably, sinks which are used for washing raw foods shall be kept separate and that should not be used for washing utensils or any other purposes.

Drainage & Waste Disposal

- Food waste and other waste materials shall be removed periodically from the place where food is being handled or cooked or manufactured to avoid building up. A refuse bin of adequate size with a proper cover preferably one which need not be touched for opening shall be provided in the premises for collection of waste material. This shall be emptied and washed daily with a disinfectant and dried before next use.
- The disposal of sewage and effluents (solid, liquid and gas) shall be in conformity with requirements of Factory/Environment Pollution Control Board. Adequate drainage, waste disposal systems and facilities shall be provided and they shall be designed and constructed in such manner so that the risk of contaminating food or the potable water supply is eliminated.
- Waste storage shall be located in such manner that it does not contaminate the food process, storage areas, environment inside and outside the food establishment and waste shall be kept in covered containers and shall be removed at regular intervals.
- Periodic disposal of the refuse/waste should be made compulsory. No waste shall be kept open inside the premise and shall be disposed of in an appropriate manner as per local rules and regulations including those for plastics and other non environment friendly materials.

Personnel facilities and toilets

- Personnel facilities shall include those for proper washing and drying of hands before touching food materials including wash basins and a supply of hot and /or cold water as appropriate; separate lavatories, of appropriate hygienic design, for males and females separately; and changing facilities for personnel and such facilities shall be suitably located so that they do not open directly into food processing, handling or storage areas.
- Number of toilets should be adequate depending on the number of employees (male /female) in the establishment and they should be made aware of the cleanliness requirement while handling food.
- Restand refreshments rooms shall be separate from food process and service areas and these are as shall not lead directly to food production, service and storage areas.
- A display board mentioning do's & don'ts for the workers shall be put up inside at

aprominent place in the premise in local language for everyone's understanding.

Air quality and ventilation

- Ventilation systems natural and/or mechanical including air filters, exhaust fans, wherever required, shall be designed and constructed so that air does not flow from contaminated areas to clean areas.
- Where diesel generating sets are used, they would be housed separately and away from the food manufacturing facility. Generating sets will be equipped with adequate sound proofing and exhaust mechanism so as to not contaminate or pollute the food manufacturing space.

Lighting

- Natural or artificial lighting shall be provided to the food establishment, to enable the employees/workers to operate in a hygienic manner. Lighting fixtures must wherever appropriate, be protected to ensure that food is not contaminated by breakages of electrical fittings.

Food Operations and Controls

Procurement of raw materials

- No raw material or ingredient shall be accepted if it is known to contain parasites, undesirable micro-organisms, pesticides, veterinary drugs or toxic items, decomposed or extraneous substances, which would not be reduced to an acceptable level by normal sorting and/or processing.
- All raw materials, food additives and ingredients, wherever applicable, shall conform to all the Regulations and Standards laid down under the Food Safety & Standards Act, 2006.
- Records of raw materials, food additives and ingredients as well as their source of procurement shall be maintained in a register for traceability.
- All raw materials should be checked & cleaned physically thoroughly before use
- Raw materials should be purchased in quantities that correspond to storage/preservation capacity. The present system of buying for a week's production requirement is sound.
- Packaged raw material must be checked for 'expiry date'/'best before'/'use by' date, packaging integrity and storage conditions.

Storage of raw materials and food

- Food storage facilities shall be designed and constructed to enable food to be effectively protected from contamination during storage; permit adequate maintenance and cleaning, to avoid pest access and accumulation.
- Segregation shall be provided for the storage of raw, processed, rejected, recalled or returned materials or products which will be distinguishably marked and secured. Raw materials and food shall be stored in separate areas from printed packaging materials, stationary, hardware and cleaning materials/chemicals.
- Storage of raw materials, ingredients, work-in-progress and processed / cooked or packaged food products shall be subject to FIFO (First in, First Out), FEFO (First Expire First Out) stock rotation system as applicable.
- Containers made of non-toxic materials shall be provided for storage of raw materials, work-in-progress and finished / ready to serve products.
- The food materials shall be stored on racks / pallets such that they are reasonably well above the floor level and away from the wall so as to facilitate effective cleaning and prevent

harbouring of any pests, insects or rodents.

- All non-food items that could contaminate food such as diesel fuel, detergents, disinfectants, etc., should be stored separately and away from food storage or manufacturing facility.

Food Packaging

- Packaging materials shall provide protection for all food products to prevent contamination, damage and shall accommodate required labelling as laid down under the FSS Act & the Regulations there under.
- For primary packaging (i.e., packaging in which the food or ingredient or additive comes indirect contact with the packaging material), only Food grade packaging materials are to be used .For packaging materials like aluminium plastic and tin, the standards to be followed will be as mentioned under the FSS Regulations and rules framed there under.
- All packaged food products shall carry a label and requisite information as per provisions of Food Safety and Standards Act, 2006 and Regulations made there under so as to ensure that adequate and accessible information is available to the each person in the food chain to enable them to handle, store, process, prepare and display the food products safely and correctly and that the lot or batch can be easily traced and recalled if necessary.

