## **LIST OF FIGURES**

Figure	Figure title	Page no	
no			
INTRODUCTION			
1.1	Sustainable development goals (SDGs) for 2030	1	
1.2	Rural and urban undernutrition status globally	3	
1.3	Undernutrition status of Indian children >5y (NFHS 4) 5		
1.4	Undernutrition status of Indian children >5y (RSOC 2015)	6	
1.5	Undernutrition status of <5y old children in Gujarat (NFHS 7		
	4)		
1.6	Undernutrition status of <5y old children in Vadodara	7	
	(NFHS 4)		
	REVIEW OF LITERATURE		
2.1	Open defecation practice in 2017 among global population	24	
2.2	Countries which have reduced open defecation by more than	24	
	20%		
2.3	Basic sanitation services in 2017 among global population	25	
2.4	People with no handwashing facility at home in 2017	26	
	globally		
2.5	Global malnutrition trends	27	
2.6	Global prevalence of stunting	28	
2.7	Global prevalence of wasting	29	
2.8	Total UNICEF revenue by source and funding type, 2018	41	
2.9	Food system wheel (Source: FAO, 2018)	42	
	METHODS AND MATERIALS		
3.1	Phase I Experimental Design	54	
3.2	Phase II Experimental Design	68	
PHASE I RESULTS AND DISCUSSION			
4.1.1	Distribution of mother-child pairs enrolled for the study	76	
4.1.2	Age range of children selected for the study	77	
4.1.3	Age range of mothers selected for the study	77	

4.1.4	Cluster wise agricultural and non-agricultural household	82
	distribution	
4.1.5	Food and agriculture as main source of income	82
4.1.6	Livestock in the households of selected clusters	85
4.1.7	Family income of agricultural and non-agricultural	92
	households	
4.1.8	Prevalence of Mothers undernutrition (individual BMI)	106
4.1.9	Village wise undernutrition status of mothers 106	
4.1.10	Age wise undernutrition status of mothers 107	
4.1.11	Parity and undernutrition status of mothers	107
4.1.12	Prevalence of maternal anemia (Individual hb level)	108
4.1.13	Association between maternal anemia & ICDS participation	109
4.1.14	Association between maternal anemia and IFA tablets	109
	consumption	
4.1.15	Association between maternal anemia and parity of mothers	110
4.1.16	Association between maternal anemia and age of mothers	110
4.1.17	Prevalence of wasting (weight for height z score of 160	114
	children)	
4.1.18	Prevalence of stunting (height for age z score of 160	114
	children)	
4.1.19	Prevalence of underweight (weight for age z score of 160	114
	children)	
4.1.20	Percent undernutrition in different age groups	115
4.1.21	Gender wise distribution of undernutrition (mean weight for	115
	age z scores) of the children	
4.1.22	Association between family income and weight for age	122
	(underweight) of children	
4.1.23	Association between child's birth weight and weight for age	123
	(underweight) of children	
4.1.24	Predictors of nutritional status of children (weight for age)	129
4.1.25	Road density in south Asia	135
4.1.26	Child comparison with national and state data	138
4.1.27	Child undernutrition comparison with national and state data	140

	PHASE II RESULTS AND DISCUSSION	
4.2.1	Consumption pattern of various food groups by the PD	144
	households	
4.2.2	IYCN practices among PD mothers	145
4.2.3	Hygiene and sanitation practices among PD mothers	147
4.2.4	Impact of intervention on knowledge and practice regarding	157
	Initiation of BF among PD and ND groups	
4.2.5	Impact of intervention on knowledge and Practice regarding	157
	colostrum feeding among PD and ND groups	
4.2.6	Impact of intervention on knowledge and practice regarding	158
	not providing pre-lacteals among PD and ND groups	
4.2.7	Impact of intervention on knowledge and practice regarding	158
	not providing water within 1st 6 months among PD and ND	
	groups	
4.2.8	Impact of intervention on knowledge and practice regarding	158
	not providing top milk within 1st 6 months among PD and	
	ND group	
4.2.9	Impact of intervention on exclusive breastfeeding practices	158
	in 1st 6 months among PD and ND groups	
4.2.10	Impact of intervention on continued breastfeeding upto 2	159
	years among PD and ND groups	
4.2.11	Impact of intervention on knowledge and practice regarding	159
	breastfeeding during illness among PD and ND groups	
4.2.12	Impact of intervention on initiation of complementary	159
	feeding among PD and ND groups	
4.2.13	Impact of intervention on active feeding/feeding monitoring	159
	among PD and ND groups	
4.2.14	Impact assessment on Nutritional status of PD and ND	163
	mothers	
4.2.15	Wasting status of PD & ND children before and after	164
	intervention	

4.2.16	Stunting status of PD & ND children before and after	165
	intervention	
4.2.17	Underweight status of PD and ND children before and after	165
	intervention	
4.2.18	Nutritional status of PD and ND children before and after	166
	intervention	
4.2.19	Shifts in status of wasting post 1 year intervention	167
4.2.20	Shifts in status of stunting post 1 year intervention	167
4.2.21	Shifts in status of underweight post 1 year intervention	167
4.2.22	Impact of intervention on drumstick plantation	172
4.2.23	Impact of intervention on home visits by AWWs	173
4.2.24	Impact of intervention on knowledge regarding FN from	174
	ICDS	
4.2.25	Impact of intervention on accessing AWC (child)	174
4.2.26	Impact of intervention on balbhog received from AWC	175
4.2.27	Impact of intervention on consumption of balbhog	175
4.2.28	Percentage of underweight mothers in Experimental and	177
	Control group before and after intervention	
4.2.29	Nutritional status of children before and after intervention	178
4.2.30	Funding for food and nutrition security, 2002-2016	183

## **LIST OF IMAGES**

Image no	Image title	Page no	
METHODS AND MATERIALS			
3.1-3.2	Glimpses of Gujarat State and the study area selected 46		
3.3-3.13	Glimpses of phase I data collection	55	
3.14-3.22	Glimpses of the NHE materials developed and adopted 65		
	from various organizations		
PHASE I RESULTS			
4.1-4.2	Glimpses of women involved in agricultural practices	84	
4.2-4.4	Glimpses of local shop and market nearby	85	
4.5-4.6	Glimpses of IFA tablet strips in available in AWCs	86	
4.7-4.8	Glimpses of Take-home rations provided by ICDS	89	
4.9-4.12	Glimpses of supplementary nutrition provided in AWC	89	
4.13-4.14	Glimpses of road condition in the study area in rainy season	92	
4.15-4.16	Glimpses of drinking water sources in study area	93	
PHASE II RESULTS			
4.17-4.24	Glimpses of intervention program using PDA	179	
4.25-4.40	Glimpses of intervention program using PPP	180-181	

## LIST OF ANNEXURES

Annexure No	Annexure Name	Page NO
1	Consent form (English)	224
2	Consent form (Gujarati)	225-226
3	Questionnaire for AWWs	227-228
4	Questionnaire for mothers	229-235
5	Food frequency questionnaire	236-238
6	Questionnaire for post	239-241
	intervention assessment of	
	mothers	