Food Distribution /Service

- Receptacles in vehicles and / or containers shall not be used for transporting anything other than foodstuffs where this may result in contamination of foodstuffs. Where the same conveyance or container is used for transportation of different foods, or high risk foods such as fish, meat, poultry, eggs etc., effective cleaning and disinfections shall be carried out between loads to avoid the risk of cross- contamination.

Management and Supervision

- A detailed Standard Operating Procedure (SOP) for the processing of food as well as its packing, despatch and storage will be developed for proper management which in turn would help in identifying any problem and the exact point, so that damage control would be faster.
- The EDF Unit shall ensure that technical managers and supervisors have appropriate qualifications, knowledge and skills on food hygiene principles and practices to be able to ensure food safety and quality of its products, judge food hazards, take appropriate preventive and corrective action, and to ensure effective monitoring and supervision.

Audit, Documentation and Records

- A periodic audit of the whole system according to the SOP shall be done to find out any fault/gap in the system.
- Appropriate records of food processing/preparation, production/cooking, storage, distribution, service, food quality, laboratory test results, cleaning and sanitation, pest control and product recall shall be kept and retained for a period of one year or the shelf-life of the product, whichever is more.

Sanitation and Maintenance of EDF Unit

Cleaning and Maintenance

- A cleaning and sanitation programme shall be drawn up and observed and there cord there of shall be properly maintained, which shall indicate specific areas to be cleaned,

cleaning frequency and cleaning procedure to be followed, including equipment and materials to be used for cleaning. Equipments used in manufacturing will be cleaned and sterilized at set frequencies.

- Cleaning chemicals shall be handled and used carefully in accordance with the instructions of the manufacturer and shall be stored separately away from food materials, in clearly identified containers, to avoid any risk of contaminating food.

Pest Control Systems

- The EDF unit, including equipment and building shall be kept in good repair to prevent pest access and to eliminate potential breeding sites. Holes, drains and other places where pests are likely to gain access shall be kept in sealed condition or fitted with mesh/grills/claddings or any other suitable means as required and animals, birds and pets shall not be allowed to enter into the food establishment areas/ premises.
- Food materials shall be stored in pest-proof containers stacked above the ground and away from walls.
- Pest infestations shall be dealt with immediately and without adversely affecting the food safety or suitability. Treatment with permissible chemical, physical or biological agents, within the appropriate limits, shall be carried out without posing a threat to the safety or suitability of food. Records of pesticides/insecticides used along with dates and frequency shall be maintained.

Personal Hygiene Health Status

- Personnel known, or believed, to be suffering from, or to be a carrier of a disease or illness likely to be transmitted through food, shall not be allowed to enter into any food handling area. A system shall be developed whereby any person so affected, shall immediately report illness or symptoms of illness to the management and medical examination of a food handler shall be carried out apart from the periodic checkups, if clinically or epidemiologically indicated.
- Arrangements shall be made to get the food handlers/employees of the establishment medically examined once in a year to ensure that they are free from any infectious, contagious and other communicable diseases. A record of these examinations signed by a registered medical practitioner shall be duly maintained.
- The factory staff shall be compulsorily inoculated against the enteric group of diseases as per recommended schedule of the vaccine and are cord shall be maintained.
- In case of an epidemic, all workers are to be vaccinated irrespective of the scheduled vaccination.

Personal Cleanliness

- Food handlers shall maintain a high degree of personal cleanliness. The food business shall provide to all food handlers adequate and suitable clean protective clothing, head covering, face mask, gloves and footwear and the unit shall ensure that the food handlers at work wear only clean protective clothes, head covering and foot wear every day.
- Food handlers shall always wash their hands with soap and clean potable water, disinfect their hands and then dry with hand drier or clean cloth towel or disposable paper at the beginning of food handling activities immediately after handling raw food or any contaminated material, tools, equipment or work surface, where this could result in contamination of other food items or after using the toilet.
- Food handlers engaged in food handling activities shall refrain from smoking, spitting,

chewing, sneezing or coughing over any food whether protected or unprotected and eating in food preparation and food service areas.

- The food handlers should trim their nails and hair periodically, do not encourage or practice unhygienic habits while handling food.
- Persons working directly with and handling raw materials or food products shall maintain high standards of personal cleanliness at all times. In particular:
 - They shall not smoke, spit, eat or drink in areas or rooms where raw materials and food products are handled or stored;
 - Wash their hands at least each time work is resumed and whenever contamination of their hands has occurred; e.g. after coughing/sneezing, visiting toilet, using telephone, smoking, etc.
 - Avoid certain hand habits-e.g. scratching nose, running finger through hair, rubbing eyes, ears and mouth, scratching beard, scratching parts of bodies etc.-that are potentially hazardous when associated with handling food products, and might lead to food contamination through the transfer of bacteria from the employee to product during its preparation. When unavoidable, hands should be effectively washed before resuming work after such actions.

Visitors

- Generally visitors should be discouraged from going inside the food handling areas. Proper care has to be taken to ensure that food safety & hygiene is not getting compromised due to visitors in the floor area.
- The EDF Unit shall ensure that visitors to its food manufacturing, cooking, preparation, storage or handling areas must wherever appropriate, wear protective clothing, footwear and adhere to other personal health and hygiene standards described above.

7 Annex 2: Regulatory Requirements List

Subprojects with any of the attributes listed below will be ineligible for support under the proposed project. Any project activity with the potential for significant conversion or degradation of critical natural habitats would be ineligible for support through the project including, but not limited to, any activity within:

- Declared Forest Reserves or any Wildlife Reserves; National Parks and Sanctuaries;
- CRZ I or any CRZ zone where activities are not allowable in accordance with the CRZ Notification.
- Any project that is not consistent with applicable laws and regulations of the state.
- Any project with the potential for significant damages to cultural property.
- Any project that is not consistent with the project description at time of project negotiations, unless subsequently agreed to with the Bank along with the appropriate level of environmental and social management.
- Any project or activity involving the procurement of pesticides not allowable under World Bank safeguards
- Any project, that would result in physical displacement of any person/family/household in selecting the site for implementing the project

8 Annex 3: Classification of activities based on environment impact

Impact Category	Criteria	Remarks/Example	Application of EMP
LOW	Individually and collectively these activities have a low level of impact (limited and/or short term adverse impact on the environment and on health) that is easily reversible.	Current model of EDF unit being implemented in the Gubbi pilot	Simple Environmental Guidance that is made a part of the deliverable and performance standards for the partner NGO to ensure compliance
Medium	Individually and/or cumulatively these activities have a level of impact (limited and/or short term adverse impact on the environment and on health) that is reversible but need easily executable mitigation measures.	Food products that involve cooking and storage	Case by case Environmental Assessment by qualified third party to be appointed by PMU.
HIGH	These projects have long term deteriorating impact on environment and high level of technical intervention is required to identify specific mitigation measures to address the environmental impacts.	Processing of fruits, meat, milk, etc.	Case by case Environmental Assessment by qualified third party to be appointed by PMU.

9 Annex 4: Stakeholder Consultation in Project Area

Stakeholder consultations were held in 3 Gram Panchayath each in Chincholi (February 19, 2014) and Devadurga (February 20, 2014) blocks. Key stakeholders consulted with targeted beneficiaries, anganwadi and Asha workers, Gram Panchayath president, Panchayath Development Officer, etc.

Name of Block	Name of Gram Panchayath	Participants
Chincholi Executive Officer of Chincholi Taluk Panchayath Dr.SK Takkilaki and Ravi, MGNREGS accompanied us to the field	Kudli	Bandappa S Dhanni, PDO Maruti Jamedar, President Taluk ST Association Anganwadi workers, Asha workers, Pregnant women, lactating mothers, children <3 years of age, adolescent girls from various communities including SCs and Muslims were present
	Rummanagud	Kamalabai Beerappa, GP President, Thippaiah PDO Asha and anganwadi workers, about 40-50 pregnant women and lactating mothers were present from various communities
	Sulepeth	PK Shinde, PDO, anganwadi and asha workers and pregnant, lactating mothers, adolescent girls
Devadurga Channa Reddy, PDO, MGNREGS accompanied us to the field	Arakere	Basavaraj Nayak, PDO, anganwadi workers (10), asha workers (5), adolescent girls (30), pregnant women (10), lactating mothers (10).
	Nagaladinni	Buddademma, GP President, Sumithramman, Anaganwadi supervisor, anaganwadi and asha workers, pregnant women, adolescent girls and lactating mothers.
	Gabbur	ShobhaGangannanavaranganwadi supervisor, Head Quarters ANM-Manjula, Manjunath male ANM, anaganwadi and asha workers, pregnant women, lactating mothers and adolescent girls

Key issues discussed and responses received

Meetings began with a brief description of the project components and activities. Examples were given about the project activity from the currently being implemented pilots in Gubbi, Shikaripura and Bellary taluk. The participants were informed that Chincholi and Devadurga blocks were being chosen for implementing a similar project with support from the World Bank. This was followed by a discussion that covered the following issues:

Key issues discussed	Reponses received
What are the key livelihoods in the area?	<ul style="list-style-type: none"> • Farming and agricultural labour were the major livelihoods reported. • Dairying was very limited and this has implications for nutrition and use of EDF with milk • Migration is a key livelihood for most families, especially in non-irrigated areas. Migration takes place from all communities
What are the communities that live in the area?	<ul style="list-style-type: none"> • SCs were predominant in Chincholi while STs were predominant in Devadurga. In both blocks, muslims are the largest minority. Lambani (SCs) are the only ones who tend to live in separate hamlets that are called thandas. • STs in the area are Bedas, Valimiki and Nayakas who were all formerly hunters, but now are farmers and labourers
What are the food habits of the various communities?	<ul style="list-style-type: none"> • All communities reportedly ate jowar and wheat rotis with tur dal sambar as the main dish. • Those that could afford ate meat once a week. • Consumption of milk is limited since it is not produced in sufficient quantities locally • People reported that there was no major difference in the food habits of various communities, except for some communities such as Lingyats not eating meat
What are the major crops grown in the area?	<ul style="list-style-type: none"> • Tur dal, jowar, cotton and sugarcane in Chincholi • Paddy, cotton, bajra, jowar, chilli and groundnut in Devadurga
When are children first given solid food and what type of foods is given?	<ul style="list-style-type: none"> • Most people reported that they started given solid food to children when they were 8-9 months old • Soft cooked rice mixed with milk was the most common food given • Some roasted rice and green gram, powdered it and prepared gruel with a pinch of salt • Some reported use of Cerelac too

Is any special food given to pregnant women?	<ul style="list-style-type: none"> • Most of them said that if they could afford it they were given meat more frequently
Is any special food given women after delivery?	<ul style="list-style-type: none"> • All communities including Muslims and STs claimed that women were given a mixture made of dates, ghee, jaggery, gum and copra for 40 days after delivery • The responsibility for providing this was vested with the husband
Is this special food given even if a baby girl is born?	<ul style="list-style-type: none"> • People reported that this mixture was given even if the child born was a girl and even for 2nd and 3rd deliveries.
What are the causes for malnutrition in women?	<ul style="list-style-type: none"> • Women are so busy in work that they neglect to eat properly • Usually, women and girls eat after the men have eaten leaving them sometimes very little to eat • Adolescent girls who participated reported that they ate with the male members and only older (often married) women ate after the men and children had eaten • Migration was reported as a major cause of malnutrition because migrants live in poor hygiene and work very hard without adequate food and sleep. • People reported that migrants often returned to the village looking ill-nourished
What ingredients are preferred for an EDF?	<ul style="list-style-type: none"> • Anganwadi and Asha worker were vehement that ragi based formulation are not acceptable in the area • They reported that in the past when ragi based preparations were given under ICDS, households fed them to cattle instead of consuming them • Some opined that ragi could be replaced with maize or jowar, but were not clear on how it could be processed • Some reported that jowar could be popped and then ground and mixed with roasted green gram, groundnut, jaggey to prepare the EDF
Anganwadi and Asha workers were asked which communities tended to have the most malnourished?	<ul style="list-style-type: none"> • BMI was reportedly the least in communities that migrated and households where the mother was also an agricultural labourer. • They reported that BMI was less in SC/STs due to negligence and poor knowledge of nutrition • In addition, these households also tended to have mothers who began working within 40 days of delivery and hence could not give adequate attention to nurse and feed the baby

Key takeaways for the IESA

- In the project blocks, where there is a significant ST (Scheduled Tribe: Beda, Valmiki&Nayaka) population in Devadurga, significant SC population in Chincholi and muslims the largest minority community in both blocks, stakeholders which included Asha and Anganwadi workers apart from the various communities reported that different communities intermingled with one another.
- In terms of the actual EDF, there was clear and unambiguous rejection of a ragi based preparation. All stakeholders reported that ragi based preparations were not liked and were usually being fed to cattle.
- In both the blocks, migration was reported as a common feature especially during summer months.
- In both the blocks, the intended beneficiaries as well as Panchayath Development Officers, Gram Panchayath Presidents, Asha and Anganwadi workers were not aware of the details of the project. Asha and Anganwadi workers were well aware of the issues related to malnutrition and measures to address the same.
- Members from all communities welcomed the project and felt that its activities would be of benefit to them. They expressed their willingness to participate in the project.

Stakeholder Consultation in Pictures

Figure 9-1: Consultations with Asha & Anganwadi workers at Kudli GP, Chincholi



Figure 9-2: Cross-section of participants in consultations at Rummannagud GP, Chincholi



Figure 9-3: Consultations at Arakere GP, Devadurga



Figure 9-4: Adolescent girls at stakeholder consultations in Arakere GP, Devadurga



Figure 9-5: Participant coming out of a stakeholder consultation in Rummannagud GP, Chincholi



Figure 9-6: Participant in stakeholder consultations at Gabbur GP, Devadurga



Figure 9-7: Discussions with stakeholders at Nagaladinni GP, Devadurga

